CRITICAL ELEMENTS LITHIUM CORPORATION

LITHIUM-TANTALUM ROSE PROJECT – ANSWERS TO THE QUESTIONS AND COMMENTS RECEIVED FROM THE CEAA

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SIGNATURES

PREPARED BY

<original signed by>

Jean Lavoie, Geographer-geomorphologist M. A.
WSP project manager

REVISED BY

<original signed by>

Anne Gabor, biochemist
Environmental Director
Critical Elements Lithium Corporation

<original signed by>

Jacqueline Leroux, engineer
Environmental Consultant
Critical Elements Lithium Corporation

<original signed by>

Paul Bonneville, engineer
Operations Director
Critical Elements Lithium Corporation

PRODUCTION TEAM

CRITICAL ELEMENTS LITHIUM CORPORATION

President and Chief executive officer	Jean-Sébastien Lavallée, P. Geologist
Environmental director	Anne Gabor, Biochemist
Director of Operations	Paul Bonneville, Engineer
Environmental consultant	Jacqueline Leroux, Engineer

WSP CANADA INC.

Project manager	Jean Lavoie, Geographer-geomorphologist M. A.
Specialists and collaborators	Alain Chabot, technician, caribou
	Camille Lavoie, biologist
	Christine Létourneau, biologist M. Sc.
	Daniel Lemaire, engineer, M. Sc., hydrogeologist
	Dominique Richard, engineer
	Elsa Sormain, engineer, M.Sc., hydrology
	Émilie d'Astous, biologist M. Sc., avian fauna
	Éric Poirier, engineer
	François Gagnon, technician, wetlands
	Guillaume Rhéault, biologist
	Hugues Gagnon, technician cartography
	Jean-François Poulin, biologist, M. Sc.
	Josée de Launière, biologist
	Julie McDuff, biologist M. Sc., chiroptera
	Julien Poirier, engineer, atmospheric modelling
	Michel Kuntz, engineer, Ph. D.
	Pascal Rhéaume, engineer M. Sc. A, atmospheric modelling
	Patrick Couture, engineer
	Paul Rivest, engineer
	Philippe Lachance, M. Sc., physician, atmospheric modelling
	Raphaël Bouchard, environment technician
	Rémi Duhamel, biologist M. Sc., chiroptera
	Samuel Bottier, hydrogeologist, M. Sc.
	Slim Kouki, engineer, Ph. D.

	Sylvain Marcoux, engineer, MBA, Greenhouse gas effect
	Vincent Lamothe, physician, ph. D., atmospheric modelling
Cartography	Martine Leclair
Editing	Nancy Imbeault

SUPPLIERS

Lamont Inc.	Ann Lamont, engineer, Ph.D
	Maude Lévesque Michaud, engineer. M.Sc.A
SNC-Lavalin GEM Québec Inc.	Matthieu François, Ph. D., Project director Aleksandra Kasprzyk, M. engineer, Project manager

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APPENDICES

1. INTRODUCTION

Following a technical review of the Environmental Impact Study (EIS) Critical Elements Lithium Corporation (CEC) for the Lithium-Tantalum Rose Project in James Bay, The Canadian Environmental Assessment Agency (CEAA) sent to CEC, on June 27th, 2019, an information request. This information request contains questions and comments aiming to obtain information and clarifications in order to continue the analysis as part of the environmental assessment.

Section 2 of this document transcribes the information requested by CEAA, followed by CEC's responses. To facilitate the distinction between different texts, the information requested by the CEAA on June 27th, 2019 is in *italic*.

2. QUESTIONS FROM THE AGENCY

SCOPE OF THE PROJECT

1. SCOPE OF PROJECT - INCLUSION OF WORKERS' CAMP

In section 6 of the Environmental Impact Statement ("EIA ") Guidelines, the Agency requests the inclusion within the scope of the project of "the workers' camps, services and associated works (landfills, drinking water supply services, wastewater management, etc.) ".

In its EIS, the proponent states that "the workers' camp will take place about twenty kilometers north of the site, at the site of a former Hydro-Québec camp (former camp Eastmain) and will be developed by the Cree community of Eastmain. This camp is not part of the present project. It could also accommodate workers from other projects in the region. However, it is indicated in section 10.7.6.4 "that a permanent work camp will be present at the mine site, about 4 km from the pit, on RE1 trapline."

The promoter must:

A) *Confirm the location of the workers' camp and locate it on a map.*

ANSWER

The preferential choice of camp is the Eastmain camp located 25 km north of the mine site. This is part of the camp Hydro-Québec currently being sold to a company from the community of Eastmain or to the community of Eastmain. All services are in place: drinking water supply, sewage treatment and electricity. Contrary to what is written in section 10.7.6.4, it is not anticipated that a permanent labor camp will be present at the mine site. CEC prefers to use a Cree community camp as described above. However, if this option fails, CEC has identified a site 4 km from the pit on which a permanent camp could be installed. There is currently no infrastructure.

The location of the two camps are in Appendix CEEA-1.

B) *State whether the workers' camp is to be built, expanded or if an existing camp will be used without modifications to it. In the latter two cases, confirm if there is any agreement with the Eastmain community for the management of the labor camp.*

ANSWER

This is an existing camp. Many dormitories have been removed since the completion of Eastmain 1A construction. Additional dormitories will be installed on the camp deck and connected to services. The camp will be owned by the Cree promoter who will manage it.

C) *Include in the assessment of environmental effects, the workers' camp, services and associated works (landfills, water supply services, wastewater management, etc.).*

ANSWER

There will be no cumulative impact since it is an existing camp with all the necessary infrastructure already in place.

PROJECT REALISATION ALTERNATIVES

2. PROJECT REALISATION ALTERNATIVES - TRANSPORT AND STORAGE OF THE ORE

Section 2.3 of the Environmental Impact Assessment (EIA) must contain an analysis of the different variants possible for the transportation and storage of the ore, as he requested in Section 8 of the Agency's guidelines for the drafting of the EIA.

The promoter must:

A) Provide an analysis of alternatives for the transport and storage of ore. For the transportation of ore, consider on-site and off- site transportation within the boundaries of Québec. In addition to providing a detailed analysis, the proponent must summarize the analysis in a detailed comparative table.

ANSWER

The choice of the transshipment site for the concentrates of the Rose Lithium-Tantalum project remains under study. It will be finalized at the engineering stage of details. Two transshipment sites are considered; that of Matagami and that of Chibougamau. CEC was approached by the cities of Matagami and Chibougamau to install its transshipment site in their cities.

The Matagami transshipment site was built for the supply of Hydro-Québec's work in the 1970s. The town of Matagami is now the owner and it is in operation. The transshipment site of Chibougamau not yet built. The city of Chibougamau has purchased and cleared land for the construction of its transshipment site.

A summary analysis of the routes between the Rose Lithium-Tantalum project and the Matagami and Chibougamau transshipment sites is presented below. In its final choice, CEC will consider the capital cost to establish at a transshipment site, the cost of trucking and rail transportation, CEC's road maintenance costs, capacity and availability of trucks which can be used on the routes concerned, GHGs associated with transporting concentrate in Quebec, employment and business opportunities in compliance with its impacts and benefits agreement with the community of Eastmain and the Cree Nation Government, road safety issues for trucks and users, security issues for routes taken by train, and the effects on local communities.

1.0 Matagami Option

The Matagami transshipment site is located 3 km south of Matagami Boulevard on Highway 109. This is the transshipment station built for the construction of the hydroelectric James Bay project in the 1970s. The town of Matagami has acquired it and has the operating permit. It includes a weigh station, a warehouse and four kilometers of rails. CN serves Matagami regularly.

The route to transport concentrate to the Matagami transshipment site passes along Eastmain 1 road, the Route du Nord, the James Bay road and 3 kilometers of Route 109 south of Matagami. The Eastmain 1 road and the Route du Nord between Albanel substations are MFFP (Ministère des Forêts, de la Faune et des Parcs) multi-resource roads. The concept is user-payer; users must reach an agreement concerning maintenance. Currently, the services of the SDBJ (Société de développement de la Baie-James) have been retained to perform maintenance.

The James Bay Road is paved and belongs to the SDBJ. Its maintenance is paid for by the MTQ and Hydro-Québec.

Eastmain 1 Road is a gravel road and accommodates off-road trucks. The route on this road does not cross a bridge.

The Route du Nord between the Nemiscau substation and the James Bay Highway is a gravel road and accommodates off-road trucks. The route on this road does not cross a bridge.

Highway 109 from Matagami Boulevard (0 km from the James Bay Road) to Matagami Industrial Park is a special route under the Règlement sur les normes de charges et de dimensions applicables aux véhicules routiers et aux ensembles de véhicules routiers (http://legisquebec.gouv.qc.ca/en/pdf/cr/C-24.2,%20R.%2031.pdf). The James Bay Road, which by default comes out this portion of the road, has the same standards. They are both paved.

The route passes near Camp Nemiscau, near Nemiscau airport, and 5 km from Nemaska village. Passing by the James Bay road and route 109, It bypasses the town of Matagami.

Table CEAA-2a shows the characteristics of the route. Table CEAA-2b shows the list of bridges to cross as received from the MFFP.

Table CEAA-2a: Trip to Matagami transshipment site

Route	Road	Distance	Type	Classe	Administration
Rose Project to Route du Nord	Eastmain 1	43 km	gravel		MFFP multi-resource
Route du Nord to James bay Road	Route du Nord	110 km	gravel		MFFP multi-resource
James Bay Road to km 0	James Bay Road	271 km	paved	Special	SDBJ
Km 0 to transhipment site	Route 109	3 km	pavec	Special	MTQ
Total		427 km			
		153 km	gravel		
		274 km	paved		

Table CEAA-2b: List of bridges to cross on the way to Matagami

Route	Type	Bridge #	at km
Matagami - Rose Lithium-Tantalum Route:			
James Bay Road	bridge	H106-001	3.5
James Bay Road	bridge	H106-002	38.0
James Bay Road	bridge	H999-029	232.0
James Bay Road	bridge	H999-030	257.0
Route du Nord	none	-	-
Eastmain 1A Road	none	-	-

It is anticipated that the transport of the concentrate will be done with a truck having a capacity of 90 metric tons. Capital expenditures at the transshipment site will primarily consist of a MegaDome type storage facility for the concentrate and a wheel loader to handle the concentrate and load the cars. It is estimated that the cost of transporting the concentrate will be between $ 25 and $ 30 per ton.

Discussions were held with the town of Matagami as they would like their transshipment yard to be selected. A visit of the infrastructure took place. Discussions also took place with the SDBJ and Hydro-Québec concerning the use and maintenance of roads and with the MFFP for rights of way on bridges.

2.0 Chibougamau Option

The city of Chibougamau wants to build a transshipment site to serve current and future mining companies in its region. Chibougamau has acquired land to build its transshipment site. The site is 3 km south of the

city entrance, near the west side of Highway 167 and the CN Railroad. The land is deforested. No infrastructure is built to date. The site will consist of a rail park with a CN railroad branch, a warehouse, offices, and a weigh station. CEC had discussions with the city and visited the site in 2017.

The route to transport the concentrate passes by Eastmain Road 1, Route du Nord and a forest road to the transshipment site. The route follows a forest road rather than Highway 167 in order to use non-standard trucks. Approximately 5 kilometers of road must be developed to join the transshipment site to the network of forest roads northwest of the city.

The Eastmain 1 road and the northern road between the post Albanel and James Bay Road are MFFP multi-resource roads. The concept is user-payer; users come to an agreement regarding maintenance. Currently, the services of the SDBJ have been retained for maintenance. The Route du Nord between Albanel substation and Route 167 is the responsibility of the MTQ. No fees are required for regular transportation. A sharing of fees with the users is required for non-standard transport. Most of the non-standard users on this road are the lumber companies.

The Eastmain 1 road is a gravel road and it accommodates non-standard trucks. The route on this road does not cross a bridge.

The Route du Nord between Nemiscau substation and Route 167 is a gravel road and accommodates non-standard trucks. The route on this road crosses several bridges such as is shown in Table 4. The capacity of these bridges must be verified depending on the configuration of the proposed trucks.

The forest road is gravel and it accommodates the non-standard trucks.

The route passes near the camp of Nemiscau and bypasses the city of Chibougamau to the north by passing more than one kilometer from the residential area.

Table CEAA-2c shows the characteristics of the route. Table CEAA-2d shows the list of bridges to cross as received from the MFFP.

Table CEAA-2c: Trip to Chibougamau transshipment site

Route	Road	Distance	Type	Classe	Administration
Rose Project to Route du Nord	Eastmain 1	43 km	gravel		MFFP multi-resource
Route du Nord to Albanel substation	Route du Nord	32 km	gravel		MFFP multi-resource
James Bay Road to km 4	Route du Nord	254 km	gravel		MTQ
Route du Nord km 4 to transhipment site	Forest road	27 km	gravel		Lumber companies
Total		356 km			
		357 km	gravel		
		0 km	paved		

Table CEAA-2d: List of bridges to cross on the way to Chibougamau

Route	Type	Bridge #	at km
Route du Nord	arch	H026-078	10.4
Route du Nord	arch	H026-080	16.4
Route du Nord	bridge	R1031-01	19.0
Route du Nord	bridge	H026-060	131.0
Route du Nord	bridge	H999-021	237.6
Route du Nord	bridge	H999-022	241.0
Route du Nord	bridge	H999-023	244.0
Route du Nord	bridge	H999-024	279.0
Eastmain 1A Road	none	-	-

It is anticipated that the transport of the concentrate will be done with a truck having a capacity of 90 metric tons. It is estimated that the cost of transportation of the concentrate will be between $ 23 and $ 26 per ton.

Capital expenditures at the transshipment site will primarily consist of a MegaDome type storage facility for the concentrate and a wheel loader to handle the concentrate and load the cars. Chibougamau will be responsible for the construction of necessary infrastructure at the transshipment site and to link the site to the network of forest roads. Rent costs and the terms of operation of the site are not currently known.

Discussions were held with the town of Chibougamau and a site visit took place. Discussions also took place with the SDBJ, Hydro-Québec and the MTQ concerning the use and maintenance of roads and with the MFFP for rights of way on bridges.

Table CEAA-2e: Summary Analysis of the Variants for Ore Transportation and Storage

1.0 Matagami Option	2.0 Chibougamau Option
Transhipment site	
• located 3 km south of Matagami Boulevard on Route 109 • includes a weighing station, a warehouse and four kilometers of rails	• 3 km south of the city entrance near the west side of Highway 167 and the CN Railroad • no infrastructure is built there to date • will consist of a rail yard with a CN railroad branch, a warehouse, offices, and a weighing station
Railway service	
• Serviced by CN regularly	• To be confirmed during construction
routes	
• Eastmain 1 • Route du Nord • James Bay Road • Route 109	• Eastmain 1 • Route du Nord • Forest path
Distance	
• Gravel : 153 km • Paved : 274 km • Total : 427 km	• Gravel : 356 km • Paved : 0 km • Total : 356 km
Administration	
• Multi-resource MFFP • SDBJ • MTQ	• Multi-resource MFFP • MTQ • Forestry companies
Transport fee	
• Between 25 $ and 30 $ per ton	• Between $ 23 and $ 26 per ton

B) Provide in writing and on a map the choice of the final route for the transport of the ore by truck, train and ship, justifying the choice of the route by the analysis of the variants.

ANSWER

The final route has not been chosen yet. However, the map in Appendix CEEA-2 shows both variants discussed above.

3. PROJECT REALISATION ALTERNATIVES – WORKERS' ACCOMMODATIONS

Section 2.3 of the Environmental Impact Statement (EIS) does not contain an analysis of the different alternatives for worker accommodation, as requested in Section 8 of the Guidelines.

The promoter must:

A) Provide an analysis of variants for workers' accommodations. In addition to providing a detailed analysis, the proponent must summarize the analysis in a detailed comparative table.

ANSWER

The first option for the camp is 25 km north of the site, the Eastmain camp. The second option would be to build a camp near the mine site.

Below is the comparative table containing the summary of the analysis.

Table CEAA-3 – Comparative of workers' camp options

Criterions	Option 1 - Eastmain Camp	Option 2 - Camp near the site
Location	25 km north of the mine	4 km south of the mine
Transportation	By bus	By bus
Camp management	Eastmain	CEC
Camp construction	Addition of dormitories to the existing camp	Construction of a new camp
Electricity supply	Existing power line	Electrical line to install
Water treatment	Existing sanitary installation	Sanitary installation to be built
Cost	Considerably cheaper since the infrastructure and facilities are already in place except dormitories. It will be owned by a buyer from the Cree community	The costs of building a new camp would be much higher
Environmental footprint	The footprint will remain the same	Camp construction involves an environmental footprint

B) Confirm which alternative is chosen for the workers' accommodations and locate the camp on a map.

ANSWER

The preferred choice remains Option 1, the Eastmain camp located 25 km north of the mine site. The location is shown on the map found in Appendix CEEA-3.

4. PROJECT REALISATION ALTERNATIVES – TREATMENT OF CONTAMINATED WATER

Section 2.3 of the Environmental Impact Statement (EIS) should contain an analysis of the different alternatives for the treatment of contaminated water, as requested in Section 8 of the EIS Guidelines.

In order to limit the amount of dewatering water to be extracted from the pit, the proponent proposes to install a network of pumping wells on the periphery of the pit. However, according to the Society to Overcome Pollution ("SVP "), the effect of groundwater pumping could severely affect lakes and streams around the mine.

In section 3.7 of the EIA, which deals with the dewatering approach of the pit, the hydrogeological study carried out shows that the drawdown of the 1 m water table will reach many lakes within a radius of 4 km at the periphery of the mining site. The quantity of water pumped to the bottom of the pit and the wells on the periphery would be 23 150 m3 / d. According to the SVP, the mine water will be charged with suspended solids, metals and nitrates from the ammonium nitrate explosives, a surface water pollutant that causes eutrophication of lakes. It is the opinion of SVP that even if these waters will be directed to the water treatment unit, the final effluent may be heavily loaded with soluble nitrates that will pollute Stream A downstream.

The SVP is of the opinion that instead of doing a preventive dewatering by a peripheral pumping that could destroy the lakes in the area, the proponent could instead use the dewatering water that would naturally accumulate in the pit in the ore concentration process.

The promoter must:

A) Provide an analysis of alternatives for the treatment of contaminated waters (including mine waters, effluent discharge points, and domestic wastewater). In addition to providing a detailed analysis, the proponent must summarize the analysis in a detailed comparative table.

ANSWER

The comparison table demonstrates that the physicochemical treatment process is the most flexible for treating multiple metals with a wide range of flow rates. Other treatment methodologies presented respond with difficulty to rapid changes in flow. The operating principle of the physicochemical process is an important element in the selection of the process since it takes advantage of the formation of insoluble compounds. This method is much more flexible in the treatment when compared to a physical barrier (membranes), an adsorption (coal and ion exchangers) or other methods presented in Table CEAA-4A1. The size of the reaction vessels ensures that the reaction time, despite changes in flow, remains sufficient for effective treatment. In addition, the operating and maintenance costs required for this type of system remain very low compared to other technologies.

Table CEAA-4A1 – Variant Analysis of Mineral Water Treatment Methods

Layout mode	Advantages	Disadvantages
Physicochemical (pH + coagulation + flocculation)	Simple and effective process Capture of suspended matter and metals	Many chemicals Sludge dewatering Sludge disposal
Membranes (Microfiltration + Ultrafiltration)	Very pure treated water Easy process to operate	High energy Expensive equipment Frequent maintenance Certain metals are poisonous to membranes Concentrated metal solutions to manage
Electrolysis	Attachment of contaminants on plates	High energy Galvanic corrosion Difficult to control with large flow variations Very dependent on species and water quality
Ion exchanger	Simple process to operate	Several types of resin required Many adsorption columns required Difficult to control with large flow variations Some metals are poisonous to resins
Activated carbon	Simple and effective process	Activated charcoal for single use Very expensive charcoal Difficult to control with large flow variations

From a hydrological and hydraulic point of view, with regards to flows in the streams at various calculation points, two scenarios have been considered for the water discharged from the nine wells, for dewatering the pit, into the environment:

- Three discharge points, in Lake 3, Lake 4, and Lake 6. For this scenario, a distribution of the volumes of water pumped to the different discharge points was carried out to minimize the impact on the receiving environments while taking into account design constraints.

Table CEAA-4A2 summarizes the distribution of peripheral wells pumping water in both scenarios considered, once they are turned on (from about the year 9).

Table CEAA-4A2 – Discharge points and number of wells scenario

Scenario	Point of Discharge	Number of wells
One point of discharge	Stream A	8
	Process	1
Three points of discharge	Lake 3	4
	Lake 4	2
	Lake 6	2
	Process	1

Overall, it is expected that although mining activities will have a significant impact on the watercourses of the study area, the three-point-of-release scenario mitigates these impacts. In fact, the distribution of water from the drawdown wells makes it possible to limit the intensity of flow variations in some of the streams. In particular, the decrease in flow in the streams C, F and E may be limited, or even be replaced by an increase. And the increase in flow in stream A is more limited with the scenario with three points of discharge on average, however with more severe low water. It is also important to note that, despite the significant flow variations associated with the presence of the mine site, the morphology of the streams studied makes these variations have a relatively small influence on water levels and water flow velocities. In fact, the watercourses in the study area are characterized by the presence of flood plains, a very high presence of beaver dams and other hydraulic controls, as well as the presence of several lakes. All of these factors limit the variations in water levels in the study area, which nevertheless remain significant.

B) In its analysis, include the assessment of the option to not have any preventive dewatering by peripheral pumping around the pit and to use the mine water that naturally accumulates in the pit in the process of ore concentration.

ANSWER

During the feasibility study, we began our analysis by installing a dry-holding pump in the pit. This option was discarded because within a radius of influence of 3000 m and in the deepest part of the pit, the infiltration will be about three times larger, corresponding to a rate of 61,483 m^3/d. All this water would have been considered contact water (risking contamination in the pit) and would have had to pass into the final treatment plant of the effluent. A tiny amount will be used by the mining infrastructure, 53 m^3/h for all the water used in the ore processing plant and other buildings on the industrial deck. The accumulation pond and the water treatment plant should therefore have been designed for a capacity three times larger. At the outlet of the treatment plant, water is discharged into stream A and its flow would also have been significantly greater. We considered during the feasibility study that the impact would have been too great for this receiving environment and it is for this reason that we favored the installation of pumps at the periphery of the pit, thus reducing the amount of water to be treated and the impact on stream A.

5. PROJECT REALISATION ALTERNATIVES - ENERGY SOURCES

In section 8 of the Environmental Impact Statement (EIS) Guidelines, the Agency requests an approach to the analysis of alternative means of completing the project, which requires, among other things, *the proponent to develop criteria to determine the feasibility of these means at the technical and economic levels, to describe each other means of carrying out the project in sufficient detail and to describe the environmental effects of each of the means.*

The description of the different energy sources for the project in section 2.3.3 of the EIS must provide enough detail on the economic and environmental considerations of the various options mentioned, to allow the Agency to properly assess to consider the best solution. Also, the EIA must address the various sources of energy and those recommended for mobile equipment.

The promoter must:

A) Provide more detail on the economic and environmental criteria (including greenhouse gas emissions) for the various options to justify its choice of energy sources.

B) Take into account renewable energies in its analysis of variants.

C) Carry out an analysis of the variants for the energy sources of the mobile equipment (eg towing vehicles, road transport, heavy equipment, trucks) and justify the recommended source (s). In addition to providing a detailed analysis, the proponent must summarize the analysis in a detailed comparative table.

ANSWER

To provide more detail on the economic and environmental criteria and the various options considered, the analysis of alternative sources of energy at the mine site is presented. Thus, the comparison of the different variants made it possible to obtain the optimal solution for the supply of electricity to the entire mining site. Renewable energies such as hydropower, biomass energy, wind energy, solar energy and geothermal energy are taken into account in this analysis.

The economic and environmental criteria used to analyze the energy sources that supply the mine site are:

- GHG emissions;
- The price of kW/hour;
- Realism of the scenario;
- Continuous or intermittent operation.

Figure CEEA-5.1 shows the GHG emission rate for each type of energy. These data will be used to compare GHG emissions from different energy source variants.

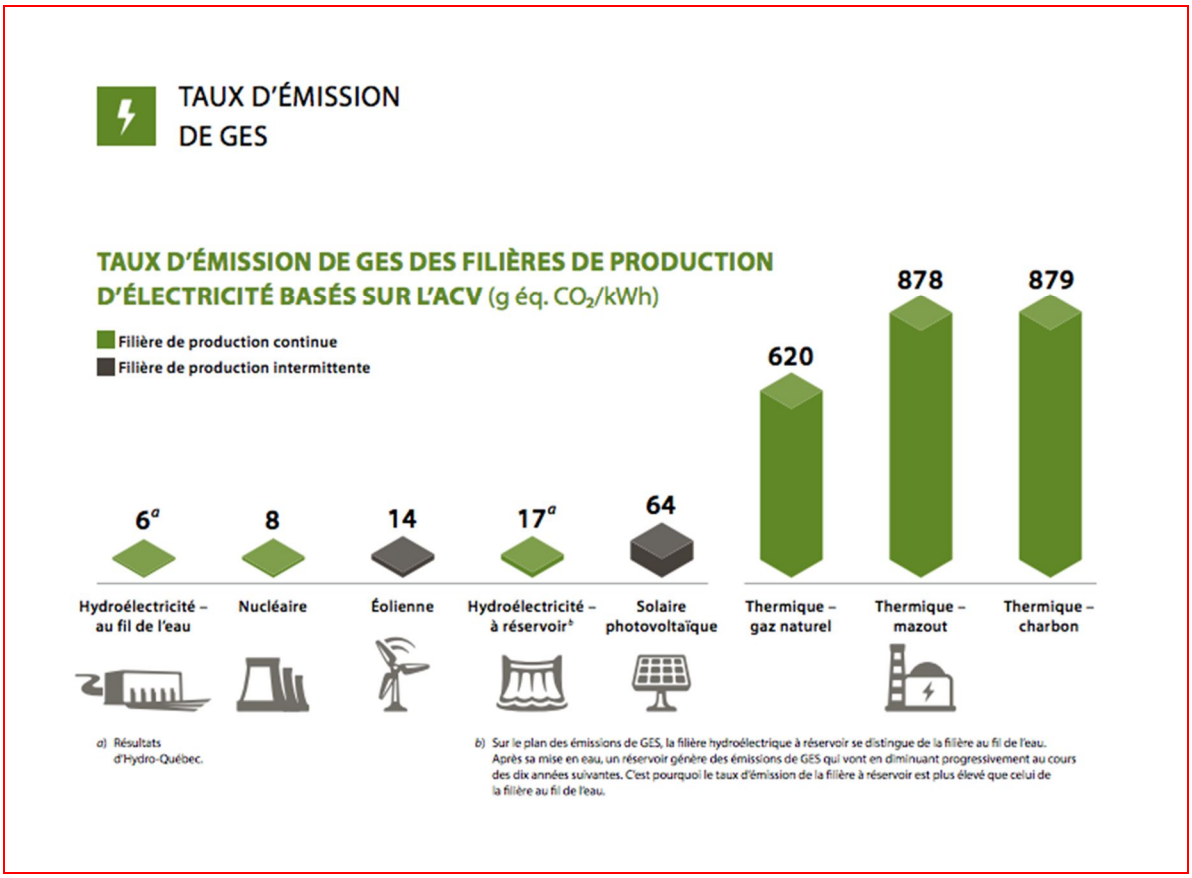


Figure CEEA-5.1 GHG emission rates for electricity production systems. Source : Hydro-Québec, 2015. Quebec electricity, clean energy par excellence. ISBN 978-2-550-74447-4 r fetched from : https://www.hydroquebec.com/data/sustainable-development/pdf/15094E.pdf .

With respect to GHG emissions from geothermal energy, Équiterre mentions that geothermal energy emits no GHG other than the GHG emitted during the installation of production structures. In terms of GHG emissions from biomass energy, those from biomass planting and cultivation activities should be included. Since this figure is not available in Figure CEEA-5.1, Figure CEEA-5.2 shows GHG emissions for biomass planting.

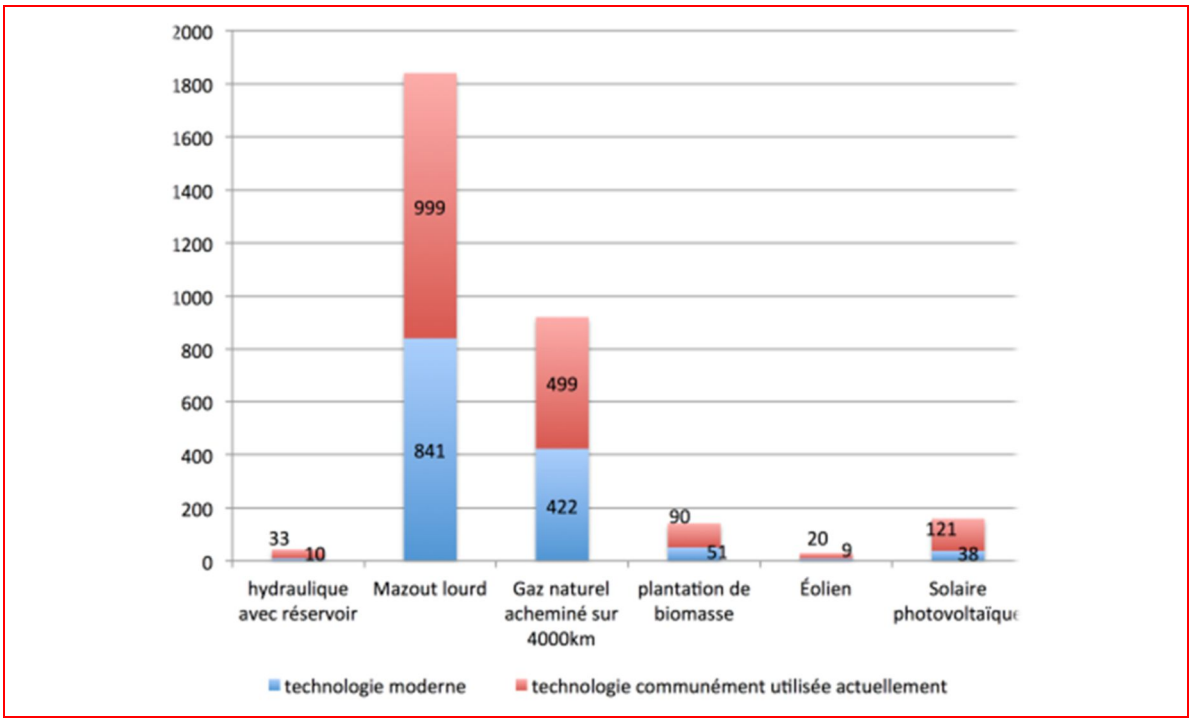


Figure CEEA-5.2 GHG emissions (kt CO_2eq / TWh) Source : Equiterre. Myth # 3: Producing renewable energy creates a lot of GHGs. Renewable energies. Retrieved from : https://equiterre.org/sites/fichiers/fiche-03_1_0.pdf

Although the data in Figure CEEA-5.2 are generally greater, conclusions drawn from these figures are similar. It is possible to see that hydropower and wind power are the greenest energies because they emit fewer greenhouse gases. Solar power and biomass energy emit a little more GHG. Finally, fuel oil and natural gas are much more polluting.

Table CEAA-5a presents the analysis of the variants of the project's energy sources. A simple decision matrix is sufficient to highlight the best solution. It should be noted that Hydro-Québec's GHG emission data are used for all variants while those of Équiterre are used only for biomass.

According to the variant analysis, Hydro-Québec's hydroelectricity is the most advantageous source of energy for the project. Hydropower will be used for most fixed equipment. Buildings will be heated with LNG because the cost of electrical equipment and the cost to reserve the power required for electric heating is disadvantageous compared to LNG.

Table CEAA-5a Analysis table of the variants of the energy source supplying the mine site

Criterion	Energy					
	Hydroelectric	**Solar**	**Biomass**	**Wind turbine**	**Geothermal**	**Natural gas**
GHG emissions	Low (6 to 17 g CO_2 eq/kWh)	Way (64 g CO_2 eq/kWh)	Way (51 to 90 g CO_2 eq/kWh only for biomass planting)	Low (14g CO_2 eq/kWh)	Low (0 g CO_2 eq/kWh, excluding those issued during the construction of the installations)	Way (422 g CO_2 eq/kWh)
Price of kW/h produced	First $ 210 000 kWh at 5.03 ¢/kWh Remaining energy consumed 3.73 ¢ / kWh (Source : Hydro-Québec, 2019. Rate M. Retrieved from : http: // www.hydroquebec.com/business/space-customers/tariffs/tariff-m-general-clientele-average-power.html)	19.2 to 22.6 ¢/kWh (Source: Vision Biomasse Québec, 2015. What is the cost price of the heating system to forest biomass in terms of energy? Retrieved from: https://visionbiomassequebec.org/?p=652)	8.7 ¢/kWh (Source: Vision Biomasse Québec, 2015. What is the cost price of the heating system to forest biomass in terms of energy? Retrieved from: https://visionbiomassequebec.org/?p=652)	8.0 ¢/kWh (Source: Vision Biomasse Québec, 2015. What is the cost price of the heating system to forest biomass in terms of energy? Retrieved from: https://visionbiomassequebec.org/?p=652)	22 to 32 ¢/kWh (Source: Vision Biomasse Québec, 2015. What is the cost price of the heating system to forest biomass in terms of energy? Retrieved from: https://visionbiomassequebec.org/?p=652)	5.2 ¢/kWh
Realism of the scenario	Realistic. It is only necessary to move the Hydro-Québec line. In fact, Hydro-Québec takes 95.33% of its electricity from hydropower. (Source: Hydro-Québec, 2015. Québec Electricity, Clean Energy par excellence ISBN 978-2-550-74447-4 Retrieved from: https://www.hydroquebec.com/data/sustainable-development /pdf/15094F.pdf)	Not realistic because knowing 25 m^2 panel can provide 3,000 kWh / year, so it would take 1 km^2 solar panel to supply 13.5 MW required. Also, solar power is intermittent while the energy needs of the mine are continuous . (Source: Ooreka, 2019. Photovoltaic Solar Panel: Dimensions and Efficiency, retrieved from: https://solar-board.ooreka.com/complaint/dimensional-resolution-solar-photovoltaic-panel)	http://www.bmatech.ca/f_biomasse3.html	Not realistic because the power supply to the mine would require the installation of 3 to 39 large wind turbines , because each of them can produce between 350 kW to 5 MW. In addition, the concentrator needs a continuous supply of electricity while the energy produced by the wind turbines is intermittent. This means that the mine can not depend mainly on this source of energy. Thus, the installation of wind energy source would still require an alternative solution. (Source: Ooreka, 2019. Wind power, retrieved from: https://eolienne.ooreka.fr/astuce/voir/352953/puissance-eolienne)	Not realistic. For a system with vertical underground loops, 10 m^2 allows the production of 2.9 kW whereas horizontal underground loops require between 100 and 150 m^2 for the same power. Thus, it would take 46 650 m^2 of vertical area and at least 466 500 m^2 to supply the mine with 13.5 MW of power, which is unrealistic. (Source: Office of Energy Efficiency and Innovation , Geothermal Energy, Detailed Fact Sheet Retrieved from: https://transitionenergetique.gouv.qc.ca/fileadmin/medias/pdf/agroalimentaire_agricole/16-Ge- thermae .pdf)	Realistic. LNG supply is possible in Quebec. (Source : discussion with Énergir)
Operation	Continuous	Intermittent	Continuous	Intermittent	Continuous	Continuous

The variants for the sources of energy supplying the trucks are still vast considering the new technologies appearing on the market. Diesel trucks are known, but electric, hybrid and natural gas trucks are sometimes used.

It planned that mining of the pit will be done using 65-ton mining trucks for the transportation of ore and 130-ton trucks for the transportation of waste rock. Trucks of these capacities have been chosen to minimize ore dilution and maximize the efficiency of waste rock transportation.

The market does not offer battery powered electric mining trucks. Trucks with an electric drive (electric motors on wheels) powered by a diesel generator can generate less GHG but they are only available with a capacity of 200 tons or more.

Liebherr offers mining trucks assisted by a trolley. These are available with a capacity of 100, 240, and 363 tons. These trucks are equipped with a structure allowing them to be connected to an overhead power line. The diesel engine is idling while the truck is connected to a power supply. The truck is not connected to a power supply to go to be charged and to uncharge and operates only with the diesel engine. This system is installed in ramps where fuel consumption is highest on the way up. They are designed for deep pit operations and very large scales and are not applicable at the scale of the Rose Lithium-Tantalum project.

Hybrid trucks (diesel and batteries) are not currently available. They are developing over a five to seven-year horizon.

In Canada, new 65 and 130 tonne mining trucks are only available with a US EPA Tier 4 compliant diesel engine. These engines emit significantly less GHGs than previous generation engines (Tier 1 and Tier 2). .

Caterpillar has developed a diesel / LNG conversion kit for its 785C truck. This truck has a capacity of 130 tons. It is a truck widely used all over the world. This truck uses a Tier 1 diesel engine. With this conversion kit, up to 65% of diesel consumption is replaced by LNG and GHG emissions can be reduced by 30%. The cost of fuel with the kit can be reduced by 30%. This kit has been tested in Mexico and is now in operation in other mines around the world where the 785C is being used. The Tier 1 diesel engine emits more than 3 times GHGs than the Tier 4 engines. With the diesel / LNG conversion kit, it emits more than twice the GHG emissions of the Tier 4 diesel engine. Therefore, diesel remains the only energy option for trucks of the Rose Lithium-Tantalum pit.

The criteria used to compare the two variants are:

- GHG emissions;
- The economic factor;
- The performance ;
- The availability of the energy source.

Table CEAA-5b Detailed comparative analysis for the energy source of mobile equipment

Criterion	***Energy***	
	Diesel	***Electric***
GHG emissions	Mobile diesel-powered equipment emits more GHGs. A heavy truck running on diesel consumes about 35L / 100km. A consumption of 1 L of diesel emits approximately 2730 g of CO2 into the atmosphere. For example, 100 km with a heavy diesel truck emits 95 kg of CO2. (Sources: Natural Resources Canada, 2005. The Canadian Vehicle Survey, Summary Report http://publications.gc.ca/collections/collection_2007/nrcan-rncan/M141-18-2005E.pdf Canadian Gas Inventory Appendix C. Retrieved from: http://www.regie-energie.qc.ca/audiences/3471-01/Memoire/Mem3471_FCSQ-AGPI-2doc8.pdf)	100% electric trucks will emit fewer GHGs. Based on hybrid cars, hybrid trucks could emit about 25% less GHGs than diesel trucks.
Economic factor	Generally, mobile diesel equipment is less expensive. In addition, the purchase of used vehicles is possible.	Being a new technology on the market, prices will be rather expensive.
Performance	Mining trucks have shown good performance and good endurance. They have been most successful in northern climates.	Mining trucks assisted by a trolley are efficient. Their application in a northern climate can be difficult. The performance of hybrid trucks is not known.
Availability of the energy source	Diesel can easily be delivered to the project by truck.	Electrical energy will be available to the project. Electricity will be provided by Hydro-Québec.

The variant analysis shows that diesel trucks are the only option for the project. CEC does not envision the purchase of electric mobile equipment for the moment. Eventually, if electrical mining equipment shows good performance in northern climates and prices become more affordable, CEC could revisit its analysis of alternatives and consider changing technology.

6. OTHER MEANS OF ACHIEVING THE PROJECT - TREATMENT OF THE ORE

Section 2.3.3 of the Environmental Impact Statement (EIS) should contain an analysis of the different alternatives for ore processing, as requested in Section 8 of the EIS Guidelines..

The proponent must provide an analysis of alternatives for ore processing. In addition to providing a detailed analysis, the proponent must summarize the analysis in a detailed comparative table.

ANSWER

Lithium is not in the elemental state in nature because it is extremely reactive in this state. It is found in several forms and must be extracted to obtain the desired molecule for batteries, lithium carbonate or lithium hydroxide.

Here are the different methods of extraction and treatment that are generally considered for the treatment of lithium:

Brine extraction:

To extract lithium from brines, salt-rich water must first be pumped to the surface in a series of evaporation ponds in which solar evaporation occurs for several months. Since salar brines occur naturally at high altitudes - and in areas of low rainfall - solar evaporation is an ideal and cost-effective method for precipitating salts.

When the lithium chloride in the evaporation ponds reaches an optimal concentration, the solution is pumped to a recovery facility where extraction and filtration remove any undesirable boron or magnesium. It is then treated with sodium carbonate (sodium carbonate), thus precipitating the lithium carbonate. Lithium carbonate is filtered, dried and ready for delivery.

Lithium extraction and treatment by spodumene concentration:
Spodumen is found in pegmatite, an igneous rock. The lithium is concentrated by the consecutive steps of crushing, grinding, gravitational separation (SMD) and flotation.

Depending on the elements present in the rock of the different deposits, different combinations of these steps of crushing, grinding, gravitational separation (SMD) and flotation can be used, omitted, or used in a different order. For the Rose deposit, the selected is described in detail in Section 3.4 of the EIS"

Location	Raw material	Extraction method	Concentration method
South America	brines	pumping	evaporation
North America	spodumene	blasting	Crushing, grinding, SMD flotation

7. PROJECT REALISATION ALTERNATIVES - PROCESSING OF THE ORE

Section 2.3.3 of the Environmental Impact Statement (EIS) states that "It seems preferable to dispose of the concentrate produced by the Rose project on the international market rather than treating it for secondary processing near the mine. "The proponent refers to economic reasons, but without providing details. The proponent must also consider the environmental effects in its analysis of alternatives for the transformation of spodumene to carbonate and lithium hydroxyl and for processing tantalum.

The promoter must:

A) Provide details on the economic and environmental character (including greenhouse gas emissions) of the different variants for the transformation of spodumene and tantalum

B) Summarize the analysis in a detailed comparative table.

ANSWER

The text in section 2.3.3 of the EIS for a second transformation poorly reflects CEC's intentions. CEC believes that a second transformation of its spodumene ore would be profitable and desirable. It is postponed in phase 2 of the project for economic reasons.

It is financially less risky to carry out the project in two stages; the first being the exploitation of the pit, the construction of a concentration plant and the sale of concentrates on the international market, and the second being the construction of a chemical plant and the sale of battery quality

lithium carbonate and/or lithium hydroxide. The chemical plant (secondary processing) in phase 2 can be funded in part with the proceeds from the sale of concentrate so that the project requires less initial capital. It is not the subject of this authorization request.

The conversion of spodumene concentrate to lithium carbonate and/or lithium hydroxide for the battery market will be the subject of a feasibility study before a final decision is made on this subject.

The location of the secondary processing plant (the chemical plant) will be studied during feasibility. It could be installed at the Rose site annexed to the mill. CEC would have only one site to manage instead of two. The chemical plant would process the majority of the spodumene concentrate. If market conditions warrant it, CEC may still produce a technical grade spodumene concentrate and transport it to the market. Tantalum concentrate would still be produced and transported to the market.

Overall, there would be less trucking because there is a greater volume of spodumene concentrate to be transported than process products for the chemical plant. Truck freight would emit fewer GHGs than if the concentrate was to be transported to the market or a plant located in the south of the province.

The project as a whole would produce more GHGs primarily through the decrepitating furnaces of spodumene, both for a lithium carbonate plant and for a lithium hydroxide plant. The decrepitating of the spodumene is at a very high temperature so that the heat must be generated by a fuel. The world market does not have an electric torch that can provide the necessary temperature. The fuels that can be used are coal, diesel, propane, and natural gas. Natural gas will be used because it emits fewer GHGs than other fuels and at a reasonable price. Its liquid supply in Quebec is possible and reliable. Quebec is supplied with natural gas by an Alberta pipeline. Energir has a liquefaction plant and at least two more are being built by other companies.

8. PROJECT REALISATION ALTERNATIVES - LOCATION OF THE LAKE 3 DIGUE

Section 8 of the guidelines for writing the Environmental Impact Statement (EIS) requires the proponent to perform an analysis of the variants for the location of the infrastructure related to the mine.

On page 31 of the additional information in the EIS, the proponent mentions the return of the dam at the lake 3 to "exploit the pit in any e security." On page 19, the proponent mentions that "a dyke about 60 m wide will be constructed in the narrowest section of Lake 3".

The promoter must:

A) Provide a detailed explanation for adding a dike to the project infrastructure.

B) Provide an analysis of the variants for the location of the dike. In addition to providing a detailed analysis, the proponent must summarize the analysis in a detailed comparative table.

ANSWER

The construction of a dike at Lake No.3 has been abandoned.

PROJECT DESCRIPTION

9. PROJECT DESCRIPTION - WORK SCHEDULE

According to section 5.7 of the Impact Assessment Guidelines (p.11), the proponent must provide a detailed schedule describing the time of year, frequency and duration of all activities associated with the project. The environmental impact study and its complement must present this information at a sufficient level of detail.

The proponent must submit a schedule for completion of the work according to the months of the year in order to validate that the stages planned for the work are consistent with each other and with the periods of restriction for wildlife. If unable identify with certainty the timing of each construction phase, the proponent must submit a table that highlights all the restriction periods that will be applied by type of work, specifying the protection objective related to this period (species or group of target species).

ANSWER

The table of restriction periods is below.

Table 9 - Restriction periods during the construction phase

Protection objective	Activity/Work involved	Restriction period	Mitigation measures
Protection of wetlands	Machinery Circulation	Varies according to the weather conditions	• The work will be carried out on frozen ground or in periods of low water
Protection of aquatic life	Work in fish habitats	April 15 to June 15	• Culvert construction on Lakes 6 and 7 will occur outside of the northern pike spawning season, April 15 to June 15. • The establishment of the cofferdam will be done outside the low water period, from July 1st to August 30.

Protection of birdlife	Deforestation	May 30 to August 15	• Monitoring of the work will be done to ensure that no incidental catch of nests or eggs is made.
			• An awareness program on bird nests and employee training will be developed.
			• In the case of the discovery of a nest, the procedure to be followed takes place in five stages which are as follows:
			  • Step 1: find the nest
			  • Step 2: Establishment of the protection zone
			  • Step 3: Marking the protection zone
			  • Step 4: Monitoring nests and nearby work
			  • Step 5: Monitoring Report
			• In order to avoid nesting during construction, the proponent will be careful not to leave areas available for nesting (shredded wood deposit areas, gravel , etc.).

Protection of bats	Deforestation	May 30 to August 15	• If a building with evidence of bats is present, it will be dismantled at the end of the breeding season
			• In the case of the discovery of maternity sites, the procedure to be followed is in five stages which are as follows:
			  • Step 1: Inventory of potential maternity sites
			  • Step 2: Establishment of the protection zone
			  • Step 3: Marking the protection zone
			  • Step 4: Monitoring of maternity sites and work done nearby
			  • Step 5: Monitoring Report

10. PROJECT DESCRIPTION - RISKS ASSOCIATED WITH CHEMICAL REAGENTS USED IN ORE PROCESSING

In its Environmental Impact Statement (EIS), the proponent plans to use a series of process reagents at the ore processing plant (concentrator), including NaOH, Na2CO3, oleic acid, Methyl isobutyl carbinol (MIBC) and various flocculants.

According to the Society for the Elimination of Pollution, the proponent should have carried out, as part of its EIA, in addition to its study of the risks to workers' health, a review of the literature on the ecotoxicological risks of chemical reagents to be used at the mining site.

In its EIS, the proponent indicates that the process water will be recirculated (a storage tank is provided for this purpose) but does not mention in what proportion.

The promoter must:

A) Explain what percentage of process water will not be re-circulated in the process and instead will be taken to the treatment plant.

ANSWER

The water balance at the concentrator provided in Appendix 17-A of the feasibility study shows that only the water that is contained in the filtered tailings will not be recycled. This water does not return fully to the treatment plant since the tailings will be stockpiled, compacted and covered by a new layer of filtered tailings every day. The water balance shows that approximately 473 m^3/d of water will be sent to the waste rock and tailings pile. The tailings will not be saturated and will be compacted so that the moisture contained in the interstitial pores will not be drained and will instead remain in the matrix. With natural precipitation, some of this interstitial water will be found in the accumulation pond, but it may be considered marginal. Most of this water will remain in the pile.

In percentage terms, the concentrator's water requirements are 25 878 m^3/d. Of this, only the 473 m^3/d associated with tailings will be filled with fresh water plus a small amount associated with losses and evaporation in the plant. As a result, the water will be recirculated to 98% in the plant.

B) Estimate the total polymer concentrations of oils and greases (oleic acid) and residual MIBC that will be in the effluent to be treated and explain the ability of the treatment system to reduce their concentrations in the final effluent to comply with the standards and recommendations for water quality (the fisheries Act, effluent Regulations metal mines and diamond mines , Canadian Council of Ministers of the Environment , etc.).

ANSWER

Based on the geochemical characterization of mine tailings, which shows their very low reactivity and the fact that they are non-leachable, the water to be treated will mainly contain contaminants from the process, and suspended solids.

The following table shows the reagents that will be used in the plant. The elements likely to end up in the process water, which could end up in the water pond before final effluent treatment, are ions for pH adjustment and polymers for spodumene flotation and depression (contrary to flotation) undesirable elements such as talc.

These polymers are used for their selectivity because they act on the surface of the spodumene grains in the case of flotation. They remain stuck on the solids and are found either in the spodumene concentrate or in the residues. Their concentration in the water is very low and difficult to evaluate. In addition, the process water is recycled, which avoids the loss of reagents in the water. Reagents are a significant cost of the operation, and it is to the advantage of any

operator to ensure that the reagents are used in the plant with the ore and are not found in the water to be treated.

The following table shows that the water found in the metallurgical test residues meets all the standard criteria of D019 and REMMD (see Appendix 4 of the REMMD : https://laws-lois.justice.gc.ca/ eng / regulations / SOR-2002-222 / page-10.html # h-673570

Table 21.27 Grinding Media and Reagents Costs

Description	Consumption kg/y	Price $/kg	Cost $/y	Cost $/t
Grinding Media				
Ball Mill Balls (75 mm)	609,616	1.30	**792,500**	**0.49**
Spodumene Plant Reagents				
Soda Ash	515,200	0.50	257,600	0.16
AERO 3030C	120,750	7.94	958,453	0.60
Pionera F220	1,046,500	3.18	3,330,926	2.07
Caustic Soda	483,000	0.56	271,688	0.17
Fatty Acid-2	1,147,930	3.19	3,659,027	2.27
Flocculant	42,511	3.85	163,668	0.10
Sub-total Reagents			**8,644,980**	**5.37**
TOTAL MEDIA AND REAGENTS COSTS			**9,437,840**	**5.86**

Totals may not add up due to rounding.

Parameter	**Unit**	**D019 Final effluent (maximum)**	***Criteria PPSRTC RES***	**Vafe**	**ALCOA**	**HVAC**	**REMMD**	**Residue water (PP 17 Comb Tails)**
pH	no unit	6.0-9.5				6.5 to 9.0		8.18
alkalinity	mg / L $CaCO_3$							284
Conductivity	uS / cm							724
Suspended solids (total)	mg / L						15,00	-
Fluoride	mg / L		4	8	4	0.2		0.31
Chloride	mg / L		860	1720	860	230		21
sulphate	mg / L							7.0
Bromide	mg / L		0.4					<0.3
Nitrite (as N)	mg / L				0.06	0.02		<0.03
Nitrate (as N)	mg / L		290			2.9		<0.06
Mercury (total)	mg / L		0.0000013	0.0032	0.0016	0.00091		0.00002
Silver (total)	mg / L		0.00062	0.0012	0.00062	0.0001		0.00013
Aluminum (total)	mg / L			1.5	0.75	0.087		3.59
Arsenic (total)	mg / L	0.4	0.34	0.68	0.34	0.15	0.50	0.0028
Barium (total)	mg / L		0.6	1.2	0.6	0.21		0.0152
Beryllium (total)	mg / L			0.0075	0.0037	0.00041		0.00209
Boron (total)	mg / L		28	55	28	5		0,028
Bismuth (total)	mg / L							0.0650
Calcium (total)	mg / L							56.5
Cadmium (total)	mg / L		0.0011	0.0021	0.0011	0.00016		0.000422
Cobalt (total)	mg / L		0.37	0.74	0.37	0.1		0.000694

Chrome (total)	mg / L							0.0167
Chrome III	mg / L		1	2	1	0.049		-
Chrome VI	mg / L		0.016	0,032	0.016	0,011		-
Copper (total)	mg / L	0.6	0.0073	0,015	0.0073	0.0052	0.30	0.0187
Cyanide	mg / L						1.00	-
Iron (total)	mg / L	6		6.9		1.3		1.90
Potassium (total)	mg / L							7.99
Lithium (total)	mg / L			1.8	0.91	0.44		0.795
Magnesium (Mg)	mg / L							5.00
Manganese (total)	mg / L		2.3	4.5	2.3	1		0.702
Molybdenum (total)	mg / L		29	58	29	3.2		0.157
Sodium (Na)	mg / L							24.8
Nickel (total)	mg / L	1	0.26	0.52	0.26	0,029	0.50	0.0481
Phosphorus (total)	mg / L							0.131
Lead (total)	mg / L	0.4	0,034	0.068	0,034	0.0013	0.20	0.0126
Antimony (total)	mg / L		1.1	2.3	1.1	0.24		0.0009
Selenium (total)	mg / L		0.062	0.12	0.062	0.005		0.00066
Silicon (total)	mg / L							12.4
Pewter (total)	mg / L							0.0261
Strontium (total)	mg / L			81	40	21		0.182
Radium 226	Bq / L						0.37	-
Tantalum (total)	mg / L							0.0003
Titanium (total)	mg / L							0.0191
Thallium (total)	mg / L			0.094	0,047	0.0072		0.00209
Thorium (total)	mg / L							0.0055
Uranium (total)	mg / L		0.32	0.64	0.32	0.014		0.0724
Vanadium (total)	mg / L			0.22	0.11	0.012		0.00155
Tungsten (total)	mg / L							0.00128
Yttrium (total)	mg / L							0.000551
Zinc (total)	mg / L	1	0.067	0.13	0.067	0.067	0.50	0.073

11. PROJECT DESCRIPTION - METHOD OF DISPOSAL OF WASTE AND WASTE ROCK

The proponent mentions in the Environmental Impact Statement (EIS) that surplus wastewater for construction needs will be directed to a dump site where the waste rock will be co-deposited with the filtered tailings.

In the supplement to the EIS document for the Ministry of the Environment and the Fight Against Climate Change, on page 15, the proponent mentions that:
"The tailings will be transported by the same mining trucks used for waste rock. (...) A dedicated path is provided between the dry residue silo near the ore processing plant and the co-deposition pile. As the section containing the residues inside the co-deposition pile is surrounded by waste rock and surrounded by a filter berm, the tailings will be protected from the wind. "

As we understand it, the tailings and waste rock will be placed side by side so the waste rock will surround the tailings. They will not be "co-deposited" strictly speaking, that is, they will not be deposited in "sterile-residue" superimposed layers allowing the residues to penetrate naturally into the voids of the underlying waste rock. . (http://reviewboard.ca/upload/project_document/EA0809-004_Co- disposal_Case_Histories.PDF).

Notwithstanding the foregoing, the proponent does not explain its choice as to the disposal method for mining materials. Yet, depending on the geochemical characteristics of mining materials, the choice of a disposal option may have advantages over another.

The proponent must justify the choice of co-disposition method.

ANSWER

One of the dams of the tailings from the Mount Polley mine company Imperial Metals ruptured August 4, 2014 allowing over 10.4 million cubic meters of water and 4.5 million cubic meters mining residues to flow into the environment causing significant impacts to wildlife. On August 18, 2014, a panel of experts was set up to identify the causes of the rupture and make recommendations to prevent this type of disaster from reoccurring (https://www.mountpolleyreviewpanel.ca/ panel / about). On January 30, 2015, the panel issued its final report (https://www.mountpolleyreviewpanel.ca/mount-polley-review-panel-delivers-final-report). The report made some important recommendations, notably in relation to Best Applicable Practice (BAP) and Best Available Technology (BAT).

Best available technologies focus on tailings disposal only, while best practices focus on the performance of structures. Best available technologies include the best ways to increase the physical stability of the tailings stockpile. To ensure the integrity of the tailings, it is important to eliminate any waterbody above the tailings, to ensure that the tailings are in unsaturated conditions at all times and to promote compaction to achieve optimal density and improve some geotechnical properties. By eliminating the water ponds on the surface of the tailings and by promoting unsaturated conditions, it becomes impossible to produce a water-residue mixture that will be able to flow as it was when the dam from Mount Polley ruptured.

The placement of filtered tailings is now an increasingly used process in the industry. Filtration of tailings is one of the methods available to achieve the best technologies. In Quebec, Éléonore mine and Raglan mine both successfully put in place surface filtered tailings. In addition to surface deposition, tailings can also be dried and returned underground as backfill. Several mines in Quebec practice this method, which can be used only for underground mines. In some situations, tailings may be stored in pits, but this does not apply to the Rose project.

The establishment of surface tailings eliminates the need to build retention structures and therefore eliminates associated risks. It is in this spirit that CEC has chosen the concept of deposition of filtered tailings. Thus, the residues are transported by truck and stockpiled and compacted to ensure geotechnical properties that reduce the risk of incidents. By the use of filtered tailings one can:

- Eliminate the risks associated with the consequences of a water containment dam failure and saturated tailings;
- Eliminate the risks associated with transportation of saturated mining residues after a failure of a containment dam.

The advantages of depositing tailings with waste rock are:

- Eliminates the risk of disposal of tailings that have been poorly compacted;
- It may be difficult to properly control tailings slopes during operation and placement; the risks associated with steeper slopes are eliminated by the presence of waste rock;
- Is a mitigation measure against dust;
- Allows to increase the safety factors considering the sterile as berms;
- Decreases the environmental footprint to restore;
- Eliminates the risk of default in perpetuity;
- Allows efficient gradual restoration accumulation areas.

In order to reduce the project's footprint, CEC chose to optimize space by combining deposition of tailings with that of waste rock rather than storage at two different locations. Tailings and waste rock have been shown not to be acid generators or leachable. Therefore, it is only for optimization of the footprint that both are deposited in the same storage area. The term co-disposition in this case refers only to the fact that they will be deposited in the same storage area, but without any form of “mixing ".

The report presented by KCB in 2017 (http://mend-nedem.org/wp-content/uploads/2.50.1Tailings_Management_TechnologiesL.pdf) highlights the benefits of filtering tailings for both the operation and restoration. Although this technology is more expensive, it eliminates the risks associated with breakage of containment structures and is considered one of the best technologies available according to Morgenstein et al (2015).

12. PROJECT DESCRIPTION - CHOICE OF MATERIALS FOR GEOCHEMICAL CHARACTERIZATION

With respect to the sampling and results of tests such as trace metals and acid generation potential, presented in Appendix G in the document supplementing the environmental impact study, the proponent does not justify the choice of materials (for example the ore and the different sterile lithologies) that he used to perform the kinetic tests that are in progress.

The proponent must provide a detailed explanation of what guided the selection of materials used for the current kinetic tests, in particular by explaining whether the most potentially leachable and / or acid generating materials were selected for these tests. If not, justify the choices that have been made.

ANSWER

Samples selected for kinetic tests are presented in Table CEAA-12. A sample of amphibolite, the S659713 was selected, because it was one of the few samples to be potentially leachable in copper according to the static tests. Ore sample S659707 is the one with the highest concentration of total sulfur. But, in order to be as representative as possible of the future waste rock and the ore, the samples do not represent the minimum or maximum extreme values. All lithologies, even those that are not potentially acid generating or potentially leachable, were tested in a humidity cell. A composite waste rock sample was created based on the estimated proportions of each lithology: 65% gneiss, 20% porphyry, 11% amphibolite and 4% metasediment.

Table CEAA-12 Samples selected for the tests kinetics in cell wet

Sample	Lithology	Potential of acid generation	Potential for leaching of metals
S659705	Ore	No	No
S659707	Ore	No	No
S659709	Ore	No	No
S659711	metasediment	No	No
S659711D	metasediment	No	No
S659713	amphibolite	No	Yes for copper (Cu) according to TCLP
S659714	amphibolite	No	No
S659719	Porphyry	No	No
S659724	Porphyry	No	No
S659735	Gneiss	No	No
S659745	Gneiss	No	No
Waste	Composite	-	-
Wasted	*Composite*	-	-

13. PROJECT DESCRIPTION - SAMPLES FOR GEOCHEMICAL CHARACTERIZATION

In section 2.2 of Annex G (p.16), the proponent mentions that "twelve [tailings] samples were taken following metallurgical testing at SGS Lakefield's laboratory. "

Referring to the third table in Appendix A of Appendix G, (page 2 of Appendix A), it appears that the 12 tailings samples come from 10 ore samples. In addition, there is a lack of detail about the composition of these samples and how the composite samples were prepared.

Based on the information provided by the proponent in the geochemical study, it appears that the residuals of desliming and mica were not included in the residue samples tested.

The promoter must:

A) Explain, for each of the units (metals) presented in Table 4.4 (p.41 of Appendix G), their location in the deposit, and their proportion in the composites.

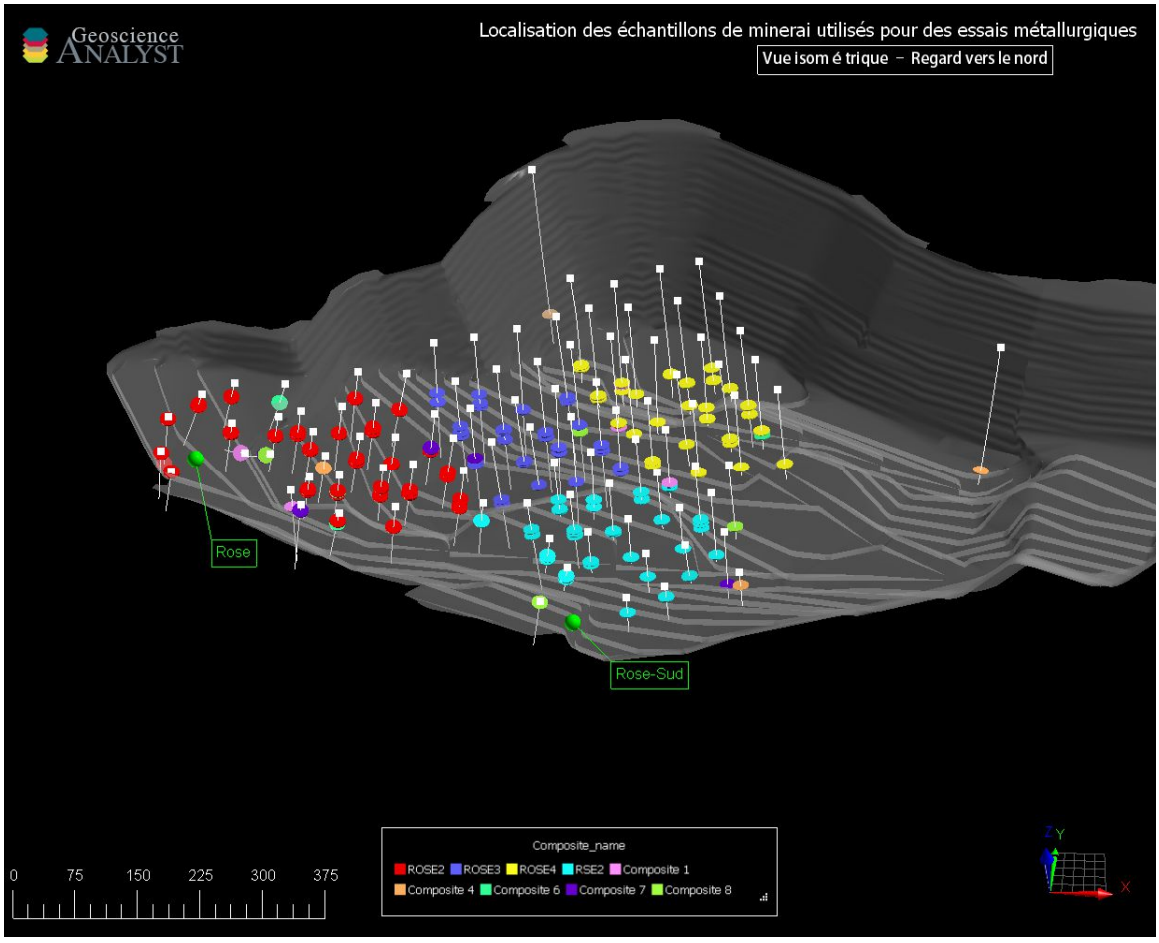
ANSWER

The residue samples presented in Table 4.4 (p.41 of Appendix G) are from metallurgical testing at the SGS laboratory in Lakefield, Ontario, on ore samples collected from the Rose Project. Ore samples come from outcrops at the surface and core samples from exploration drilling. Table 13.1 presents the ore samples and the types of tailing sample Table 4.4 of Appendix G. The tables in Appendix CEAA-13a present the details of the composites of the ore samples. Figure CEAA-13a shows the location of ore samples whose tailings were geochemically analyzed.

Table CEAA-13a Sources of Residue Samples in Table 4.4 of Schedule G:

Residue sample	Sample Ore No.	Type
PP 17 Comb Tails	Rose	Outcrop
Li Ro Rose (F13)	Rose	Outcrop
Li Ro Scav Tail Rose South (F18)	South Rose	Outcrop
Ro Sc Tail RSE2 (F24)	RSE2	Composite of drillcore
Li Ro Rose Scav Tail 2 (F20)	Rose 2	Composite of drillcore
Ro Scav Tail Rose 3 (F21)	Rose 3	Composite of drillcore
Ro Scav Tail Rose 4 (F23)	Rose 4	Composite of drillcore
Li Ro Tail Composite 1	Composite 1	Composite of drillcore
Li Ro Tail Composite 4	Composite 4	Composite of drillcore
Li Ro Tail Composite 6	Composite 6	Composite of drillcore
Li Ro Tail Composite 7	Composite 7	Composite of drillcore
Li Ro Tail Composite 8	Composite 8	Composite of drillcore

Figure CEAA-13 Location of the ore samples from which the residue samples are taken



B) Explain how the ore samples for analysis are representative of the residues that will be produced. For example, is it a residue sample for each of the ten ore samples or rather a mixture of the different tailings samples after the conversion of the ore to the tailings. Specify which ore samples were used to prepare the 12 tailings samples.

ANSWER

The tailing samples analyzed for geochemical characterization are from metallurgical testing at SGS's Lakefield laboratory. They are each from a stage in the analysis circuit. Each sample comes from a separate ore sample.

Ore samples analyzed for geochemical characterization were collected specifically for geochemical analyzes. They have not been metallurgically tested. Their location is shown in Figure 2.2 of Appendix G. None of the ore samples were used to prepare the 12 tailings samples.

The ore samples analyzed for geochemical characterization are representative of the ore that will be mined. The tailings that will be produced come from the ore. The geochemical characteristics of the ore are representative of the geochemical characteristics of the tailings in that if they are low risk, the tailings will also be low risk.

C) Justify the exclusion of the tailings of desliming and mica in the analysis of the samples of residues and to explain the possible consequences of this exclusion on the results.

ANSWER

The available tailings were analyzed. Tailings of the desliming and mica were not available for analysis. However, the "PP17 Comb Tails" sample comes from the tailings thickener feed of the pilot plant. It is composed of the tailings from the lithium circuit, the mica circuit, and the desliming, namely all the tailings produced by the treatment process. The tailings produced during these stages constitute 11% of the final tailings.

Table CEAA-13b presents the process steps from which each tailings sample is derived.

Table CEAA-13b Descriptions of samples of tailings

Sample of tailings	Step of the method of treatment
PP 17 Comb Tails	Supply of the thickener to residue (mixture of all the residues of desliming, the circuitry of flotation of mica and of the circuit of flotation of lithium)
Li Ro Rose (F13)	Residues of roughing (flotation of lithium test F13)
Li Ro Scav Tail Rose South (F18)	Residues of roughing and to the stripper (flotation of lithium test F18)
Ro Sc Tail RSE2 (F24)	Residues of roughing and to the stripper (flotation of lithium test F24)
Li Ro Rose Scav Tail 2 (F20)	Residues of roughing and to the stripper (flotation of lithium test F20)
Ro Scav Tail Rose 3 (F21)	Residues of roughing and to the stripper (flotation of lithium test F21)
Ro Scav Tail Rose 4 (F23)	Residues of roughing and to the stripper (flotation of lithium test F23)
Li Ro Tail Composite 1	Residues of roughing (flotation of lithium)
Li Ro Tail Composite 4	Residues of roughing (flotation of lithium)
Li Ro Tail Composite 6	Residues of roughing (flotation of lithium)
Li Ro Tail Composite 7	Residues of roughing (flotation of lithium)
Li Ro Tail Composite 8	Residues of roughing (flotation of lithium)

14. PROJECT DESCRIPTION - RESULTS OF THE GEOCHEMICAL CHARACTERIZATION

As geochemical test results are yet to come, the analysis of the potential effects of mining materials on groundwater and surface water quality is not complete at this time. Complete characterization of the geochemical behavior (results and analysis conclusions) of all common mining materials will be required to analyze the effects of the project.

Table 3.1 of Appendix G (page 20) indicates that only the trace metal analysis was done on the overburden. According to the Agency's guidelines for the drafting of the Environmental Impact Statement, a characterization of the geochemical behavior of common mineral materials "should include: mineralogy, the elemental composition of the main elements and elements in the state of traces in the study area as well as the potential for acid production, neutralization and contaminated neutral drainage ".

The promoter must:

A) Present test results for all mine materials (including Acid Generation Potential (AGP) test for overburden).

B) Based on the results of the PGA overburden test, evaluate the need for kinetic testing of these materials. Justify the reasons for not performing kinetic tests for overburden, if any.

ANSWER

Acid generation potential tests for overburden are planned for the spring of 2020 when the soil characterization survey will be done. Overburden samples will be selected to complete the geochemical characterization of all mining materials.

15. PROJECT DESCRIPTION - DRAINAGE OF DUMPS

The proponent proposes to store the project's mining materials in piles that are not equipped with waterproofing measures. However, this requires data demonstrating that this practice will not cause groundwater contamination through metal leaching and / or acidic drainage.

For waste rock and tailings, on page 32 of Appendix G, it is mentioned that two samples (gneiss and amphibolite) are potential acid generators, while several samples of these two lithologies exceed criterion A of the Soil Protection and Contaminated Sites Rehabilitation Policy (PPSRTC) for several trace metals. According to the Mining Industry Directive 019 of the Ministry of the Environment and the Fight Against Climate Change, level A waterproofing measures would be required for the co-deposition pile of waste rock and tailings to protect the quality of groundwater.

With respect to overburden, the proponent concludes from Appendix G (p.47) that "all samples have concentrations below the PPSRTC A Criteria, which automatically make them low-risk materials within the meaning of Directive 019 ". However, on page 45, it is mentioned that there was an exceeding of criterion A of the PPSRTC for arsenic in a sample.

The proponent must justify or revise the conclusions regarding the need to provide the dumps with sealing measures in light of additional geochemical and kinetic test results.

ANSWER

No sealing measures are required since the tailings are low risk. Level A sealing measures would be required for the co-deposition pile of waste rock and tailings if these materials have at least one of these characteristics: cyanide, acid generation, leachability, radioactivity, contamination with organic compounds or high risks. Kinetic tests have shown that the waste rock would not be

potentially acidogenic. Thus, the acidic conditions in which TCLP leaching tests are performed are not representative of future field conditions. The results of SPLP, CTEU-9 and SFE leaching tests were also presented in the Appendix G report. The following interpretation is provided on page 37 to demonstrate that the waste rock would not be potentially leachable:

"However, these analyses and tests [TCLP] are performed in acidic medium. Since all of the samples are considered to be non- potentially acid generating, it is unlikely that waste rock will be subjected to such conditions when they are stored on the surface. The potential for copper leaching is therefore unlikely. SFE and CTEU-9 tests leach water rather than acid. In the case of the SFE test, there was no exceedance. For the WTC-9 test, there were exceedances in copper for 8 samples, but none of the samples exceeded the first criteria (metals analysis on solids). It is demonstrated that the leached minerals in the TCLP test are not the same as in the CTEU-9 test. It is also likely that the different particle sizes of the two protocols (<9.5 mm for TCLP and <0.15 mm for CTEU-9) had an impact on the results obtained. Since copper concentrations are relatively low on solids (67 to 110 mg/kg while the criterion is 65 mg/kg) and the sulphide content is low in rocks, the likelihood of copper leaching in water contact is very small. "

For tailings from ore processing, they are considered low risk tailings under Directive 019 since metal concentrations do not exceed Criteria A of the PPSRTC.

The only metal exceedance observed in the overburden samples is an arsenic concentration of 8 mg/kg compared to the PPSRTC Criterion A of 5 mg/kg in the Superior geological province. This criterion varies from 5 to 19 mg/kg depending on the geological provinces in Quebec. A value of 8 mg/kg was therefore not considered sufficiently abnormal to warrant additional testing, in addition to other samples returning concentrations ranging from < 0.5 to 2.3 mg/kg. Additional analyses will be conducted in the spring of 2020 on overburden samples as part of the soil characterization. Special attention will be given to arsenic to validate that there is no repetition of excess in this element. Further investigation will be carried out if necessary.

16. PROJECT DESCRIPTION - EFFECTS OF ALL MINING MATERIALS ON WATER QUALITY

For runoff from the overburden pile, the proponent mentions on page 17 of the EIA Complementary Document (Answers to Questions and Comments from the Ministry of the Environment and the Fight Against Climate Change , that these will drain to watercourses A, D and F, as well as to Lake 6. This assumption implies that the drainage water would be in compliance with the standards and recommendations of the quality of water. waters (fisheries Act, effluent Regulations metal mines and diamond mines, Canadian Council of Ministers of the Environment, etc.) while the geochemical characterization of overburden is not complete.

The proponent shall estimate the potential effects of all mine material (waste rock / tailings, ore and overburden) on the quality of the groundwater and surface water of the site for each of the different phases of the project (construction, exploitation, closure and restoration).

ANSWER

For the tailings, the ore and the waste rock, the geochemical characterization report of the impact study (appendix 3-3) and the one updated and transmitted at the time of the study's concordance (appendix G) show that the majority of waste rock samples are non-acid generating, sulfur concentrations are low and the presence of sulphides is marginal in the lithological units. It is therefore considered that all sterile will not be generating acid. Regarding leaching, waste rock is considered low risk. Therefore, there are no apprehended effects on the quality of the groundwater and surface water of the site, for the various phases of the project. Remember that according to Directive 019, no sealing measures are required for the protection of groundwater for all waste rock and tailings to be managed on the site.

Additional samples were taken in 2018 and kinetic tests were performed. The results obtained demonstrate that the samples are not potentially leachable or potentially acidogenic. Waste rock does not present a risk of acid mine drainage (AMD) or contaminated neutral drainage (CND).

Finally, acid generation potential tests for overburden are planned for the spring of 2020 during the soil characterization survey. Overburden samples will be selected to complete the geochemical characterization of all mining materials.

17. PROJECT DESCRIPTION - FABRICATION OF EXPLOSIVES

On page 3-13 of the Environmental Impact Statement, the proponent mentions: "No explosives production is planned at the mine" and then adds that "Emulsion and PNA " 'ammonium' will be loaded into the mobile manufacturing unit in separate tanks and will be blended when loading the blast holes. "

Mixing and pumping explosives is a manufacture within the meaning of Section 53 (c) of the Explosives Regulations, 2013.

If the loading and mixing of emulsion or PNA (ammonium nitrate pellet) at the mine site involves additional infrastructure such as tanks, wash bay or garage, the proponent must obtain a manufacturing license or satellite site issued by Natural Resources Canada for the manufacture of explosives.

The promoter must:

A) Specify whether the mobile manufacturing unit being loaded is from an existing licensed plant or whether there will be storage and product transfer facilities at the mine site.

ANSWER

The mobile manufacturing unit is designed to transport the raw materials to the bench in the pit and mix them by pumping them into the blasting holes. The mobile manufacturing unit will come from an authorized manufacturer and will meet the requirements of the Explosives Act and will have the necessary permits.

The raw materials will be delivered in bulk to a storage site at the mine site, from which they will be transferred to the mobile manufacturing unit. The pure emulsion will be delivered in bulk by tanker and transferred to ISO containers. Ammonium nitrate will be delivered in bulk and stored in a silo.

B) Confirm whether explosives will be manufactured at the mine site within the meaning of Section 53 (c) of the Explosives Regulations, 2013.

ANSWER

Explosives will be manufactured at the mine site. The transfer of raw materials to the mobile manufacturing unit and the action of mixing them by pumping them into the blast holes are considered explosives manufacturing under Section 53 (c) of the Explosives Regulations, 2013 (https://laws-lois.justice.gc.ca/eng/regulations/SOR-2013-211/page-8.html#h-784684).

18. PROJECT DESCRIPTION - WATER BALANCE

The Environmental Impact Assessment (EIA) shows flow patterns of process waters as well as tables showing flows from different infrastructure such as wells, pumps and ditches. Flow data associated with precipitation, infiltration into the soil, groundwater inflow, evaporation into basins, dust suppression, etc. are not presented.

In order to be able to properly assess the quantity and quality of mine waters and the impacts of the project on the quality of surface water and groundwater, the water management plan should include a water balance of all on-site and off-site water (inputs and outputs) under different conditions (dry period, normal period and wet period) and taking into account climate change.

A tool such as a water and mass balance model could be used for this purpose. This type of model is very useful to demonstrate that the level of management of water will ensure an adequate supply of water for mining operations and sufficient capacity of water management works for flows and volumes planned, it will reduce at least impacts on the receiving environment, and that it will include measures to limit environmental impacts. To guide the proponent, here is an example of a guide to completing a water and mass balance that is used in the Yukon: www.env.gov.yk.ca/en/publications-maps/documents/mine_water_balance_en. pdf

The promoter must:

A) Provide a water management plan detailed 're taking into account all the different types of flow on and off the mine site (inputs and outputs), particularly the rainfall infiltration into the soil, the contribution of groundwater, evaporation in basins, water used for the reduction of dust. The use of a water balance and mass balance could complete the mine water management plan of the site, such as by determining the annual flows to be treated at the water treatment plant to ensure compliance with the standards in force at the final effluent, in dry, normal and wet conditions, while taking into account climatic changes.

ANSWER

The water management and water balance are presented in the technical note found in Appendix CEEA-18.

B) Explain how water management works (dumps, dikes, ditches, etc.) will be effective in directing contact waters to the treatment system.

ANSWER

The slopes of the ditches are 1.5: 1 and rip rap is planned to reduce erosion. In addition, ditch capacity was assessed with a 100-year rainfall. The engineering standards used were those of the Ministry of Transport of Quebec (Manual design MTMDET culverts). A semi-permeable berm surrounding the residues included in the co-deposition pile and the overburden pile will be installed to filter the SS. The exterior will be constructed rock material (0-300 mm) with an inner layer of gravel (MG-20) to prevent migration of the waste to the receiving environment.

19. PROJECT DESCRIPTION - MANAGEMENT OF WATER DURING EACH PHASE

Water management information is important to assess the potential effects of the project on both surface and ground water quality throughout the mining project. Water management during the operation phase was presented in the Environmental Impact Statement (EIS). The proponent provided some additional information to describe water management during the construction phase (Complementary Document to the EIS).

To facilitate understanding, the proponent must present the water management and treatment plan in specific sections for the different phases of the project: the construction phase, the operation phase, the closure phase and the restoration phase.

ANSWER

The water management at each phase of the project is discussed in the technical note found in Appendix CEEA-18.

20. PROJECT DESCRIPTION - WATER MANAGEMENT IN THE CONSTRUCTION PHASE

With regard to water management during the construction phase, the Environmental Impact Assessment (EIS) mentions that runoff will be collected by ditches and small ponds and then treated. The proponent briefly explains the water management in three major phases of the construction phase in the EIS Complementary Document and presents Map 1 to illustrate its explanations. However, it is difficult to understand water management in relation to the progress of the work. The information presented must be sufficiently detailed to assess the effects of construction activities on the water quality of the receiving environment.

The catchment and treatment of water during each stage of the construction phase are not shown on Map 1. It shows the flow of contact water (orange line with brown arrows), but it is not clear how these waters go to the accumulation basin, as explained in the text. The route ends rather between the industrial sector and the overburden pile. Moreover, it does not distinguish the path of the contact water from that of the non - contact water.

The promoter must:

A) Explain, for each step of the construction (eg stripping of the pit, dewatering of the pit, installation of ponds, etc.) how mining waters (from the mine site) will be collected and managed in order to avoid contamination of the receiving environment.

ANSWER

The steps during construction are as follows:
Dewatering lakes 1 and 2. The lakes will be emptied by pumping water into a temporary pond to reduce the velocity of the fluid and remove any suspended solids. The spillway of the temporary pond will flow into the stream downstream of each lake.

Stripping of the pit and overburden storage. A semi-permeable berm surrounding the entire overburden pile will be installed to capture the SS. The design of the berm will be optimized by considering the available building materials, but it is expected that the exterior will be constructed in rock materials (0-300 mm) with an inner layer in gravel (MG-20). The goal is to prevent the migration of suspended solids and allow the berm to drain. An inspection will be made to verify that the erosion of the overburden cannot pass over the berm. Water accumulating in the pit by precipitation will be pumped onto the overburden pile, inside the berm;

Construction of the access road to the industrial deck. Semi-permeable ditches on either side of the road will prevent SS from migrating into the receiving environment.

Construction of the accumulation pond and effluent treatment plant. The WTP will be built first, followed by the accumulation pond. The water management during the construction of the pond will be treated in the WTP.

Construction of the industrial deck and buildings. The contact water will be collected in the ditches and sent to the WTP as during the mining operation.

B) Illustrate on a map (s) the evolution of water management during the construction stages as well as the permanent and temporary structures, if any, such as ditches, cofferdams and small ponds. The maps should present the information so that the reader can understand and distinguish contact water management and non-contact water management on the site. They will also have to present the layout of the non - contact water drainage network. Then, if necessary, review the potential effects of the project on water quality during construction as well as mitigation and residual effects.

ANSWER

The evolution of water management over the construction stages as well as the permanent and temporary structures are illustrated on maps 20-1 to 20-1 which can be found in Appendix CEEA-20.

21. PROJECT DESCRIPTION - MINING WATER ABSTRACTION

In his response to the Ministry of Environment and Climate Change QC-30, the proponent states that "Infrastructure ditches have been designed to prevent runoff water on the periphery of infrastructure from penetrate the infrastructure and become contact water that must be treated. "

However, with reference to Map 3-3 (page 3-37 of the Environmental Impact Statement (EIS)), it is difficult to understand how uncontaminated water will be diverted around the site to avoid mixing with the contact water. For example, the overburden pile appears completely exposed to uncontaminated water infiltration.

In addition, on page 3-34 of the EIS, the proponent mentions: "There will be no ditch on the periphery of the overburden pile and the runoff will be naturally transported to the surrounding ditches".

According to federal requirements of the Metal Mining and Diamond Mining Effluent Regulations, the water management system must include the collection of all drainage water from mining structures, including the overburden pile.

The promoter must:

A) For all phases of the project, describe and illustrate on a map the uptake of mineral water and the water diversion system of non - contact around the mine site infrastructure, as the s the piles and ditches of contact water.

B) Include the drainage water collection system for the overburden pile at Map 3-3 of the Environmental Impact Statement.

ANSWER

The ditches around the infrastructures were designed with a berm to prevent runoff water at the periphery of the infrastructure from entering these infrastructures and thus becoming contact water that must be treated. These ditches were considered in the hydrological analysis of the site (Appendix QC-30). There is no ditch required for the northern part of the co-deposition pile because it is supported by the hillside, so runoff naturally occurs outside the stockpile, while contact water is moving towards the drainage ditches. To this end, adjustments will be made to the footprint of the co-deposition pile during detailed engineering to ensure that it does not encroach into the watershed of stream C. The roadside ditches encircling the pit prevent water from flowing into the pit.

Project operation phases are shown in maps CEAA-21-1 and CEAA-21-2 for years 4 and 17. Map03-03 now includes the semi-permeable berm that collects drainage water from the overburden stockpile. These maps can be found in Appendix CEAA-21.

22. PROJECT DESCRIPTION - CLEANING WATER MANAGEMENT FOR CONCRETE MIXERS AND OTHER VEHICLES

Regarding the management of cleaning water for concrete mixers and other vehicles, the proponent mentions that "The water used to clean concrete mixers, vehicles and equipment must be disposed of in an area provided for this purpose so as to avoid any contamination. middle. The

whole thing is recovered by a specialized company. The management of these waters should be explained by the proponent.

For water used for cleaning concrete mixers and other vehicles, the proponent must:

A) Explain how these waters will be collected.

B) Locate where these waters will be stored.

C) Provide details of the management structures of these waters.

ANSWER

A cleaning station will be prepared for vehicles including a concrete floor, a drainage ditch, and an oil separator. The water will be directed to a sedimentation pond. The water will then be directed to a treatment plant before being discharged into the final effluent. The cleaning water from the concrete trucks will be discharged into the sedimentation pond of the vehicle cleaning station.

23. PROJECT DESCRIPTION - WATER MANAGEMENT IN CONTACT WITH SERVICE ROADS

The Ministry of the Environment and Climate Change says "the proponent will need to ensure that amphibolite aggregates are used for the construction of the mining complex roads in order to reduce the crystalline silica emissions associated with the routing. "

In addition, the proponent does not plan to capture the water in contact with service road ditches, as these do not have any potential for contamination (p.3-35 of the 2018 Environmental Impact Statement). It plans to install passive control measures for suspended solids.

According to Appendix G (p.37), seven out of 76 waste rock samples exceed Criterion A of the Soil Protection and Brownfield Reclamation Policy for Copper (three of which also exceed Criterion B). These same seven samples also exceeded the surface water surge criterion for copper in the "Toxicity Characteristic Leaching Procedure" (TCLP) test. Of these seven samples, five are amphibolite.

Considering that the roads will be built with waste rock from amphibolite lithology, it seems worrying that no system for collecting road drainage is planned.

The promoter must:

A) Justify how the control of suspended solids is the only parameter to consider in the water management in contact with the service roads.

B) In addition to suspended solids, describe the parameters that will be measured for the management of contact water with service roads. To this end, ECCC recommends measuring the parameters used to characterize the effluent under Effluent Regulations Metal Mining and mine diamonds.

C) Justify how the use of amphibolite as aggregate will not lead to water contamination.

D) If applicable, explain and illustrate how the water in contact with the roads of the site will be collected and managed.

ANSWER

Water in contact with the service roads will be collected in ponds where they will be monitored. The waters will be analyzed regularly. If necessary, they will be pumped to the accumulation pond and treated at the treatment plant. The waters will be measured to ensure they meet the Directive 019 criteria. It should also be noted that tailings and waste rock have been shown not to be acid generators or leachable.

24. PROJECT DESCRIPTION - MINERAL WATER TREATMENT

The estimated concentrations of substances in the effluent, which will be brought to the processing system (especially metal concentrations) are based on the results of only a leaching test (WTC-9, SGS - March 2017) as mentioned by the proponent (page 9 of the supplemental document to the environmental impact study): "The plant will treat a water having the following characteristics according to the geochemical test carried out in March 2017 (CTEU-9, SGS) ".

The promoter must:

A) In the light of the results of the additional geochemical tests, re-evaluate whether the metal concentrations that have been estimated are representative of those that will actually be found in the mining waters to be treated.

ANSWER

The results of additional geochemical testing support the original assumptions regarding metal concentrations.

B) Demonstrate that the water collection and treatment system and mitigation measures will have the ability to harvest and treat, as needed, all mine waters prior to release to the environment to meet and recommendations for water quality (including those of effluent Regulations metal mines and diamond mines and the Canadian Council of Ministers of the Environment).

ANSWER

Ponds 2 and 3 have pumps that keep the water level as low as possible for maximum storage. The strategy is to empty ponds 2 and 3 into the accumulation pond over a period of 72 hours. Considering that 90 % of the rains are less than 20 mm and that the statistics show an average of 27.3 days of rain of more than 5 mm during the period from April to October or significant rain every eight days, this strategy is considered conservative. For the ponds, retention volumes were calculated based on a recurrence rainfall of 1:100 years for 24 hours (3.45 mm/h), in addition to snowmelt over a 30-day period (0.4 mm/h). To preserve the integrity of the ponds, an emergency spillway is planned and each pond has a 1 m freeboard.

C) Describe the measures mitigation additional (as a level of management adaptive) which will be implemented in the event that releases the water treatment plant fail to comply with the regulations.

ANSWER

The water is analyzed continuously before the exit of the WTP. If it does not comply with the regulations, the water will return to the accumulation pond. Therefore, the water that will flow to Stream A will be analyzed by the treatment plant sensor and qualified as compliant with the regulations.

25. PROJECT DESCRIPTION - MINING WATER TREATMENT DURING CONSTRUCTION AND OPERATION

With regard to water management during the construction phase, the proponent indicates that a procedure will be put in place to validate the conformity of the water quality with the criteria of the Directive 019 of the mining industry. Ministry of the Environment and Climate Change and the Metal Mining and Diamond Mining Effluent Regulations (REMMMD).

During the operational phase, the water quality objectives are presented in Table 1 of the Environmental Impact Statement Supplementary Document (Information required by the Canadian Environmental Assessment Agency) as the Limit concentrations of the REMMMD and Directive 019 parameters and the Environmental Rejection Objectives (EROs).

However, other substances may also be released during construction and operation, but for which Directive 019, EDOs and REMMMD do not specify criteria.

The promoter must:

A) Present water quality results from the construction phase also considering the Canadian Recommendations for the quality of water of the Canadian Council of Ministers of the Environment (CCME) for the protection of the life aquatic.

ANSWER

The work will begin with deforestation and stripping of the surfaces and then allow the realization of civil works (roads, ditches, ponds, etc.). This work will expose the soil and have the potential impact of suspending particles in the water. Before the full commissioning of the peripheral drainage system, including ditches, ponds and the processing unit, the runoff from the site will be managed and accumulated according to the topography and rejected into the environment. Temporary sedimentation ponds will be constructed when required to collect water. The water from these ponds will be discharged in the terrestrial environment at more than 30 m from any course or body of water. Sediment barriers, hay bales, or other similar devices will be installed at the point of release to capture suspended solids. The discharge criterion during the construction period will be 25 mg/L suspended solids, 15 mg/L hydrocarbon and a pH between 6 and 9.5. Visual inspections of discard points will be carried out on a daily basis by the environmental supervisor. During these inspections, if the coloration of the effluent suggests a concentration of suspended matter (coloration of the water) or iridescence (hydrocarbons), a sample will be taken (instantaneously) and sent to a laboratory for analysis. Sampling will be conducted in accordance with the Sampling Guide for Environmental Analysis. A register of visual inspections with comments and observations, compilation of samples taken and results available will be kept.

B) Add the Guidelines for Canadian Water Quality CCME for the protection of the life aquatic in Table 1 (management of water in the phase of operation) of the additional document to the Environmental Impact Assessment (Information requested by CEEA), to allow comparison of the concentrations of contaminants with these recommendations.

ANSWER

Table 1 of the supplemental document to the EIS for the CEEA has been updated (Table CEEA-25) is presented below to include the Canadian Recommendations for Water Quality from the CCME. The environmental discharge objectives (EDO) specific to the Rose Lithium-Tantalum project have been added. These were issued by the MELCC on February 7, 2018.

Table CEEA-25a. Specifications of the treated water (revised)

Temperature (° C)	pH							
	6.0	6.5	7.0	7.5	8.0	8.5	9.0	10.0
0	231	73.0	23.1	7.32	2.33	0.749	0.25	0.042
5	153	48.3	15.3	4.84	1.54	0.502	0.172	0.034
10	102	32.4	10.3	3.26	1.04	0.343	0.121	0.029
15	69.7	22.0	6.98	2.22	0.715	0.239	0.089	0.026
20	48.0	15.2	4.82	1.54	0.499	0.171	0.067	0.024
25	33.5	10.6	3.37	1.08	0.354	0.125	0.053	0.022
30	23.7	7.50	2.39	0.767	0.256	0.094	0.043	0.021

Total ammonia measurements in the aquatic environment are often also expressed in mg / L of total ammoniacal nitrogen. The mg / L NH 3 recommendations can be converted into mg / L of total ammonia nitrogen by multiplying them by a factor of 0.822

Table CEEA-25. Specifications of the treated water (revised)

Measurement parameter	REMMMD - Allowed Limit (mg/L)			Directive 019 (mg/L)		OER (mg/L)	CCME[1] (mg/L)		Average CTEU-9
	Monthly average	Composite sample	Sample entered	Monthly average	Maximum		Short term	Long term	
Aluminum	-	-	-	-	-			0.005 mg / L (pH <6.5) 0.10 mg / L (pH ≥6.5)	1.6700476
Antimony	-	-	-	-	-				0.0311714
Arsenic	0.5	0.75	1	0.2	0.4	0,021		0.005	0.0145190
Barium	-	-	-	-	-	0,038			0.0122348
Beryllium	-	-	-	-	-	0.00014			0.0000637
Boron	-	-	-	-	-		29	1.5	0.1580476
Cadmium	-	-	-	-	-	0.00005	0,001	0.00009	0.0000315
Chrome (Total)	-	-	-	-	-	0,011			0.0017586
Cobalt	-	-	-	-	-				0.0005667
Copper	0.3	0.45	0.6	0.3	0.6	0.0013		0.002	0.0060552
Iron	-	-	-	3	6	1.3		0.3	1.1459524
Lithium						0.44			
Lead	0.2	0.3	0.4	0.2	0.4	0.00017		0.001 - 0.007	0.0024138
Manganese	-	-	-	-	-	0.26			0.0169457
Mercury	-	-	-	-	-			0.000026	0.0000000
Molybdenum	-	-	-	-	-			0.073	0.0104552
Nickel	0.5	0.75	1	0.5	1	0.007		0.025	0.0011810
Selenium	-	-	-	-	-			0.01	0.0018538
Money	-	-	-	-	-	0.0001		0.00025	0.0001725
Thallium	-	-	-	-	-			0.0008	0.0002084
Uranium	-	-	-	-	-			0.015	0.0029815
Vanadium	-	-	-	-	-				0.0283424
Zinc	0.5	0.75	1	0.5	1	0.017		0.03	0.0077222
Chlorites (Cl)	-	-	-	-	-				6.62
Cyanides (Total)	1	1.5	2	1	2			0.005	
Ammonia nitrogen (mg/LN) summer	-	-	-	-	-	1.8		See note 2	
Winter ammonia nitrogen (mg/LN)						1.9			
Nitrates (mg/LN)						2.9	550	13	
Nitrites (mg/LN)						0.02		60 (NO_2-N)	
Hydrocarbons C_{10}-C_{50}	-	-	-	-	2				
pH	6.0 to 9.5			6.0 to 9.5		6.0 to 9.5		6.5 - 9.0	8.167142857
Radium 226 (Bq/L)	0.37	0.74	1.11	-	-				
Sulphides	-	-	-	-	-				10.91428571
Total fluoride (F)	-	-	-	-	-	0.2		0.12	1.18
Total phosphorus	-	-	-	-	-				0.108571429
Total suspended solids	15	22.5	30	15	30	9.5			

[1] Canadian Council of Ministers of the Environment (CCME): Guidelines for Water Quality, Protection of Freshwater Aquatic Life. Website : http://st-ts.ccme.ca/en/index.html [2] Water Quality Guidelines for Total Ammonia for the Protection of Aquatic Life (mg / L NH_3) :

26. PROJECT DESCRIPTION - SEALING OF ACCUMULATION BASINS

In its response to the Ministry of Environment and Climate Change QC-32, the proponent states that "For the accumulation pond, a geomembrane is planned to seal it. Basins Nos. 2 and 3 will not be provided with a geomembrane. The latter was not considered necessary based on the results of the waste rock and tailings characterization, as well as the findings of the updated Lamont geochemical study (Appendix QC-17). "

However, the proponent must wait for the results of the kinetic tests to be able to draw conclusions about the quality of drainage water for mining materials such as waste rock. At this stage, there is insufficient data to decide without uncertainty on the choice of the required level of tightness of the various structures of the site, including dumps and ponds.

The proponent shall, following the receipt of the results of the additional geochemical tests, including the kinetic tests, revise, as the case may be, the design of the basins 2 and 3 according to the overall results, particularly those on the geochemistry of the waste rock and tailings.

ANSWER

According to preliminary reports (Annex 3-3 EIA [20 Lamont 17] Annex G of the agreement [Lamont 2018]), and kinetic tests found in Appendix CEEA-15, the waste rock and tailings remain considered as being non-potentially acid generating nor leachable.

27. PROJECT DESCRIPTION - MINERAL WATER TREATMENT

Regarding the quality of the water from the water treatment unit (UTE), the proponent mentions that "in the event that the quality of the treated water is unsatisfactory, the water will be returned to the accumulation basin rather than in the ditch. "

In his response to the QC-27 question from the Department of the Environment and the Fight Against Climate Change (p.18), the proponent mentions that a polishing pond would not be needed because the turbidity would be validated continuously and that if a criterion is exceeded, the water would be returned to the accumulation pond.

According to the proponent's explanation, the return of water to the bypass basin would therefore be based on turbidity measurements only.

Regarding the addition of a polishing pond, this option would allow greater flexibility in the treatment of water compared to process variations (eg flow, concentrations of metals and suspended solids, etc.) by offering a higher retention time and thus, greater treatment efficiency.

Regarding the domestic wastewater treatment system, the proponent mentions on page 3-47 of the Environmental Impact Assessment (EIA) that field investigations will be required to confirm the viability of such a system. On page 3-48, it is mentioned that the location of the leaching field is shown on Map 3-2. However, this structure does not seem to appear there, as indicated in the text.

Concerning the accumulation basin, the MELCC, in the supplement to the EIA document (Responses to the questions and comments of the MDDELCC), informs the proponent that an emergency spillway will have to be put in place on the accumulation basin.

The promoter must:

A) Justify why a single parameter, namely turbidity, is sufficient to trigger the return of water to the water treatment unit (UTE) and specify, if any, what other parameters will be used to bypass the water treatment unit final effluent (eg pH or conductivity).

ANSWER

The first step of the physicochemical treatment process increases the pH between 9.0 and 9.5, which makes it possible to convert the soluble metals into an insoluble form. Then, the addition of a coagulant and a flocculent allows the formation of flakes with the now insoluble metals that will precipitate in the last stage of the treatment. Process adjustment will be done onsite with an off-line analyzer of metals in solution and validated by sending samples to a certified laboratory to adjust the process to achieve pollutant concentration below the standard allowed by the applicable laws. The turbidity reading allows an online reading of the quality of the effluent since the metals and MES are now visible by use of an online measuring instrument. The only other parameter that can trigger the recirculation of the effluent to the accumulation pond upstream of the treatment process will be the pH read continuously at the discharge point of the effluent.

B) Evaluate the option of installing a polishing pond for water of unsatisfactory quality at the exit of the UTE. If the option is not selected, provide a justification.

ANSWER

The addition of a polishing pond is possible, but since we have online measuring instruments for turbidity it is difficult to justify, given the required area and the associated impact. The principle of recirculation is used in several sites by different suppliers to avoid the construction of a large polishing pond. The quality of the water at the end of the treatment process will meet the standards in force, without the need for a polishing basin.

C) Explain the field investigations of the viability of a domestic sewage treatment system that have been completed and what the conclusions were.

ANSWER

The soil map (EIA map 6-2) was used to identify a potential sandy zone for the positioning of the industrial deck wastewater treatment system. A more detailed field investigation will be required before confirming the exact location during detailed engineering. The preliminary study for the treatment of domestic wastewater is given in Appendix CEEA-27 and presents the field investigations and conclusions as to the viability of the proposed treatment system, with reference to the recommendations for the final investigations to be carried out in order to achieve the final design of the treatment system and its location.

D) Show on Map 3-3 (page 3-37 of the Environmental Impact Statement): the by-pass of the final effluent; the domestic sewage treatment system and its point of discharge; and the point of discharge from the emergency spillway of the accumulation basin.

ANSWER

Map 03-03 (see Appendix CEEA-21) presents the points requested for the domestic wastewater treatment system. It should be noted that the proposed system provides treatment with infiltration into the soil.

28. PROJECT DESCRIPTION - MINERAL WATER TREATMENT

The proponent states that "by removing suspended solids [SS], other criteria such as metals will be met."

This statement represents the portion of metals that are associated with TSS, but not the portion of metals dissolved in water.

The promoter must:

A) Explain in detail how metals that are not associated with suspended matter will be monitored and treated before discharge of the effluent.

ANSWER

The first step of the physicochemical treatment process increases the pH between 9.0 and 9.5, which makes it possible to convert the soluble metals into an insoluble form. Then, the addition of a coagulant and a flocculent allows the formation of flakes with the now insoluble metals that will precipitate in the last stage of the treatment. Process adjustment will be done onsite with an off-line analyzer of metals in solution and validated by sending samples to a certified laboratory to adjust the process to achieve pollutant concentration below the standard allowed by the applicable laws.

B) Explain the effectiveness of the treatment plant and how it will reduce metal concentrations prior to effluent discharge.

ANSWER

The efficiency of the process will reduce metal concentrations below the standards set in Directive 019 and the REMMMD. The process is explained in answer A).

29. PROJECT DESCRIPTION - IMPACTS OF DEWATERING DISCHARGES ON MONTHLY MEAN FLOWS

Table 2.9 of the February 2019 Supplementary Information shows the project's impacts on monthly average flows for years 1, 4, 9, 13 and 17 for the three-point scenario. Despite its title, the last two periods do not appear in the table.

Since the three-point-of-release scenario is selected based on information provided to the Ministry of the Environment and Climate Change, the proponent must complete Table 2.9 with data for years 13 and 17.

ANSWER

The completed table can be found in Appendix CEEA-29.

30. PROJECT DESCRIPTION - DEWATERING WATER

In its response to question QC-37 from the Ministry of the Environment and the Fight Against Climate Change (MELCC), the proponent mentions that "the dewatering of the pit is not done by the nine wells, but by the pumps inside the pit (...). CEC undertakes to carry out an intermediate monitoring of the quality of the water pumped by the peripheral wells (dissolved oxygen, metals, flows, etc.), before they are mixed with other waters. "

The proponent also mentions to the MELCC that the water management of the peripheral wells around the pit was reviewed in the fall of 2018 and that according to data from the hydrogeology study (Appendix QC-29a of the MELCC response document), these waters will be routed to stream A and lakes 4 and 6. In addition, it is mentioned that the flow diagram (appendix QC-29b of the MELCC response document) will have to be revised again and will be forwarded later to the MELCC.

The revised flow diagram is important information to understand the project's issues. Map 3-3 of the EIS should also reflect these changes.

In the EIS, the proponent plans sedimentation basins near the receiving environments (lakes 4 and 6) to allow groundwater oxygenation and stabilization of their temperature prior to release into the receiving environment.

Note:
As mentioned during discussions between the proponent and Environment and Climate Change Canada in September 2018, the pumping water from the peripheral wells is defined as mine water effluent within the meaning of the Metal Mining Effluent Regulations and Regulations diamond mines and must be sampled, monitored and controlled according to the requirements of this same regulation.

The promoter must:

A) Present an update of Map 3-3 of the impact study which will illustrate: the dike on Lake 3, the nine wells and the location to where the water from each well will be discharged (lake 3, Lake 4 and to the final effluent).

ANSWER

The nine wells and the location where the water from each well will be discharged as well as the sedimentation ponds are shown on Map 03-03 (see Appendix CEEA-21). The dam on Lake #3 is not shown, because it is no longer part of the project.

B) Locate the sedimentation ponds on Map 3-3 and provide details on the size of each pond (volume, average depth) and indicate how they will be sealed.

ANSWER

Sedimentation ponds are shown on map 03-03 (see Appendix CEEA-21). The dimensions of the sedimentation ponds are shown in Table CEAA-30a. To seal the sedimentation ponds, it is expected that till, taken when stripping of the pit will be used in the construction of ponds and will make them waterproof. It should be noted that a characterization of the till present in the pit overburden will be done prior to the construction of the ponds in order to confirm that this material is sufficiently watertight to limit the infiltration of contaminated water into the soil.

Table CEAA-30a - Sedimentation Basin Dimensions

Basins of sedimentation	BS-Lake 3	BS-Lake 4	BS-Lake 6
Total volume required (m3)	11 549	11 549	10 285
Length (m)	160	160	150
Width (m)	53	53	50
Average depth (m)	1.36	1.36	1.36

C) Provide more details (list of parameters that will be measured, frequency of measurements, will a sampling station be installed for each well, etc.) on monitoring the quality of pumping water which will be released directly into the environment without treatment and the measures to be implemented in the event that their quality is not satisfactory.

ANSWER

Before being discharged in lakes 3, 4 and 6, the pumped ground water will be discharged into settling ponds. The proponent undertakes to monitor the parameters of the final effluents of the sedimentation ponds in accordance with guideline Directive 019. Table CEAA-30b resents the parameters monitored as well as the frequency of the monitoring that will be carried out at each point of discharge.

In addition to the planned follow-up (Table CEEA-30b), a more detailed annual follow-up will also be carried out for each point of rejection. Table CEAA-30c shows the parameters that will be analyzed in the annual monitoring. In the event of water non-compliance following the tests carried out, the pumps on the periphery of the pit will be stopped in order to stop discharging the non-compliant water into the ponds and the lakes.

Table CEE-30b - List of parameters to be analyzed and frequency of monitoring under Directive 019

	Column I	**Column II**	**Column III**	**Column IV**
Frequency	Continuously	3 times per week	1 time per week	1 time per month
Parameter	pH Debit	MY Debit pH	As Cu Fe Ni Pb Zn	Acute toxicity

Table CEAA-30c - List of parameters analyzed during the annual follow-up

GROUPE 1			GROUPE 2[2]	GROUPE 3[3]	GROUPE 4
STANDARD PARAMETERS	NUTRIENT	MINERA OR METALLIC ELEMENT	CYANIDE FAMILY	SULPHIDE FAMILY	BIOLOGICAL PARAMETERS
Alcanlinity Chlorides DBO[5] DCO Debit Hardness Fluorides Hydrocarbons (C_{10}-C_{50}) SS pH Dissolved solids Total solids Phenolic Substances (phenol index) Sulphates Turbidity	Ammoniacal nitrogen Total nitrogen Kjeldal Nitrates + nitrites Total phosphorus	Aluminium Arsenic Cadmium Calcium Chrome Cobalt Copper Iron Magnesium Manganese Mercury Molybdenum Nickel Lead Potassium Radium 226 [1] Sodium Zinc	Cyanates Total cyanide Thiocyanites	Sulphur Thiosulphates	Acute toxicity
1. Annual monitoring of this element is only required for establishments for whih the minreal deposit is composed of 2. The annual parameters in Groupe 2 apply only to the final effluent of treatment plants of precious metals, or plants 3. The annual parameters of Group 3 are required for establishments exploiting or treating sulphurous ore.					

D) Provide a revised flow diagram in Annex QC-29b of the EIS Complementary Document to the MELCC.

ANSWER

The flow charts have been updated (see Appendix CEAA-30, drawings 8000-D-0501, 8000-D-0502 and 8000-D-0503)

GENERAL COMMENTS

31. GENERAL COMMENTS - STUDY AREA EFFECTS ON PHYSICAL AND BIOLOGICAL COMPONENTS

In several sections of the Environmental Impact Statement (including sections 6.4 Surface Water and Sediment Quality, 7.1 Vegetation and Wetlands, 7.2 Aquatic Fauna, 7.3 Herpetofauna, 7.4 Avian Wildlife and 7.5 Mammals), the Proponent Identifies within the spatial boundaries used for the description of the effects analysis an "area of influence" of the project whose kilometers around the project vary according to the component under study. It is important to understand how these areas of influence of the project were established.

The promoter must:

A) For each of the components where the assessment of the effects are done to the interior of the limits of a zone of influence of the project, explain how the distance from the project has been determined.

B) Explain how the effects will be restricted within this area of influence.

ANSWER

The spatial boundaries and areas of influence of the project have been defined by professional judgment from projects of a similar nature that have already gone through government analysis. In addition, standards, criteria and guidelines were also considered for defining spatial boundaries and areas of influence for effects analysis. Table CEEA-31 presents the spatial boundaries of the EIA, with additional clarifications for areas of influence on the physical and biological components. Significant apprehended effects remain within the spatial boundaries and areas of influence defined in the EIA. For several components, these buffer areas correspond to the protection zone that must be considered around some key habitats.

Table CEAA-31 Study Areas of Effects on Physical and Biological Components

Component	Spatial limits	Clarification on areas of influence
Hydrology	Restricted study area	The apprehended effect remains within the boundaries of the subwatersheds of the watercourses and water bodies affected by the project
hydrogeology	Restricted study area	The apprehended effect remains within the boundaries of the subwatersheds of the watercourses and water bodies affected by the project
Surface water quality	Natural Environment Study Area (100 km^2)	Area of approximately 2 945 ha including all projected infrastructure as well as a zone of influence of the project encompassing a part of the sub-basins of streams D, E and F
Sediment quality	Study area of the natural environment	Area of approximately 2 945 ha including all projected infrastructure as well as a zone of influence of the project encompassing a part of the sub-basins of streams D, E and F
Groundwater quality	Restricted study area	The apprehended effect remains within the boundaries of the subwatersheds of the watercourses and water bodies affected by the project
Soil quality	Restricted study area	No work outside the boundaries of the project footprint
Musical ambiance	Restricted study area	No work outside the boundaries of the project footprint. The restricted study area covers the immediate area and the sensitive receptors located there
Bright atmosphere	Local study area	These boundaries contain the two main light emitting sources in the area, including the Nemiscau substation in the south and the Eastmain-1 hydroelectric generating station in the north.
Air quality	Restricted study area	Follows the limit of application of standards and criteria, to sensitive receivers and from a distance of 300 m from the different installations
Vegetation	Natural Environment Study Area (100 km^2)	Area of approximately 3,563 ha including all projected infrastructure as well as an area of influence of the project established approximately 500 m around the project components
Wet environments	Natural Environment Study Area (100 km^2)	Area of approximately 3,563 ha including all projected infrastructure as well as an area of influence of the project established approximately 500 m around the project components
Aquatic fauna	Natural Environment Study Area (100 km^2)	Area of approximately 2 945 ha including all projected infrastructure as well as an area of influence of the project encompassing part of the sub-basins of stream D and stream E
herpetofauna	Restricted study area	The apprehended effect remains in the project footprint, but for the effects analysis the natural environment study area (100 km^2) was also considered
Avian fauna	Restricted study area	The apprehended effect remains in the project footprint, but for the effects analysis the natural environment study area (100 km^2) was also considered
mammals	Restricted study area	The apprehended effect remains in the project footprint, but for the effects analysis the natural environment study area (100 km^2) was also considered
Caribou (forest and migrant)	Study area bounded by a circle with a radius of 50 km from the center of the proposed mine (7 850 km^2).	Limit established by considering the guidelines for the management of woodland caribou habitat that specify that the minimum area of the units for analyzing woodland caribou habitat disturbance is 5,000 km^2.
Chiroptera	Restricted study area, with a buffer zone (radius 50 km)	This buffer zone corresponds to the protection zone that must be considered around certain key habitats for bats, such as hibernacula.

32. GENERAL COMMENTS - MITIGATION MEASURES

On several occasions, in the enumeration of mitigation measures in Tables 5-6, 13-2 and 13-3, the proponent uses non-binding statements such as "to the extent possible" or "as much as possible". ". This wording leaves some doubt as to the proponent's intention to implement these measures. Mitigation measures must be accurate, measurable and technically and economically feasible.

On page 4-10 of the Environmental Impact Statement, it is stated that "CEC will, as far as possible, limit the noisiest activities close to the hunting areas previously identified in consultation with the users". Current mitigation measures A1, B1, C5, L3, L5, P3 and some specific mitigation measures also include these statements.

The promoter must:

A) Reformulate and clarify all mitigation measures to eliminate any wording that raises doubt as to the proponent's intent to implement them or clarify when the mitigation measure will be implemented.

ANSWER

Mitigation measures have been reworded to eliminate any wording causing doubt with regards to the proponent's intentions with the exception of mitigation measures related to deforestation during the avian nesting period and the chiroptera breeding period (see Table 13-3). However, several other mitigation measures will be put in place if deforestation is to occur during these periods, such as the establishment of a protection zone if a bird's nest or a bats' roost is found. These measures are detailed in CEEA answers 85 and 90. It should also be noted that no hibernaculum or no chiroptera roost is known in the project area.

B) Revise Tables 5-6, 13-2 and 13-3.

ANSWER

The revised Table 5-6 can be found in Appendix CEEA-32 while the revised Tables 13-2 and 13-3 can be found in Appendix CEEA-34.

METHODOLOGY

33. METHODOLOGY - JUSTIFICATION FOR ASSESSING THE SIGNIFICANCE OF THE EFFECTS THROUGH THE USE OF CRITERIA

To the P. 5-16 of the Environmental Impact Statement (EIS), the proponent indicates that the criteria it took into account in its assessment of the significance of the residual effects of the project are: magnitude (intensity), including notions of the ecological and social contexts, the frequency of the effects and also their reversibility; geographic extent; the duration; and environmental standards, guidelines or goals.

It also states that the criteria used to describe the significance level of residual effects are magnitude, geographic extent, duration and probability of occurrence.

However, the criteria and sub-criteria are not systematically described and justified for each assessment of the significance of the residual effects. For example:

- *In section 6.2.7.2 of the EIS (pp. 6-29, Hydrology), the degree of disturbance is considered medium and the extent is considered local for the change of flows, but these assessments are not justified.*

- *In section 6.4.7 of the EIS (page 6-68, Surface Water and Sediment Quality), the duration of the effect is considered long, without justification.*
- *In section 6.5.8 of the EIS (p.6-83, Groundwater Quality), the proponent indicates that the probability of occurrence of a spill is low during the construction phase and average in phase exploitation, without justification.*
- *In Section 6.3.6 of the EIS (pp. 6-53, Hydrogeology):*
    - *Construction Phase: A low disturbance is indicated and the magnitude is then rated low with no indication of value. The probability of occurrence is considered average, without explanation.*
    - *Operation and maintenance phase: it is indicated that the magnitude of the effect is small on the pattern of water flow and average on the drawdown of the water table, without specifying their degree of disturbance or their value.*
    - *Closing phase: indicates that the magnitude is small, without explanation of value or degree of disturbance.*

The promoter must:

A) Describe and justify the evaluation of its criteria (magnitude, geographic extent, duration, probability of occurrence) and sub-criteria (ecological and social contexts, frequency, reversibility, environmental standards, guidelines and objectives) for each of its Valued Components of the Environment (VEC). This description and justification must be made for the examples given, but also for all VECs. The examples provided are not exhaustive.

B) When the sub-criteria do not apply to a component, the proponent must indicate clearly in order to show that he does is not an oversight and that its criterion ignores this / these element (s). For example, the ecological context could apply only to some VECs.

ANSWER

Table CEEA-33 presents the rationale for the evaluation of the criteria used. The majority of these rationales come from descriptions of the significance of effects for each valued component (Chapters 6-9 of the EIS). The description of the criteria is explained in detail in the EIS. Briefly:

The **magnitude** is based on the overall environmental value (ecosystem value and socio-economic value) and degree of disturbance. This is determined based on the alignment in a table (see Table 5-8 in the EIS).

The **overall environmental value** (Table 5-7 of the EIS) is known from the emphasis on ecosystem and socio-economic values. Values include the importance given by specialists and populations, as well as legal or regulatory safeguards.

The **degree of disturbance** is the magnitude of the changes affecting a component. Professional judgment is made by specialists from each evaluated component. It can be weighted by the frequency and the reversible or irreversible character.

The **spatial extent** corresponding to the size or space radiation effects thereon, as well as the proportion of an affected population.

The **duration** corresponds to the time dimension, ie the period of time during which the effects will be felt, according to the different phases of the project.

The **probability of occurrence** is the probability that a residual effect may affect a component.

Table CEEA-33 Rationale for Criteria Used to Determine the Significance of Effects

Component	Ecosystem value Justification	Socio-economic value Justification	Degree of disturbance Justification	Intensity (magnitude)	Spatial extent	Duration	Probability of occurrence
Physical environment							
Hydrology	**Average**. Rivers are an important habitat for many animal, plant and aquatic species	**Low** The hydrology of this sector is not a concern for occasional users of the sector	Application of common and specific mitigation measures **Medium** (all phases) for flow modifications **Strong** (all phases) for the loss of water environments and modified flows Positive in the closing phase due to the creation of a water environment	**Medium** (flow modifications) **Strong** (loss of water environments)	**Punctual**. The apprehended effect remains within the boundaries of the subwatersheds of the watercourses and water bodies affected by the project	**Long**	**High**
Hydrogeology	**Average**. Underground flows are important for recharge of waterways and waterways, as well as for wetlands and water	**Low**. The component was not a concern, and there are no drinking water wells nearby	Application of special mitigation measures **Low** (construction). Reduction of the water table and the modification of the flow regime during dewatering of the pit **Low to medium** (operation and maintenance). Compensation for losses of the hydrographic network by the addition of water pumped into the wells and treated water from the process. Lowering of the pit decreasing while moving away. Reversible effect, the medium will find a balance once the project is finished **Low** (closing). Stop operations and dewatering.	**Low** (construction) **Low to medium** (operation and maintenance) **Low** (closing)	**Punctual** (construction and closure). The apprehended effect remains within the boundaries of the subwatersheds of the watercourses and water bodies affected by the project **Local** (operation and maintenance). Effect will be felt on the lakes and surrounding courses and drawdown of the water table will be felt up to 4 km	**Short** (construction). The return to equilibrium groundwater flow conditions will occur as soon as work is completed **Long** (operation and maintenance). Work will continue throughout the life of the mine. **Medium** (closing). Since eventually there will be a state of equilibrium in the rock formation	**Average**. Occur only at the time of the work **High** (operation and maintenance). Certain that water will be pumped during the mine operation and that the development and dewatering of the pit are inevitable **High** (closing). Certain that the water level will return to a level of equilibrium
Surface water and sediments quality	**Average**. Habitat of benthic organisms at the base of a local food web	**Average**. Indirect effect on the quality of the fish targeted by the fishery	Application of common and specific mitigation measures **Low** (all phases). Would not significantly alter the characteristics of the rapid response component in the event of a spill. **Medium** (all phases). Courts and waters will retain their ecological functions)	**Low to medium** (all phases)	**Local** (approximately 2 945 ha) including all projected infrastructure and a zone of influence	**Long** (all phases), considering that contamination may be permanent	**Low**. In the event of a significant spill **High**. If occasional change in quality
Underground water quality	**Average**. Underground flows are important for waterways and rivers	**Low**. The component was not a concern, and there are no drinking water wells nearby	Application of common and specific mitigation measures **Low** (all phases). No contamination by waste and waste rock and intervention Geochemistry and hydrogeological units are from classes II to III	**Low** (all phases)	**Punctual**, effect in a circumscribed space	**Short** (all phases), with immediate intervention	**Low** (construction and closure), the effect would only occur in the event of an accidental spill during construction **Medium** (operation and maintenance), if a spill is not quickly mastered
Soil quality	**Average**. Soils are a support for fauna and flora	**Low**. The site is not used frequently by the population, and the component did not raise any concerns	Application of common and specific mitigation measures **Low** (all phases). Would not significantly alter the characteristics of the rapid response component in the event of a spill.	**Low** (all phases)	**Punctual**, effect in a circumscribed space	**Medium** (construction and closure), if necessary, rehabilitation **Long** (operation and maintenance), the effect will be felt continuously For closure, the site will gradually resume a natural	**Low**, the effect would only occur in the event of a spill at the time of the work

Component	Ecosystem value Justification	Socio-economic value Justification	Degree of disturbance Justification	Intensity (magnitude)	Spatial extent	Duration	Probability of occurrence
						appearance following the restoration	
Sound environment	**Average**. Noise can be an occasional inconvenience source for some animal species	**Low**. Region with very little traffic, except for occasional hunting and fishing	Application of common and specific mitigation measures **Low** (all phases). Compliance with the MDDELCC sector policy regarding sound levels and limits proposed by Health Canada.	**Low** (all phases)	**Local**, effects are likely to be felt generally near the construction site and on a portion near the Nemiscau -Eastmain-1 road	**Short to medium** (construction and closing), because less than 5 years and not always continuous **Long** (operation and maintenance), the effect will be felt continuously	**High**
Luminous environment	**Average**. Sensitivity of some species of wildlife to this component	**Average**. No concerns raised by the public, but social value	Application of common and specific mitigation measures **Low** (operation and maintenance). Modifies the clarity of the sky with little perceptibility and does not present a problem of intrusive light outside the mine site Reversible at the end of the project (terrestrial infrastructures) No significant effects in construction and closure	**Low** (operation and maintenance)	**Local**, containing the two main sources of light emitting from the sector (Nemiscau substation and Eastmain-1 hydroelectric generating station)	**Long**	**High**
Air quality	**Average**. Element of strong interest for the support of life in general	**Low**. No concerns raised by the public	Application of common and specific mitigation measures **Low** (construction and closure) Compliance with all standards outside the site **Medium** (operation and maintenance). Exceedances of standards and criteria on and near the site, but exceedances would be infrequent and residual effect reversible.	**Average** (all phases)	**Punctual**	**Short** (construction and closure) **Long** (construction and operation and maintenance)	**High**
Biological environment							
Vegetation	**Low**. Plant associations and flora have no significant element of interest	**Low**. Located beyond the territorial limit of attributable forests	Application of common and specific mitigation measures **Medium** (construction and operation and maintenance). Area lost are typical plant associations in James Bay Positive effects (closure). Habitat restoration	**Low** (construction and operation and maintenance)	**Local**	**Medium to long** construction and operation and maintenance)	**High**
Wetlands	**Great**. Wetlands are important habitats for many species	**Great**. Legal or regulatory protection measures	Application of common and specific mitigation measures **Low to medium** (construction and operation and maintenance). Depending on the areas that will be restored Positive effects (closure). Habitat restoration	**Medium to heavy** construction and operation and maintenance)	**Local**	**Medium to long** construction and operation and maintenance)	**High** (construction and closure) **Average** (operation and maintenance)
Aquatic fauna	**Great**. Element of strong interest even though fish are scarce in the restricted study area	**Great**. Legal or regulatory protection measures	Application of common and specific mitigation measures	**Medium to heavy** construction and	**Punctual** (spill) to local (fish habitat)	**Long**	**High**

Component	Ecosystem value Justification	Socio-economic value Justification	Degree of disturbance Justification	Intensity (magnitude)	Spatial extent	Duration	Probability of occurrence
			Compensation for fish habitat loss **Low to high** (construction and operation and maintenance). Based on direct and indirect losses and disruptions caused by infrastructure or the risk of spills	operation and maintenance)			
Herpetofauna	**Average**. No species with special status	**Low**. No concerns raised by the public	Application of common and specific mitigation measures **Low**. Would not significantly alter the characteristics of the component (disturbance and risk of collision and risk of spillage)	**Average** (all phases). Loss of habitat **Low** (operation and maintenance and closure).	**Punctual**	**Short** **Long** (habitat loss)	**High** **Low to medium** (risk of spill)
Avian fauna	**Average**. Low specific wealth **Great** (species with status). Strong interest and recognized qualities	**Low** . No concerns raised by the public **Strong** (species with status). Legal or regulatory protection measures	Application of common and specific mitigation measures **Average** (construction). Loss of habitat for bird species in general. Replacement habitats nearby **Strong** (construction). Loss of habitat for status bird species, even if nearby replacement habitat **Low** (all phases) for inconvenience and risk of collision and risk of spill Assessment by the number of birds impacted by the amount of habitat lost through deforestation Irreversible (deforestation), but infrequent since it is done only once The effect will be reversible and moderately common (collision and spill)	**Average** (construction) Loss of habitat for birds in general **Strong** (construction). Loss of habitat for status birds **Low** (all phases). Disturbance and risk of collision and risk of spill	**Punctual**	**Short** (disturbance and risk of collision and risk of spill) at long (loss of habitat)	**High** **Low to medium** (risk of spill)
Mammals	**Average**. Low specific wealth, but interest and recognized qualities. No species with special status	**Average**. Although the component was not of concern, we considered it to be of medium value (hunting or trapping possible)	Application of common and specific mitigation measures **Average** (construction). Loss of habitat for mammals, maos alternative habitats nearby. **Low** (all phases) for inconvenience and risk of collision and risk of spill	**Average** (construction) Habitat loss for mammals **Low** (all phases). Disturbance and risk of collision and risk of spill	**Punctuell** e	**Short** (disturbance and risk of collision and risk of spill) **Long** (habitat loss)	**High** **Low to medium** (risk of spill)
Caribou (forest and migrant)	**Great**. Recognized qualities for which protection is a source of concern for certain listed or potentially present species	**Great**. Legal or regulatory protection measures	Application of special mitigation measures **Low** (all phases). Majority of individuals will be slightly disturbed by the works and those inconvenienced will be able to move away from them.	**Average**	**Local**	**Medium to long**	**Low**
Chiroptera	**Great**. The conservation of most species of bats is the subject of consensus among the scientific community	**Great**. Legal status of conservation now enjoyed by most species of bats	Application of common and specific mitigation measures **Low** (construction) for habitat loss. Natural media present at the medium quality site for bats and taking into account planned restoration activities	**Average** (construction) for habitat loss **Average** (all phases) for disturbance **Low** (all phases) for spill risk	**Punctual** **Local** (disturbances)	**Long**	**High** **Low to medium** (risk of spill)

Component	Ecosystem value Justification	Socio-economic value Justification	Degree of disturbance Justification	Intensity (magnitude)	Spatial extent	Duration	Probability of occurrence
			Low (all phases) for trouble. Character reversible and discontinuous over time **Low** (all phases) for spill risk. Negligible risk by rapid interventions				
Aboriginal communities							
Socioeconomic Conditions (First Nations)	N / A -	**Average.** The economic benefits of the project are a major concern of the Cree communities	Implementation of bonus measures Bonus (all phases). Significant spin-offs for Cree businesses and the creation of multiple jobs	Not rated because positive effect (all phases)	**Regional**	**Short** (construction and closure) **Long** (operation and maintenance)	**Medium to high**
Current use of lands and resources for traditional purposes	N / A -	**Average**. Valorisation by the First Nations and intimately linked to their cultural identity	Application of common and specific mitigation measures **Low** (all phases). Users of the territory may continue their traditional activities in the same place, or else, elsewhere in the territory	**Low** (all phases)	**Punctual**	**Short** (construction) **Long** (operation and maintenance)	**High**
Community welfare and human health	N / A -	**Average**. Component valued socially and culturally	Application of common and specific mitigation measures **Low** (all phases). With the application of the proposed measures and the firm commitment of the CEC company to implement them	**Low** (all phases)	**Regional**	**Short** (construction and closure) **Long** (operation and maintenance)	**Average**
Historical, cultural and archaeological heritage	N / A -	**Great**. Legal and Regulatory Safeguards and the Importance to First Nations, Specialists and Researchers	Application of common and specific mitigation measures **Low** (construction). With the application of the proposed measures, which will notably make it possible to document the site before construction	**Average** (construction) None (operation and closure)	**Punctual**	**Long**	**Low**
Landscape	N / A -	**Average**. The landscape modified by the mining facilities will be partially visible from the road and for the users of the sector	Application of special mitigation measures **Medium** (all phases) for the visual aspect of the landscape that will no longer be natural **Low** (all phases) for the visual field of road users (mobile users)	**Average** (all phases) for the visual aspect of the landscape **Low** ((all phases) for the visual field of road users	**Punctual**	**Long**	**High**
Regional communities							
Socioeconomic environment	N / A -	**Average**. The economic benefits of the project are a major concern for the community's stakeholders	Application of specific mitigation measures (bonus) Economic benefits of the project	Not evaluated, as positive (all phases)	**Regional**	**Short** (construction and closure) **Long** (operation and maintenance)	**Medium to high**
Land use and infrastructure	N / A -	**Average**. Sports hunting is popular with fans of this leisure activity	Application of special mitigation measures **Low** (all phases). Harvesting potential for big game hunting is not expected to decrease, and measures have been put in place for heavy project-related traffic on the Nemiscau- Eastmain-1 road	**Low** (all phases)	**Punctual**	**Short** (construction and closure) **Long** (operation and maintenance)	**Average**

34. METHODOLOGY - RESIDUAL EFFECT ANALYSIS (GENERAL)

According to the guidelines (section 12.1.1), "After establishing the technically and economically feasible mitigation measures, the EIS shall report any residual effects of the project on the biophysical and human environments after these measures are completed. Mitigation have been taken into account. Residual effects, however small or negligible, should be described. "

Based on the comments and information requested by the Agency in this information request, the Residual Effects Analysis should be revised as required. For example, when new mitigation measures are proposed (Tables 13-2, 13-3 and 13-4) or additional effects are assessed.

In considering the elements requested in this document, the proponent must:

A) Review the analysis of the effects residual when required and provide a new justification for the revised conclusion on the significance of the effects residual.

B) Provide an update of Tables 13-2, 13-3 and 13-4.

ANSWER

The updated tables 13-2, 13-3, and 13-4 can be found in Appendix CEEA-34.

HYDROGEOLOGY

35. HYDROGEOLOGY - BOUNDARY CONDITIONS OF THE UPPER LAYER OF THE CALIBRATED FLOW MODEL

In the sector report 2 (RS-2) of the Environmental Impact Statement, the proponent established its external boundary conditions in section 5.2.1. In Map 7, the southwestern boundary - surface elevation for a constant hydraulic load is shown in purple. However, the map does not indicate what this load, at this western limit of the calibrated model, corresponds to.

The proponent must indicate what is the hydraulic loading at the southwest boundary of the calibrated model shown on Map 7 in the sector report 2.

ANSWER

The water charge illustrated in purple at the southwestern limit of the calibrated model corresponds to a load imposed on the elevation of the soil. In fact, during the field visit, a large wetland was observed at this location. An imposed charge has therefore been applied.

36. HYDROGEOLOGY - CALIBRATION OF THE GROUNDWATER FLOW MODEL

In Sectoral Report 2 (RS-2) of the Environmental Impact Statement, the Proponent presents in Section 6.3.3 the water balance of the calibrated model for groundwater flow and adds that "the error of 0.0005% of the water balance indicates that the calibration is good. However, the water balance of a numerical model indicates whether the simulation has converged, and not whether the calibration is satisfactory.

The proponent must explain why (s) the water balance calibration of the groundwater flow model is satisfactory.

ANSWER

This is indeed an error of wording. The error of 0.0005% of the water balance indicates that the model is stable. The calibration of the model is satisfactory because the model can reproduce

according to the standards used by industry the hydraulic loads observed in wells and also to reproduce the base flow in streams on the site.

37. HYDROGEOLOGY - MAPPING OF HYDRAULIC CONDUCTIVITIES

In the sector report 2 (RS-2) of the environmental impact study, the proponent presents in section 6.4.1 the calibrated and measured hydraulic conductivities of the different hydro stratigraphic units (Table 21). However, it is difficult to know how these hydraulic conductivities are distributed geographically.

The promoter must:

A) Present a map of estimated hydraulic conductivities at the project site.

ANSWER

Map 37.1 in Appendix CEEA-37 presents the average hydraulic conductivities measured for each rock well at the study site.

B) Present a map of hydraulic conductivities calibrated.

ANSWER

Map 37.2 in Appendix CEEA-37 presents the hydraulic conductivities of the calibrated model for the rock aquifer as well as the measured average hydraulic conductivities of the units.

38. HYDROGEOLOGICAL - FIGURES OF THE RESULTS OF NUMERICAL SIMULATIONS HYDROGEOLOGICAL

In sections 7.1 and 7.4 of the sector report 2 (RS-2) of the Environmental Impact Statement, the proponent refers to Figures 3, 4, 5 and 6. However, these figures are missing from the RS-2 study.

The proponent must submit figures 3, 4, 5 and 6 mentioned in sections 7.1 and 7.4 of sector report 2.

ANSWER

Figures 3, 4, 5 and 6 are presented in Appendix CEAA-38.

39. HYDROGEOLOGY - STANDARDIZED DRAWDOWN OF PERMEABILITY TESTS AT WELLS

In Annex 3 of the sector report 2 (RS-2) of the Environmental Impact Statement, the proponent presents the permeability analyzes. However, some graphics permeability tests (slug test) indicate standard drawdowns (h / h0) more big s the number one, which is unusual (eg PO-16-08S - Test 1 and 2, PO 16-02S - Test 1 and 2, PO-16-04S - Test 1 and 2).

The proponent must explain and / or correct the permeability test results that indicate standardized drawdowns greater than the number one.

ANSWER

The tests have been corrected. These corrections do not entail any modification of the permeability values obtained. The corrected analyzes are presented in Appendix CEAA-39.

40. HYDROGEOLOGY - DEWATERING MODELING OF THE PIT

In sector report 2 (RS-2), the proponent presents his approach to modeling dewatering of the pit. In Section 7.1, he indicates that the modeling shows that the hydraulic loads at depth (at 100 m) are greater than at the surface (at the rock roof). However, this assertion appears to be counter-intuitive and it is unclear if this is related to the approach used by the proponent to model dewatering of the pit.

In sections 6.6 and 7.1, the proponent indicates that wells have been used at the edge of the pit, while in sections 6.6.4 and 6.6.5 it also refers to the use of drains.

In order to clarify the modeling approach chosen, the proponent must:

A) Specify whether well pumping has been applied to all cells representing wells or a restricted range only.

ANSWER

Pumping was applied from bedrock to -23 m.

B) Concerning the simulation at the end of the operation, specify if, in the numerical model, the materials composing the pit were removed and if so, explain how the boundary conditions representing the walls of the pit were defined.

ANSWER

The materials composing the pit were removed. Drain-like conditions allowing the water to exit the model were applied to all of the walls of the pit.

C) Indicate any requirement limit of surface area has been used with the software FEFLOW (for example: adaptive meshing with unconfined, mesh fixed).

ANSWER

A fixed mesh in phreatic free water condition was used. Drainage boundary conditions equal to the elevation allowing the water to exit were applied at the pit level on the first layer of the model.

D) In order to promote understanding, present sections showing the distribution of hydraulic loads before and during dewatering.

ANSWER

The answer to question 38 also answers this question. The figures in Appendix CEAA-38 show the distribution of hydraulic loads before and after dewatering.

41. HYDROGEOLOGY - MODELING THE EFFECTS OF PIT DEWATERING

Map 13 shows that the drawdown caused by dewatering the pit reaches the southern limits of the flow pattern. We can therefore anticipate that the effect of dewatering on lakes and rivers could extend beyond what is currently modeled.

To complete the model, the proponent must assess the impact of pit dewatering on lakes and streams beyond the current southern limit of the runoff model or justify the southern boundary that excludes lakes and streams beyond the limit.

ANSWER

The model was expanded in the southeast sector to assess the impact on lakes that were previously outside the model. The topography available (contour lines at 5 m) was used to best represent the new area. For surface deposits, due to the lack of information, an average thickness of 2.25 m of deposit thickness was applied to the entire added area. Map 41.1 presents the observed drawdowns and allows the lakes mentioned in Table 1 to be located. The map shows that the southeast limit of the model has an impact on the flow and therefore on the drawdowns, which explains the difference between the map presented in the sectorial report (Map 13) and Map 41.1. Table CEAA-41 shows the impact of pit dewatering on lakes base flows in the southeast section of the model. As no baseline or average flow information was available, it is only a comparison between the flow rates obtained with the modeling of the current conditions and those obtained with the modeling at the end of mine operation.

Table CEAA-41: Impact of pit dewatering on lakes located to the east and southeast of the site

Lake name	Simulated base rate, current conditions (m^3/ d)	Simulated base flow, end of operation (m^3/ d)	Impact on base rate
Lake 22	-247	-178	28%
Lake 23	-118	-104	12%
Lake 24	-93	-80	14%
Lake 25	-402	-372	7%
Lakes 26 and 27	-442	-418	6%
Lake 28	-187	-170	9%
Lake 29	-530	-504	5%
Lake 30	120	162	35%
Lake 31	264	269	2%
Lake 32	-1 549	-1 521	2%

The results show that the impact on base flows of lakes located in the southeast varies between 2 and 35%. Watercourses will therefore always be fed by groundwater unlike some streams closer to the pit. In addition, over the entire site, the base flow generally represents 20% of the average flow. Applying this relationship to the lakes presented in Table 1, the maximum impact on average flows would be 7%. For lakes 30 and 31, the model must provide water to conserve the lakes, which is likely due to the topographical approximation available in the area.

42. HYDROGEOLOGY - IMPACT ON LAKES AND STREAMS DURING THE FLOOD PHASE OF THE PIT

It is expected that when the mine closes, there will be no more pumping in and around the pit, and the flooding of the pit will be gradual. Flow losses are expected over a period of time for lakes and streams in the area of influence of the mine as there will be no dewatering water available to reduce to zero impact on these water bodies.

The proponent must estimate (in time) the transition period for the return to natural conditions of lakes and rivers, and must also estimate the water losses incurred during this transition phase. The post-closure monitoring period should be adjusted accordingly.

ANSWER

The model was put in transient mode to evaluate the impacts during the raising of the water level during the closure of the mine. A porosity of 100% was attributed to the void representing elements in the pit. The model also made it possible to specify the filling time of the pit. The results of the predictive simulations indicate that the pit will overflow after 23 years following the cessation of activities.

Tables CEAA-42a and CEAA-42b show the change in the impact on base and medium flows in the streams.

The results show that the return to initial conditions will occur as the pit fills up. The impact on base flow remains high after 23 years for station A1. This value is due to the dewatering of Lake 1, which will not be filled, however, in terms of average speed, the impact is small as a variation of only 6% was observed. In order to address the impact on stream A, a spillway could be installed which will allow the water in the pit, once it has reached its maximum level, to flow into the stream. A. For watercourse E, whose impact on the base flow remains greater than 10%, the impact will be addressed by the flow from the pit.

Table CEEA-42a: Change from Baseline Flow from Mine Closure

	Variation p/r at basic rate					
	Closure of the mine	5 years	10 years	15 years	20 years	23 years
Station C1	195%	77%	38%	11%	0%	0%
Station A1	73%	52%	47%	43%	40%	39%
Station V1	61%	24%	14%	6%	1%	0%
Station M1	89%	25%	11%	1%	0%	0%
Station L18	31%	0%	0%	0%	0%	0%
Creek C	409%	187%	111%	59%	29%	7%
Creek E	242%	148%	85%	56%	36%	12%
Outlet Lake 10 (6, 7, 8, 9 and 10)	327%	179%	107%	57%	33%	7%

Table CEEA-42b: Change in Average Flow from Mine Closure

	Variation p / r at average flow					
	Closure of the mine	5 years	10 years	15 years	20 years	23 years
Station C1	26 %	10 %	5 %	1 %	0 %	0 %
Station A1	10 %	7 %	7 %	6 %	6 %	6 %
Station V1	8 %	3 %	2 %	1 %	0 %	0 %
Station M1	13 %	4 %	2 %	0 %	0 %	0 %
Station L18	19 %	0 %	0 %	0 %	0 %	0 %
Creek C	32 %	15 %	9 %	5 %	2 %	1 %
Creek E	75 %	46 %	26 %	17 %	11 %	4 %
Outlet Lake 10 (6, 7, 8, 9 and 10)	33 %	18 %	11 %	6 %	3 %	1 %

43. HYDROGEOLOGY - SIGNIFICANCE OF RESIDUAL EFFECTS AND IRREVERSIBILITY

The definition of irreversibility is presented at p. 5-26 of the Environmental Impact Statement (EIA) and states that "an effect is considered irreversible if the conditions of the component cannot return to their initial state (before the project) at the end of the phase or phases of the project that affect it after the application of mitigation and enhancement measures. This is called a permanent effect of the project. "

In section 6.3.6 Importance of Residual Effects (Hydrogeology):

A) ***Construction phase:*** *The proponent mentions that the duration is considered short and that the return to flow conditions will be done as soon as work is completed. According to the definitions of duration (pages 5-27 of the EIA), a duration is long "when an effect is felt, continuously or discontinuously, over a period exceeding 5 years; it is often a permanent effect "and a short duration" when an effect is felt temporarily, continuously or discontinuously, during the construction phase, closure or for a few more months after the beginning of the operation and maintenance phase; these effects vary in duration from a few days to the entire construction period, including a few months from the start of operation."*

B) ***Operation and Maintenance Phase:*** *The proponent states that the effect will be reversible. However, the balance that will be achieved once the work is completed will not be the same before the project. Indeed, the flow pattern will be modified, since infrastructures will be left in place and two lakes will be gone.*

C) ***Closing phase:*** *The proponent indicates that the duration is average since eventually the steady state will be reached in the rock formation. The promoter does not add any other explanation to justify that its duration is average during the closing phase. In Section 5.4.2 of Appendix I - Hydrogeology of the Supplemental Document (February 2019), the proponent estimates that the pit would take approximately 26 years to completely fill and then overflow. The definition of average duration is presented in p.5-27 of the EIS and states: "when an effect is felt temporarily, continuously or discontinuously, during the operation and maintenance phase, that is, beyond the end of the construction phase; these effects are still visible several months after the end of construction, but the duration is less than 5 years."*

The promoter must:

A) Indicate how many months or years the effect on the flow regime will be felt after the construction works. Specify if the equilibrium reached at the end of the works will be the same as that before the works in the construction phase, that is to say, indicate if it is a reversible or irreversible effect. Review the evaluation of the duration, if any.

ANSWER

During the construction phase which will last 18 months, the stripping and blasting work will have an impact on the flow conditions, but this impact will be local and will last the time of the works. The duration of the impact is therefore short. The impact of this work on the flow will be negligible in comparison with the dewatering of the pit and the drying up of lakes 1 and 2. With regard to a reversible or irreversible effect, it is preferable to define it only one times all the phases that have elapsed (see point C). In the event that the project ceases abruptly, after the construction phase, the effects would be local and reversible.

B) Specify if the hydrogeological balance reached at the end of the work will be the same as that before the work in the operation and maintenance phase, that is to say, indicate whether it is a reversible or irreversible effect. Review the evaluation of the duration, if any.

ANSWER

At the end of the works, the hydrogeological equilibrium reached will not be that of before the beginning of the works. It is not possible to speak of a hydrogeological equilibrium when the dewatering of a pit is realized, especially since two lakes will be drained. Water levels will rise gradually when pumping stops. If the operation was stopped before or paused a moment (including stopping the pumps) the water level would rise to reach the level of the outlet. The time refilling time would depend on the configuration of the pit at the time of the pause. With regards to a reversible or irreversible effect, it is preferable to define it only once all the phases have elapsed (see point C).

C) Indicate after how many months or years the hydrogeological equilibrium will be reached after the closure phase. Specify if the equilibrium will be the same as the one before the works, that is to say, indicate if it is a reversible or irreversible effect. Review the evaluation of the duration, if any.

ANSWER

If no changes to the exploitation plan are planned, the rise time of the water level in the pit is estimated at 23 years. As shown in the answers to the previous question, over the base flows of water, except for the stream A will be virtually identical to those observed before work when the water level in the pit reaches its maximum level (less than 10% difference). The maximum impact compared to average flows was evaluated at 6% after 23 years. For stream A, the installation of a spillway could reduce the impact on base flow to zero. From a hydrogeological point of view, the balance that will be reached after the works will not be identical to the current conditions. In fact, the water level in the pit sector cannot be greater than the elevation of the weir of the latter, ie at the elevation of 284 m, whereas the water levels before the works at the level of the future pit vary from 286 to 291m. The effects on water levels can be qualified irreversible in the future pit. However, this irreversible impact would remain very limited in terms of space and would only be concentrated at the level of the current topographic top in the area of the future pit. In the rest of the site, impacts would be considered reversible.

QUALITY OF SURFACE WATER AND SEDIMENTS

44. QUALITY OF SURFACE WATER AND SEDIMENTS - SPACE LIQUIDS FOR THE ANALYSIS OF EFFECTS ON WATER QUALITY AND INFLUENCE ZONE

In section 6.4.2 of the Environmental Impact Statement (EIS), the proponent indicates that an area of influence has been established for the assessment of effects on the quality of surface water and sediments. The area of influence includes all projected infrastructure and a project area of influence encompassing a portion of the D, E and F subwatersheds (see Map 6-10 of the EIS).

The proponent must explain in detail how the area of influence for the assessment of effects on the quality of surface water and sediments has been determined.

ANSWER

All details regarding the establishment of the area of influence for the assessment of effects on surface water quality and sediment are presented in question 31 of this document.

45. QUALITY OF SURFACE WATER AND SEDIMENTS - USE OF NITRATES IN THE MANUFACTURE AND USE OF EXPLOSIVES

The proponent indicates that to limit the effects of the project on the quality of surface water and sediments, including the presence of ammonium nitrate at the project site, "employees will be encouraged to use the amounts recommended by the project manufacturer 'explosives.

To limit the release of nitrates in the environment, the proponent must confirm whether the employees will be required to use the amounts of ammonium nitrate recommended by the manu c ant in the manufacture of explosives (and not only "encouraged ") , And justify in the latter case.

ANSWER

CEC is committed to confirming that employees will be required to use the amounts of ammonium nitrate recommended by the manufacturer when manufacturing explosives (and not just "encouraged" to do so) in order to limit the potential effects of the project on the quality of the surface water and sediments.

46. QUALITY OF SURFACE WATER AND SEDIMENTS - ADDITIONAL SAMPLING CAMPAIGN

In response to the Department of Environment and Climate Change QC-55, the proponent states that "an additional surface water sampling campaign is planned for spring 2019 to cover this year period of the year that could not be sampled in 2018. "

An additional sampling campaign in the spring is indeed desirable to reflect the seasonal variation in surface water quality. It is also necessary to add radium, mercury and thallium to the parameters to be measured in Stream A during its 2019 sampling campaign to establish a more complete initial state of this stream. These substances will need to be measured as part of the monitoring of water quality in the Environmental Effects Monitoring (EEM) program to be conducted under the Metal Mining Effluent Regulations.

The promoter must:

A) Submit the results of the 2019 additional sampling campaign, including the results of the water quality characterization of Lakes 18 and 19 and Stream A.

ANSWER

An additional surface water sampling campaign was conducted on June 16 and 17, 2019. During this inventory, stream A and lakes 3, 4 and 6 were re-sampled. Lakes 18 and 19 have also been added to the sampling plan. The overall results obtained for surface water during the 2018 and 2019 inventories are presented in the report entitled Characterization of Surface Water and Sediments to Establish the Initial State of the Environment Prior to Implementation project - Annual report 2018 and in 2019 put an update by WSP Canada Inc. (hereinafter " WSP ") in September 2019. This report is provided in Appendix CEEA-46 of this document.

B) Add radium, mercury and thallium to the parameters to be measured in the stream A at the campaign sampling of 2019 to establish a state initial fuller of this river. These substances will need to be measured as part of the monitoring of water quality in the Environmental Effects Monitoring (EEM) program to be conducted under the Metal Mining Effluent Regulations. of diamonds.

ANSWER

It was not possible to include radium, mercury and thallium in the surface water sampling carried out in June 2019, since the sampling was carried out before receiving additional questions from the Canadian Environmental Assessment Agency. However, additional surface water sampling took place at the beginning of October and the parameters analyzed included radium-226, mercury and thallium for samples taken from stream A as well as lakes 3, 4, 6, 18 and 19. The results obtained as part of this inventory are included in the characterization report of the initial state of the medium mentioned above.

47. QUALITY OF SURFACE WATER AND SEDIMENTS - EXFILTRATION RATES THROUGH DIFFERENT WATER RETENTION STRUCTURES

Exfiltration rates through the various impoundment structures, including sedimentation or accumulation ponds and ditches, are required to estimate the quality of surface and groundwater at the site.

In the complement to the environmental impact study, the proponent answers the following question: "Evaluation of exfiltration rates through the different reservoirs structures, including sedimentation or accumulation basins ": "The coefficient percolation (CP) used in calculations of bass ins and ditches is 0.65."

The proponent does not show the exfiltration rates through the different structures and does not justify the value of the percolation coefficient.

The promoter must:

A) Present the result of calculations of exfiltration rates through different water retention structures such as ponds and ditches.

ANSWER

Although kinetic testing report by Lamont (Appendix CEAA-15) concludes that the residues are not acid generators and non-leachable, ponds 2 and 3 will be waterproofed. The ditches around the co-deposition pile are not expected to be waterproofed and the percolation coefficient used in the water balance is 0.8 (see answer 47-B for explanation).

Sedimentation ponds are waterproofed to keep contaminants in the pond and to be able to treat them. The accumulation pond will be waterproofed to keep the water from the pit containing grease particles and other contaminants.

Other ditches on the site will be semi-permeable to keep suspended solids inside ditches while allowing water to flow (non-contact water).

B) Justify the value of 0.65 percolation coefficient and explain whether it is conservative or optimistic. The proponent could use a sensitivity analysis using a range of percolation coefficient and comparing the different exfiltration rates of the structures.

ANSWER

The percolation rate used for the sedimentation ponds and the accumulation pond is 1. The percolation coefficient of 0.65 was used as the coefficient for the entire industrial deck and the ore stockpile. This coefficient came from a reference document from the Quebec Ministry of Transport (culvert design manual - hydrology section). After a more detailed analysis of the sector during the production of the water balance and having in hand the complete hydrogeological study, we established that the percolation coefficient of the industrial deck and the ore stockpile is 0.80, which decreases the amount of water that will be infiltrated into the soil and is also a conservative hypothesis.

48. QUALITY OF SURFACE WATER AND SEDIMENTS - PHYSICOCHEMICAL CHARACTERIZATION OF LAKES 18 AND 19

No physicochemical characterization of the water quality of lakes 18 and 19 has been carried out. However, these physicochemical characterizations are necessary to establish the initial state given that lakes 18 and 19 are located near the waste rock and tailings co-deposition pile. It is expected that some deposition of dust may occur in these lakes during the operation of the mine site.

The promoter must:

A) Conduct physicochemical characterization of lakes 18 and 19 during the 2019 water quality sampling campaign.

ANSWER

As mentioned in question 46, sampling of surface water from lakes 18 and 19 took place in June 2019. Additional sampling was conducted in early October 2019.

B) Present the results of the 2019 additional sampling campaign, including the results of the water quality characterization of Lakes 18 and 19 and Stream A.

ANSWER

The 2019 results for the characterization of the surface water quality of Lakes 18 and 19 and Stream A are presented in the report Characterization of Surface Water and Sediments for Status Determination initial baseline before project implementation - 2018 and 2019 Activity Report updated by WSP in September 2019. This report is provided in Appendix CEEA-46 of the present document.

49. QUALITY OF SURFACE WATER AND SEDIMENTS - INITIAL STATE OF SEDIMENTS

The baseline sediment conditions data are presented in the RS-4 sector study. These sediment quality data will be used as a baseline for follow-up studies and will help determine if mining activities have contaminated streams downstream of the mine.

In Section 6.4.4.2 of the Environmental Impact Statement (EIS), the proponent states that for the baseline sediment conditions "many metals have not been detected, but the detection limits are

still low enough. to be able to affirm that there is no contamination, in particular for the arsenic, the chromium, the mercury, the nickel and the lead for which there are criteria of quality. "

Table 6 of the RS-4 sector study, presented in Volume 2 of the EIS, shows that the selected reported detection limits (LDRs) do not allow to determine if the concentrations obtained are below the concentration threshold of rare effects (CERs) for all metals with a criterion of: arsenic, cadmium, chromium, copper, total mercury, lead and zinc. The LDR do not allow either to determine if the levels are below the threshold effect concentration (SSC) for the following metals: cadmium, chromium, copper and mercury total.

In section 2.5.2 of the RS-4 sector study, the proponent states that "in order to prevent sediment contamination that could result from industrial discharges into a watercourse, the analytical results are compared to the quality criteria, This makes it possible to follow the evolution of the situation at a site and to indicate a beginning of contamination when the ESC is reached."

In Section 2.5.2 of the RS-4 Sector Study, the Proponent adds, "With respect to the few cadmium, copper and zinc values that exceed the CSE, they are likely to be regional background noise and these values are not worrying. The proponent's assertion is not certain and does not seem to be supported. In addition, according to the proponent (Chapter 1.3 of the EIS), drilling activities have occurred upstream from the area of influence of the project since 2009 and these could explain these high values.

The Society to Overcome Pollution (SVP) has prepared a map, presented in Appendix 2 of this document, showing the facilities of the Critical Elements Corporation (CEC) Rose Mine. Based on CEC technical data, this map locates CEC drilling activities between 2009 and 2017 (Appendix 3 and 4 of this document). The map shows that, in the area of the planned mine pit and upstream of the mine site (south of Lake 3), there were holes that generated sludge, oils and water potentially dumped on the ground. These releases, if any, would have contaminated the waters and surface sediments of Lakes 1, 2 and 3 and the watercourse downstream of the area of influence (surface water drainage area) of the entire Rose mine site. The SVP map also identifies other streams (northeast of the mine site in the Eastmain River Basin) that may have been contaminated by drilling. Streams downstream of these drill sites have also been potentially contaminated and, according to the SVP, should not be used for background data (background noise).

The promoter must:

A) In the event of sediment contamination by mining activities, indicate to which quality *criteria Criteria for the assessment of sediment quality in Quebec and application frameworks: prevention, dredging and restoration* (Environment Canada and Department of Development) Sustainable Development, Environment and Parks of Quebec, 2007) the proponent plans to rehabilitate the sediments.

ANSWER

As stated in the document by Environment Canada and the Quebec Ministry of Sustainable Development, Environment and Parks (EC and MDDEP 2007), when the concentration of all contaminants is lower than the CEP, there is no need to initiate a restoration process. When the concentration of a contaminant is greater than the CEP but is less than or equal to the CEF, the relevance of undertaking a restoration process should be verified. When the concentration of a contaminant is higher than the FEC, sediment contamination is considered problematic. Thus, in the event that mining activities during the construction, exploration or closure phase were to cause sediment contamination, the assessment of the need for decontamination would follow these guidelines. In general, the OEB, or as the case may be, the ambient level is the level of restoration to be achieved.

B) Explain how the background data (basic conditions) of the sediments are reliable and actually represent the basic conditions, ie the results obtained, especially the results exceeding the CSE criterion, are not associated with sediment contamination caused by drilling activities carried out since 2009 upstream of the project area of influence. Repeat sediment sampling if it is shown that the samples could be contaminated by drilling and explain how this new sample comes from non-contaminated sites by drilling.

ANSWER

An additional inventory of sediments at the mine site was carried out in the summer of 2018. This inventory aimed to carry out sediment characterization downstream of the receiving environment in order to establish the reference state, according to the methodology proposed in the product guide by the Department (MDDELCC 2017), or in three zones exposed to the final effluent, for each final effluent, as well as in a reference zone. The entire methodology and results of this inventory is presented in the surface water characterization report and sediment provided in Appendix CEEA-46. Exposed sites were positioned downstream from the assumed final effluent discharge points in areas that are conducive to sediment accumulation. In each zone, five separate samples at about 20 m apart were taken to cover the natural variability in the sediment composition of the selected areas. In addition, sediments have been collected in a reference area that will not be affected by the project. Note that this reference area is also located outside the areas identified by the Society for the Suppression of Pollution (hereinafter “SVP ") as potentially contaminated by drilling activities (see Map 2 in Appendix CEEA-46). Likewise, as part of this inventory, detection limits below the Rare Effect Concentration (RER) threshold were applied for all metals for which quality criteria were established by Environment Canada and the MDDEP (2007).

In summary, Table CEAA-49 presents the results obtained for sediment samples taken from the reference area for metals for which quality criteria exist. It is possible to note that several samples have a metal concentration above the Rare Effect Concentration (REC) or Effect Level Threshold (SSC) threshold. Among other things, for arsenic, five samples taken in the reference area, two exceed the CER (RA and RD), two more exceed the CSE (RC and RE) and one exceeds the concentration threshold of occasional effects (CEO). Similar findings can be made by observing the results obtained for copper, cadmium, chromium and mercury. Only nickel, lead and zinc were found in low enough amount not to exceed one of the quality criteria set by EC and the MDDEP. The results obtained for the exposed sites located downstream of the final effluent discharge points are similar to what is observed in the reference zone (see the overall results in the report presented in Appendix CEAA-46. It is therefore considered that the background noise data of the sediments are reliable and actually represent the basic conditions.

Table CEAA-49 - Summary of Results in 2018 for Sediment Sampling in the Reference Area for Metals for Which EC and MDDEP Have Established Criteria

Parameter	Unit	LDR	Reference area					EC and MDDEP [1]				
			RA	RB	RC	RD	RE	RECs	CSE	CEO	CEP	THIS F
Arsenic (Ar)	mg / kg	2.0	**4.6**	**7.8**	**7.1**	**4.7**	**6.7**	4.1	5.9	7.6	17.0	23.0
Cadmium (Cd)	mg / kg	0.10	0.26	0.31	**0.36**	**0.39**	**0.44**	0.33	0.60	1.70	3.50	12,00
Chrome (Cr)	mg / kg	2.0	**26**	**29**	17	25	18	25	37	57	90	120
Copper (Cu)	mg / kg	1.0	**33**	**53**	**29**	**39**	**30**	22	36	63	200	700
Nickel (Ni)	mg / kg	1.0	10	15	11	13	13			47		
Mercury (Hg)	mg / kg	0.050	**0.100**	0.08	0.09	**0.110**	**0.140**	0.094	0.170	0.250	0.490	0.870
Lead (Pb)	mg / kg	5.0	13	15	18	20	22	25	35	52	91	150
Zinc (Zn)	mg / kg	5.0	28	30	28	27	30	80	120	170	310	770

[1] Environment Canada and Quebec Ministry of Sustainable Development, Environment and Parks. 2007. Criteria for the assessment of sediment quality in Quebec and application frameworks: prevention, dredging and restoration. 39 p.

QUALITY OF SURFACE WATER AND SEDIMENTS - SOCIOECONOMIC VALUE OF WATER QUALITY

In Chapter 6.4, the developer established t the socioeconomic value of the quality of surface water is average. According to its definition presented at p. 5-25, an average socio-economic value is: "When the component is valued, socially, economically or culturally, or used by a significant portion of the population concerned, but not subject to legal protection."

A high socioeconomic value is: "when the component is subject to legal or regulatory protection (threatened or vulnerable species, recognized wildlife habitat, conservation parks, etc.) or renders ecological services to humanity (eg a wetland filters water) or is essential for human activities (drinking water, classified archaeological sites)."

The socio-economic value given to the valued component of the "Surface Water Quality" environment seems to be underestimated.

The proponent must review its assessment of the effects of the Project on the Valued Environmental Component - Surface Water Quality considering that the Fisheries Act protects the fish habitat.

ANSWER

The proposed definition concerning the socio-economic value includes an aspect of legal or regulatory protection. The waters where the fish live are protected by the Fisheries Act and are therefore associated with a legal framework. However, the proposed definition specifically refers to recognized and highly valued wildlife habitats, such as an Atlantic salmon river (Salmo salar), a caribou calving area (Rangifer tarandus), and a lake sturgeon spawning area (Acipenser fulvescens), etc. The watercourses and water bodies that will be affected by the Rose Lithium-Tantalum mining activities do not constitute exceptional habitats because they do not contain

threatened or vulnerable species or highly valued species such as Atlantic salmon (Salmo salar) or lake sturgeon. For these reasons, it is suggested to maintain the socio-economic value attributed to the surface water quality component, the medium value, since it does not seem to be underestimated in this case.

51. QUALITY OF SURFACE WATER AND SEDIMENTS - INITIAL STATE AND UPSTREAM DRILLING ACTIVITIES

The data of the state initial of water underground are presented in the study sectoral RS-3. These data will be used as a baseline to be able to verify, in follow-up studies, whether the mining activities have contaminated the groundwater downstream of the mine.

The Society to Overcome Pollution (SVP) has prepared a map, presented in Appendix 2 of this document, showing the facilities of the Critical Elements Corporation (CEC) Rose Mine. Based on the technical data of CEC (chapter 1.3 of the EIA), this map locates the drilling activities carried out by CEC between 2009 and 2017 upstream of the zone of influence of the project (appendices 3 and 4 of this document). The map shows that, in the area of the planned mine pit and upstream of the mine site (south of Lake 3), there were holes that generated sludge, oils and water potentially drilled on the ground. These discharges, if any, could have contaminated the groundwater of the entire Rose mine site.

On page 6-77 of the Environmental Impact Statement (EIS), the proponent states: "Of the 20 [groundwater] samples analyzed in the first sampling campaign (April 2017), only one sample (PO-16-06R) shows results below the criteria [resurgence in surface water (RES)] and [warning threshold (SA)]. [...] Of the 21 samples analyzed in the second sampling campaign (July 2017), only one sample (PO-16-13R) shows results below the RES and SA criteria. Indeed, the promoter identifies high levels of copper, aluminum and zinc. According to the SVP, these grades may be related to exploratory drilling rather than "background noise" (baseline conditions).

The proponent must explain how the data related to the established reference groundwater are reliable and actually represent the baseline conditions, that is, the results obtained are not influenced by the exploratory drilling activities conducted upstream of the groundwater samples. Re- perform groundwater sampling if it is shown that the samples may have been contaminated by drilling activities and explain how this new sampling comes from areas not contaminated by drilling activities.

ANSWER

Several elements make it possible to assert that the exceedances observed for the metals do not come from a contamination having taken place during the drilling.

First of all it is important to specify that the criteria on the study site are restrictive given the low hardness of the water of the receiving medium (less than 10 mg/L). This low hardness value is due to the low presence of mineral carbonate in the rock formations of the Superior geological province. Indeed, if the hardness of the water on the site was 50 mg/L (hardness to which the RES criteria are calculated), only exceedances for copper were observed in three wells during the 1st campaign and in three well during the 2nd campaign.

In addition, exploratory drilling was carried out using water that is pumped into the surrounding streams. The metal concentrations are therefore those of the natural environment. When drilling, the most likely contamination is that due to hydrocarbons due to the lubrication of mechanical parts, but no hydrocarbon exceedances were observed.

Then, during pumping tests carried out in wells located in the exploratory drilling sector, only an exceedance of the warning threshold for copper was observed in sample PP2-24h. Finally, if contamination had occurred on the site during the drilling, it would be possible to observe a plume

of contamination from the area where the drilling was done. On the entire site, the highest concentrations of copper and zinc were observed in the PO-16-10R and PO-16-10S wells located upstream of the hydraulic exploration and drilling sector. Wells PO-16-02R, PO-16-02S which are more than two kilometers from the exploration drilling area. The PO-16-04R and PO-16-04S wells that are in the flow axis between the exploratory drilling and the PO-16-02 well site have lower concentrations than those observed at PO-16 -02. The concentrations observed during the different sampling campaigns can therefore be considered as representative of the natural background content of the site under study. According to the data obtained, no new sampling is recommended.

QUALITY OF GROUNDWATER

52. UNDERGROUND WATER QUALITY - MITIGATION MEASURES TO AVOID ACCIDENTAL SPILLS

In Section 6.5 Groundwater Quality, the proponent identifies the following risk: risk of groundwater contamination from accidental spills of hydrocarbons, solvents or other hazardous liquids (page 6-80). It states that "if the volume spilled is sufficient, the unfixed portion of the product [to the soil] will migrate to the groundwater table to leave a pure phase floating or flowing depending on the density of the liquid and dissolving in part in water underground. He added that "in the event of a spill, the emergency plan will be quickly implemented, which will reduce the extent of contamination and prevent contamination of groundwater."

The proponent added "that a machinery inspection will be carried out before the first use and regularly thereafter". He added that "necessary precautions will also be taken to avoid spills of oils and fuel when refueling vehicles, machinery and equipment."

The proponent states that "fueling [of oils and fuels] will be conducted under constant surveillance at designated locations."

The promoter must:

A) Clarify what is meant "on a regular basis" regarding the mitigation measure related to the inspection of machinery to reduce the risk of groundwater contamination (eg, weekly, daily, or monthly frequency).

ANSWER

An inspection is done on a daily basis, as operators must visually inspect their equipment/ machinery before starting their shift to avoid any malfunction that may lead to wasted time, spills, or hazards to the health and safety of workers.

B) Clarify what is meant by "necessary precautions" in the groundwater quality mitigation measure "necessary precautions will also be taken to avoid spills of oil and fuel when refueling vehicles, machinery and equipment."(For example, the use of impervious canvases, leak collection tanks, bodyguards around tanks to protect them from collisions).

ANSWER

The most mobile vehicles (trucks, bulldozers, loaders) will be refueled at the industrial site, near the fuel tanks, on a waterproofed surface. Less mobile equipment, such as shovels, will be serviced via a tanker truck, at the production site, for example in the mine. Recovery kits will be available in all production vehicles for quick responses to a spill. The tanks will be protected by structures (blocks or jerseys) to prevent accidental collision.

C) Identify designated areas for refueling on a map. Specify how far from any body of water these locations will be located and explain how the distance chosen will minimize the risk of contamination.

ANSWER

The map presented in appendix CEEA-52 makes it possible to locate the hydrocarbon supply zone on the mine site. The station is located 250 m from Stream A, which is the nearest watercourse. When Lake 1 is drained, the refueling station will be located more than 700 m from the discharge point in stream A. All of the facilities and measures detailed above and the distance between the stream A and the refueling area will minimize the risk of contamination.

SOIL QUALITY

53. SOIL QUALITY - CONTAMINATION

Section 3.10.3 on the orebody states that "in the event that certain areas are contaminated, the soil will be excavated and processed on site or at an authorized center. Ore storage and transshipment areas will also be characterized before being restored. "

However, there is no mention of the possible effect (s) associated with the temporary storage of ore in Section 6.6.5. Although many activities are identified as having the potential to affect soil quality throughout the project, only the risk of soil contamination from an accidental spill of hydrocarbons, solvents or other hazardous liquids is addressed.

In addition, there is no mention of what the proponent intends to do if the soil characterization results from the ore storage and transshipment areas indicate that they are contaminated.

The promoter must:

A) Describe in detail, and for each phase of the project (construction, operation, closure and restoration), all potential environmental effects associated with potentially contaminated soils, either by accidental spills or by the presence of storage and disposal areas transshipment of the ore.

B) Explain how the soils of the ore storage and transshipment areas will be managed in the event that they become contaminated.

ANSWER

The details of the environmental effects associated with potentially contaminated soils were addressed in the impact study. The residual effects for the various phases of the project range from very low to low (not significant), considering the common and specific mitigation measures, particularly with regards to the rapid spill response.

Since the ore is non-acidogenic and non-leachable, the effects on the soil of the ore storage and transshipmnet areas will be negligible. Accidental spills that may occur during the various phases of the project will be quickly recovered and disposed of according to the procedure established for this type of event. Although the ore is non-acidogenic and non-leachable, the soil quality of the ore stockpile and transshipmnet areas will nonetheless be tested upon site closure, in comparison to the natural background established prior to start of construction of the mining complex. If contamination is observed, as stated in the impact study, the soil would be treated on-site or in an authorized center if onsite treatment is not possible.

54. SOIL QUALITY - PROBABILITY OF AN EFFECT ON SOIL

In section 6.6.7 Importance of Residual Effects (Soil Quality), the proponent states:

- *During the construction phase, the "probability of occurrence is considered low as the effect would only occur in the event of an accidental spill at the time of construction."*
- *During the operation and maintenance phase, "the probability of occurrence is average for the risks of accidental spills. "*
- *During the closure phase, "the probability of occurrence is average."*

However, it does not indicate any further explanation for these assessments during the operation and maintenance phase and during the closure phase.

The promoter must explain the reasons for which the probability of occurrence of an effect on soils is estimated to average the phase of operation and maintenance phase and closure.

ANSWER

Regarding the probability of occurrence of an effect on soils, it is considered average for the three phases. Indeed, an effect could appear on the component, but without being assured. In the construction phase, the importance of the residual effect is thus considered low instead of very low (the correction was made in answer CEEA-34).

55. SOIL QUALITY - IMPORTANCE OF SOIL EFFECTS

During the operation and maintenance phase, the proponent estimates that for soil contamination the duration will be long "since the effect will be felt in a continuous and irreversible way". The definition of a long duration is presented in p.5-27 of the Environmental Impact Statement (EIS) and indicates "when an effect is felt, continuously or discontinuously, over a period exceeding 5 years; it is often a permanent effect."

During the closure phase, the developer evaluates the average duration "because the site will gradually return to a natural appearance following the restoration. The definition of an average duration is presented on p.5-27 and indicates "when an effect is felt temporarily, continuously or discontinuously, during the operation and maintenance phase, that is, say beyond the end of the construction phase; these effects are still visible several months after the end of construction, but the duration is less than 5 years. "

On page 5-26 of the EIS, the developer defines irreversibility as follows: "an effect is considered irreversible if the conditions of the component cannot return to their initial state (before the project) at the end of the phase or phases project that affect it after the application of mitigation and enhancement measures. This is called a permanent effect of the project. "

The promoter must:

A) Specify whether it plans to decontaminate areas that will be contaminated by project activities, including spills.

B) Indicate whether the appearance natural found after the stage of restoration will be the appearance of origin (reversible) or different (irreversible). Adjust the significance of the effect on soil quality, if any.

C) Indicate if the natural appearance will be reached more than five years (long duration) or less years (average duration) after the restoration. Adjust the significance of the effect on soil quality, if any.

ANSWER

Areas contaminated by the project activities will have been rehabilitated during the construction and operation and maintenance phases. During the closure phase, as reported in Answer CEEA-53, if contamination is observed, soils would be treated on-site or at an authorized center if it is not possible to do so on-site.

Soil quality after the restoration phase will be of similar quality to the natural background levels established prior to the construction phase and adequate to allow re-establishment of vegetation and future activities. The intensity of the effect is thus considered reversible. The magnitude remains the same, as is the magnitude of the residual effect.

As for the natural aspect after restoration, it was treated with the landscape component (section 8.6 of the impact study).

AIR QUALITY

56. AIR QUALITY - PM2.5 INITIAL CONCENTRATIONS

Initial concentrations recommended by the Ministry of the Environment and Climate Change for northern projects when these projects are remote from other sources will be used to assess the impacts of project air emissions. As noted in Note 2 of Table 6-58 of the EIS, as no initial concentration is recommended for PM2.5 over a one-year period, the the initial state that will be used was established from the measurements of the Pémonca station "located in representative region of the studied site, compared to the other available stations".

The promoter must:

A) Document with more details the reasons of the choice of the station Pémonca from other stations to determine the initial concentration of PM2.5.

B) Provide the names of the other stations considered, their locations and the contaminants measured.

ANSWER

Among the stations of the Quebec Air Quality Monitoring Network (QSARQ), only the Radisson station is considered representative of the study area. However, only fine particle data ($PM_{2.5}$) for the period from November 29, 2017 to December 31, 2017 were available until recently; this is insufficient to establish initial concentrations under section 202 of the Clean Air Regulation (RAA). The data for 2018 has now been made available and has been included in this analysis.

Thus, the most northern stations of RSQAQ were considered to establish an initial concentration of $PM_{2.5}$. Three additional stations were considered; these are described in Table CEAA-56a.

The results of the analysis of the data from these stations, presented in answer CEAA-63 (Table CEAA-63a), show that the initial annual concentration of 4.5 µg/m^3 for $PM_{2.5}$, used in the air quality study (WSP, 2018), seems adequate to characterize the site under study.

Table CEAA-56a - Description of QSARQ Stations Retained

Station	Latitude	Longitude	Distance to the project (km)	$PM_{2.5}$ available data
Radisson	53.7	-77.7	215	2017-11-29 to 2018-12-31
Lac-Edouard	47.6	-72.3	550	2015-2018
Senneterre	48.4	-77.2	400	2015-2018
Pémonca	48.8	-72.7	425	2015-2018

57. AIR QUALITY - EMISSIONS OF ROAD TRANSPORT

Regarding the emission rate for routing during the construction and operating scenarios, the average truck height varies according to the road segment used for no apparent reason (this would be the case when trucks of different heights are used). For example, in Table A 14, the height of the trucks for the road segment between P01 and P02 is 4.8 m and between P02 to P05 it is 4.3 m. Then, the height is 5.3 m between P02 and P06. It seems that P02 represents a point of unloading.

On the other hand, although a column in Tables A13 and A14 indicates a 75% attenuation rate, the emission rates shown are in fact non-attenuated rates.

The promoter must:

A) *To describe what kind of activity will be directed to the point P02, by example, the loading, unloading storage, etc.*
B) *If point P02 is a material storage location, justify the reason why it is absent in the calculation of the sources of road transport emissions or, if it would have been taken into account in the sources of road transport emissions, include it in the calculations.*
C) *If there is a variation in the height of the trucks for the other road segments, justify this variation or make the corrections, if necessary.*
D) *In order to be able to examine road transport emission rates, also present the calculated data with the attenuation rate in Tables A13 and A14.*

ANSWER

For the operating scenario, no activity is performed at point P02. This point represents only one intersection taken by several different paths. The loading and unloading activities associated with road transport are carried out at the starting or end point of a journey described in Tables A11 and A12. For example, for the P01_P05 run of the operating scenario, the waste rock is loaded at point P01 and discharged at point P05. No trip begins nor ends at the point P02.

The physical parameters of the sources of a segment are based on the average height of the trucks traveling on this segment, weighted by their respective number of displacements.

For the operating scenario, the table CEAA-57a presents all the segments associated with each of the trips. The corresponding truck and their associated number of trips are also given. Table CEAA-57b then presents the number of trips by type of truck associated with each segment. The average height calculated by segment is finally presented.

For example, the operating scenario segment P01_P02 is included in paths P01_P05, P01_P10 and P01_P22. Thus, this segment has an average of 743 (584.5 + 158.9) trips per day of the Caterpillar 775 model truck and 305 trips per day for the Caterpillar 785 model, for a total of 1048 trips per day. The weighted average height of this segment is therefore given by the following equation:

$$\frac{743 \times 4{,}46\,m + 305 \times 5{,}68\,m}{1048} = 4{,}814\,m$$

The attenuated rates supplementing the data in Tables A 13 and A 14 are presented in tables CEAA-57c and CEAA-57d respectively.

Table CEAA-57a - Description of Road Transportation Routes - Operating Scenario

Path	P01_P05	P01_P10	P01_P22	P10_P11	P10_P14	P14_P11	P18_P21	P23_P28	P27_P23	P29_P08
segments	**P01_P02**	**P01_P02**	**P01_P02**	P10_P11	P10_P12	P10_P11	P15_P16	P23_P24	P23_P24	P07_P08
	P02_P03	P02_P06	P02_P06	-	P12_P13	P10_P12	P15_P19	P24_P28	P24_P25	P29_P07
	P03_P04	P06_P09	P06_P09	-	P13_P14	P12_P13	P16_P17 [1]	-	P25_P26 [1]	-
	P04_P05	P09_P10	P09_P15	-	-	P13_P14	P17_P18 [1]	-	P26_P27 [1]	-
	-	-	P15_P19	-	-	-	P18_P16 [1]	-	P27_P25 [1]	-
	-	-	P19_P20	-	-	-	P19_P20	-	-	-
	-	-	P20_P22	-	-	-	P20_P21	-	-	-
Vehicle	Caterpillar 775	Caterpillar 775	Caterpillar 785	Caterpillar 775	Caterpillar 775	Caterpillar 785	Caterpillar 785	Kenworth T800 + Semi A.68 (4 axles)	Kenworth T800 + Semi A.68 (4 axles)	Caterpillar 775
Daily tonnage (t)	18617	5056	20868	2528	2528	2372	4732	420	647	2855
Loading capacity (t)	64	64	137	64	64	137	137	35	35	64
# trips / day go	292	79	152	40	40	17	35	12	18	45
# trips / day + go back	585	159	305	79	79	35	69	24	37	90
Truck height (m)	4.46	4.46	5.68	4.46	4.46	5.68	5.68	2.84	2.84	4.46

[1] Only one pass is made on this segment (one way only)
Note: With the exception of truck height, the values provided have been rounded to the nearest unit for ease of readability.

Table CEAA-57b - Description of Segments Component Road Transportation Routes - Operating Scenario

Segment ID	Use of the segment	Number of trips per day [1]				Average truck height (m)
		Caterpillar 775	Caterpillar 785	Kenworth T800 + Semi A.68 (4 axles)	Total	
P01_P02	round trip	**743**	**305**	**0**	**1048**	**4.814**
P02_P03	round trip	585	0	0	585	4.459
P02_P06	round trip	159	305	0	463	5.261
P03_P04	round trip	585	0	0	585	4.459
P04_P05	round trip	585	0	0	585	4.459
P06_P07	*round trip*	*0*	*0*	*0*	*0*	-
P06_P09	round trip	159	305	0	463	5.261
P07_P08	round trip	90	0	0	90	4.459
P09_P10	round trip	159	0	0	159	4.459
P09_P15	round trip	0	305	0	305	5.679
P10_P11	round trip	79	35	0	114	4.830
P10_P12	round trip	79	35	0	114	4.830
P12_P13	round trip	79	35	0	114	4.830
P13_P14	round trip	79	35	0	114	4.830
P15_P16	round trip	0	69	0	69	5.679
P15_P19	round trip	0	374	0	374	5.679
P16_P17	go	0	35	0	35	5.679
P17_P18	go	0	35	0	35	5.679
P18_P16	go	0	35	0	35	5.679
P19_P20	round trip	0	374	0	374	5.679
P20_P21	round trip	0	69	0	69	5.679
P20_P22	round trip	0	305	0	305	5.679
P23_P24	round trip	0	0	61	61	2.845
P24_P25	round trip	0	0	37	37	2.845
P24_P28	round trip	0	0	24	24	2.845
P25_P26	go	0	0	18	18	2.845
P26_P27	go	0	0	18	18	2.845
P27_P25	go	0	0	18	18	2.845
P29_P07	round trip	90	0	0	90	4.459

[1] A round trip corresponds to 2 trips.
Note : With the exception of truck height, the values provided have been rounded to the nearest unit for ease of readability.

Table CEAA-57c - Emission Rates for Each Segment - Construction Scenario

Segment	Emission rate without attenuation (g / s)			Attenuation (%)	Emission rate with attenuation (g / s)		
	PMT	PM_{10}	$PM_{2.5}$		PMT	PM_{10}	$PM_{2.5}$
P01_P02	1.96E + 00	5.57E-01	5.57E-02	75	4.90E-01	1.39E-01	1.39E-02
P02_P03	3.92E + 00	1.11E + 00	1.11E-01	75	9.80E-01	2.79E-01	2.79E-02
P03_P04	1.06E + 00	3.02E-01	3.02E-02	75	2.65E-01	7.55E-02	7.55E-03
P03_P05	2.56E + 00	7.27E-01	7.27E-02	75	6.39E-01	1.82E-01	1.82E-02
P03_P09	8.76E-01	2.49E-01	2.49E-02	75	2.19E-01	6.23E-02	6.23E-03
P05_P06	2.17E + 00	6.17E-01	6.17E-02	75	5.43E-01	1.54E-01	1.54E-02
P05_P08	6.41E + 00	1.89E + 00	1.89E-01	75	1.60E + 00	4.73E-01	4.73E-02
P06_P07	8.53E + 00	2.43E + 00	2.43E-01	75	2.13E + 00	6.07E-01	6.07E-02
P09_P10	3.41E + 00	9.71E-01	9.71E-02	75	8.54E-01	2.43E-01	2.43E-02
P09_P15	1.18E + 00	3.34E-01	3.34E-02	75	2.94E-01	8.36E-02	8.36E-03
P10_P11	3.72E + 00	1.06E + 00	1.06E-01	75	9.30E-01	2.65E-01	2.65E-02
P11_P13	1.24E + 00	3.52E-01	3.52E-02	75	3.10E-01	8.81E-02	8.81E-03
P12_P11	2.63E + 00	7.78E-01	7.78E-02	75	6.59E-01	1.94E-01	1.94E-02
P13_P14	2.68E + 00	7.63E-01	7.63E-02	75	6.71E-01	1.91E-01	1.91E-02
P15_P16	8.51E-01	2.42E-01	2.42E-02	75	2.13E-01	6.05E-02	6.05E-03
P15_P19	1.60E + 00	4.54E-01	4.54E-02	75	3.99E-01	1.13E-01	1.13E-02
P16_P17	3.98E-01	1.13E-01	1.13E-02	75	9.96E-02	2.83E-02	2.83E-03
P17_P18	3.76E-01	1.07E-01	1.07E-02	75	9.40E-02	2.67E-02	2.67E-03
P20_P19	1.20E + 00	3.42E-01	3.42E-02	75	3.01E-01	8.55E-02	8.55E-03
P21_P10	2.72E + 00	7.74E-01	7.74E-02	75	6.81E-01	1.94E-01	1.94E-02

Table CEAA-57d - Emission Rates for Each Segment - Operating Scenario

Segment	Emission rate without attenuation (g / s)			Attenuation (%)	Emission rate with attenuation (g / s)		
	PMT	PM_{10}	$PM_{2.5}$		PMT	PM_{10}	$PM_{2.5}$
P01_P02	1.04E + 02	2.97E + 01	2.97E + 00	75	2.61E + 01	7.43E + 00	7.43E-01
P02_P03	1.26E + 01	3.57E + 00	3.57E-01	75	3.14E + 00	8.93E-01	8.93E-02
P03_P04	3.02E + 01	8.58E + 00	8.58E-01	75	7.55E + 00	2.15E + 00	2.15E-01
P04_P05	6.63E + 00	1.89E + 00	1.89E-01	75	1.66E + 00	4.71E-01	4.71E-02
P02_P06	2.70E + 00	7.68E-01	7.68E-02	75	6.76E-01	1.92E-01	1.92E-02
P06_P07	*0*	*0*	*0*	*75*	0	0	0
P07_P08	2.27E + 00	6.46E-01	6.46E-02	75	5.68E-01	1.62E-01	1.62E-02
P06_P09	7.05E + 00	2.00E + 00	2.00E-01	75	1.76E + 00	5.01E-01	5.01E-02
P09_P10	9.24E-01	2.63E-01	2.63E-02	75	2.31E-01	6.57E-02	6.57E-03
P10_P11	2.26E + 00	6.42E-01	6.42E-02	75	5.64E-01	1.60E-01	1.60E-02
P10_P12	3.33E + 00	9.46E-01	9.46E-02	75	8.32E-01	2.36E-01	2.36E-02
P12_P13	1.71E + 00	4.85E-01	4.85E-02	75	4.27E-01	1.21E-01	1.21E-02
P13_P14	1.57E + 00	4.48E-01	4.48E-02	75	3.93E-01	1.12E-01	1.12E-02
P09_P15	9.82E + 00	2.79E + 00	2,.79E-01	75	2.46E + 00	6.98E-01	6.98E-02
P15_P19	1.17E + 01	3.32E + 00	3.32E-01	75	2.92E + 00	8.30E-01	8.30E-02
P15_P16	2.55E + 00	7.25E-01	7.25E-02	75	6.37E-01	1.81E-01	1.81E-02
P16_P17	3.68E-01	1.05E-01	1.05E-02	75	9.21E-02	2.62E-02	2.62E-03
P17_P18	2.16E-01	6.14E-02	6.14E-03	75	5.39E-02	1.53E-02	1.53E-03
P18_P16	2.31E-01	6.56E-02	6.56E-03	75	5.76E-02	1.64E-02	1.64E-03
P19_P20	2.69E + 01	7.65E + 00	7.65E-01	75	6.72E + 00	1.91E + 00	1.91E-01
P20_P21	3.22E + 00	1.08E + 00	1.08E-01	75	8.04E-01	2.70E-01	2.70E-02
P20_P22	1.88E + 01	5.36E + 00	5.36E-01	75	4.71E + 00	1.34E + 00	1.34E-01
P23_P24	8.50E + 00	2.51E + 00	2.51E-01	75	2.13E + 00	6.27E-01	6.27E-02
P24_P25	1.00E-01	2.96E-02	2.96E-03	75	2.51E-02	7.40E-03	7.40E-04
P25_P26	6.98E-02	2.06E-02	2.06E-03	75	1.75E-02	5.15E-03	5.15E-04
P26_P27	1.94E-01	5.71E-02	5.71E-03	75	4,84E-02	1.43E-02	1.43E-03
P27_P25	4.53E-02	1.34E-02	1.34E-03	75	1,13E-02	3.34E-03	3.34E-04
P24_P28	1.54E-01	4.56E-02	4.56E-03	75	3,86E-02	1.14E-02	1.14E-03
P29_P07	4.52E + 00	1.29E + 00	1.29E-01	75	1,13E + 00	3.21E-01	3.21E-02

58. AIR QUALITY - DUST MANAGEMENT

For Particulate Matter (PMT, PM10 and PM2.5), the results show an exceedance of the Ministry of the Environment and Climate Change (MELCC) standard for LMPs of approximately 120% and it seems that it would be routing that "contributes to more than 90% of the modeled maximums" while PM2.5 reaches 86% of the standard set by the MELCC. Although there are no criteria for PM10, these particulates are part of the criteria air contaminants (CACs) and should be evaluated. The proponent presented the modeling of PM10 concentrations in Appendix F of the February 2019 Supplementary Document to the Environmental Impact Statement. The results obtained from this

modeling show that the concentrations obtained would represent 72 % of the limit values for the period of 24 hours, which is approaching the limit established by the World Health Organization.

With respect to air quality mitigation measures, the proponent presents in Table 5-6 several measures affecting transportation, traffic and machinery.

In the EIS documentation, two additional measures have been identified , but are not included in Table 5-6, namely: the temporary recovery of piles by straw or granular materials, depending on the field and weather conditions and minimizing blasting when winds blow towards the Cree camp (EIS Complementary Document: Answers to MDDELCC Questions and Comments).

Finally, the proponent indicates in its response to question QC-6 of the MDDELCC that the environmental management program for ambient air quality will be enhanced by the dust management plan.

The promoter must:

A) *Based on the results of modeling particulate matter concentrations, develop a dust management plan and air quality monitoring program, such as that presented in Annex QC-7BIS, and commit to putting it in place before the start of operations.*

ANSWER

The dust management plan is presented in appendix CEEA-58. In addition to the correct management practices, all the mitigation measures are included. This plan will be put in place before the start of operations.

B) Provide, as soon as possible, a copy of the ambient air quality management program, enhanced by the dust management plan.

ANSWER

A copy of the ambient air quality management program (Annex Q-7Bis sent to the MELCC), enhanced by the dust management plan, will be sent as soon as available.

C) Add the temporary overburden recovery and the reduction of the waste rock blast to the Cree camp to the mitigation measures in Table 5-6 of the EIS.

ANSWER

Tabke 5-6 shows the standard mitigation measures. The two complementary measures are to be added, but rather with those determined to be particular. This is to be added to the specific mitigation measures in the EIS for the operation and maintenance phase of the air quality component (section 6.9.7.2).

59. AIR QUALITY - SENSITIVE RECEIVERS

In the box in section 6.9 (pp. 6-142), the proponent mentions that Aboriginal communities have raised concerns about the quality of the air and dust from the project. The amounts of dust fall are absent from sectoral report 6 (RS-6 Air Quality) and the promoter does not respond to the indigenous concern.

In sector study RS-6 (p.12) and in the Environmental Impact Assessment (EIA) (p.6-148), the sensitive receptors identified for air quality are a Cree encampment. C2 located at km 37 of the road Nemiscau -Eastmain-1, belonging to the trapline R19 and camp workers, located about 20 km

from the project site. However, the latter receiver is located outside the modeling domain. In addition, the proponent does not mention other sensitive receivers for air quality.

Although there are no specific standards in Quebec, the estimation of dust deposition is important, especially at the level of the identified sensitive receptors, particularly the water bodies near the mine project, including the lakes 18 and 19.

The proponent mentions on page 6-66 of the EIA that during the operation and maintenance phase, wind erosion of mine tailings is likely to emit dust that can be transported over long distances. they can be deposited on the water bodies near the dry residue dump.

The promoter must:

A) *To review the identification of sensitive receptors for air quality and describe, as appropriate, those which must be added, for example, the fauna, the flora, the shots of water nearby, other camps shouts along the Nemiscau -Eastmain-1 road.*

B) *Add, as appropriate, these sensitive receivers to the air quality modeling maps and indicate the contaminant concentrations that are expected at these receivers.*

C) *Present the estimate of the deposition of dust, in particular at the level of the identified sensitive receptors, in particular the water bodies near the mining project, including lakes 18 and 19 and the Cree camps along the Nemiscau- Eastmain road -1.*

D) *If other sensitive receptors are identified whether it would be appropriate to install a different station sampling than that installed in the side of the workers for monitoring the quality of air.*

ANSWER

According to the description of the components of the human environment, no other Cree camp is identified in the modeling domain. Thus, sensitive receptor is added to the model.

As for the fauna, flora and water bodies, according to the description of the environment from the environmental impact study, various sectors are identified near the mine site. In this context, rather than adding a set of sensitive receptors, it is suggested that the modeling results in the “field of application" be interpreted as the expected maximum concentrations in ambient air at these receptors. These results therefore correspond to Tables 8, 10 and 12 of the Air Quality Study (WSP, 2018) and the update to Tables CEAA-60-2, CEAA-60-4 and CEEA-60-6 of Appendix CEEA-60. This update includes all changes to sources of programming for this series of questions.

The results of monthly total particulate deposition (PMT) modeling were compiled at sensitive receptors, as well as at different lakes near the mine site. These are presented in Tables CEAA-59a to CEAA-59d, for each month and for each of the modeling scenarios.

For the deposition, no standard or criterion is applicable. In Quebec, the Clean Air Regulation (RAA), which came into effect on June 30, 2011, repealed the previous deposition standard of 7.5 g/m^2 for 30 days which was previously written in article 6 of the Regulation on the quality of the atmosphere (RQA). In addition, it was not possible to evaluate an initial deposition (background noise) since there is currently no data on particle deposition in Quebec. In fact, neither the air quality stations of the Québec Air Quality Monitoring Network nor those of the National Air Pollution Surveillance Network provide any data on this subject.

For the construction scenario, the maximum monthly deposition modeled at sensitive receptors occurs at the Cree camp where a maximum deposition of 0.05 g/m^2 is modeled. Comparing with the old standard of the RQA, none of the sensitive receptors shows an exceedance and the

maximum deposition represents less than 1 % of the old standard. For lakes, the maximum monthly deposition is modeled at Lake 6, east of the mine site and within the application limit, where a maximum deposition of 0.89 g/m^2 is modeled; it is also lower than the old standard.

For the exploitation scenario, the maximum monthly deposition modeled at sensitive receptors occurs at the worker camp where a maximum deposition of 0.28 g/m^2 is modeled. Compared with the old standard of the RQA, none of the sensitive receptors presents an exceedance and the maximum deposition represents less than 4 % of the old norm. For lakes, the maximum monthly deposition is modeled at Lake 15, north of the mine site and within the application limit, where a maximum deposition of 4.57 g/m^2 is modeled; it is also lower than the old standard.

It is important to remember that, in order to offer a conservative assessment, precipitation (snow and rain) is not included in the model, which could have a significant influence on the results.

Only one sampling station is planned, as described in the dust management plan (Appendix CEAA-58).

If the existing camp option does not work, CEC may consider having its own camp near the Rose Mining deposit about 4 km to the south. This camp is in close proximity to the sensitive receiver already identified (CEEA-60-3 card).

Table CEAA-59a - Results of the Modeling of Maximum Monthly Deposition to Sensitive Receptors - Construction Scenario

Substance	Symbol	Period	Month	Maximum modeled deposition at sensitive receptors (g / m ² / month)	
				Cree camp (C2)	Workers' Camp (Camp1)
Total particles	PMT	1 month	January	0.03	0.03
			ebruary	0.03	0.03
			March	**0.05**	0.03
			April	0.03	0.02
			may	0.04	0.02
			June	0.04	0.02
			July	0.04	0.02
			August	0.04	0.02
			September	0.02	0.02
			October	0.03	0.03
			November	0.03	0.04
			December	0.02	**0.04**

Table CEEA-59b - Results of Maximum Sensory Receptor Monthly Deposition Modeling - Operational Scenario

Substance	Symbol	Period	Month	Maximum modeled deposition sensitive receptors (g / m ² / month)	
				Cree camp (C2)	Workers' Camp (Camp1)
Total particles	PMT	1 month	January	0.20	0.19
			February	0.16	0.19
			March	0.26	0.20
			April	0.22	0.17
			may	0.23	0.10
			June	0.22	0.14
			July	**0.26**	0.14
			August	0.19	0.14
			September	0.15	0.17
			October	0.19	0.20
			November	0.17	0.27
			December	0.10	**0.28**

Table CEEA-59c - Maximum monthly deposition modeling results for various lakes near the mine site - construction scenario

Substance	Symbol	Period	Month	Maximum modeled deposition at various lakes near the mine site (g / m ²/ month)																	
				Lake 3	Lake 4	Lake 5	Lake 6	Lake 7	Lake 8	Lake 9	Lake 10	Lake 11	Lake 12	Lake 13	Lake 14	Lake 15	Lake 16	Lake 17	Lake 18	Lake 19	Eastmain 1
Total particles	PMT	1 month	January	**0.50**	0.34	0.07	**0.89**	0.50	0.26	0.22	0.18	0.17	0.16	0.19	**0.38**	0.78	0.22	0.06	0.15	0.25	**0.05**
			February	0.38	0.28	0.06	0.53	0.37	0.18	0.16	0.14	0.14	0.13	0.20	0.22	0.53	0.13	0.07	0.16	0.30	0.04
			March	0.28	0.27	0.04	0.58	0.64	0.29	0.26	0.21	0.16	0.13	0.17	0.29	0.64	0.16	0.05	0.12	0.25	0.02
			April	0.18	0.17	0.03	0.51	**0.66**	**0.32**	**0.28**	**0.23**	0.08	0.11	0.12	0.27	0.62	0.16	0.05	0.13	0.27	0.02
			may	0.18	0.16	0.02	0.57	0.63	0.30	0.26	0.22	0.08	0.07	0.10	0.21	0.51	0.16	0.05	0.12	0.23	0.02
			June	0.19	0.20	0.03	0.42	0.55	0.29	0.25	0.21	0.10	0.09	0.13	0.22	0.54	0.12	0.07	0.15	0.28	0.01
			July	0.27	0.19	0.04	0.72	0.66	0.25	0.21	0.18	0.09	0.07	0.12	0.19	0.43	0.12	0.03	0.06	0.14	0.03
			August	0.25	0.20	0.04	0.51	0.49	0.22	0.18	0.15	0.09	0.09	0.13	0.17	0.41	0.11	0.04	0.10	0.19	0.02
			September	0.33	0.24	0.05	0.56	0.42	0.20	0.16	0.14	0.12	0.10	0.14	0.18	0.42	0.11	0.05	0.12	0.22	0.03
			October	0.30	0.25	0.03	0.65	0.47	0.23	0.19	0.16	0.11	0.14	0.18	0.34	0.72	0.17	0.05	0.11	0.22	0.03
			November	0.47	0.35	0.05	0.57	0.63	0.30	0.25	0.22	0.17	0.20	0.24	0.31	0.64	0.16	0.06	0.13	0.26	0.05
			December	0.49	**0.45**	**0.07**	0.56	0.33	0.18	0.16	0.13	**0.22**	**0.21**	**0.30**	0.36	**0.81**	**0.24**	**0.07**	**0.17**	**0.31**	0.04

Table CEEA-59d - Results of Maximum Monthly Deposition Modeling at Various Lakes Near the Mine Site - Operating Scenario

Substance	Symbol	Period	Month	Maximum modeled deposition at various lakes near the mine site (g / m ²/ month)																	
				Lake 3	Lake 4	Lake 5	Lake 6	Lake 7	Lake 8	Lake 9	Lake 10	Lake 11	Lake 12	Lake 13	Lake 14	Lake 15	Lake 16	Lake 17	Lake 18	Lake 19	Eastmain 1
Total particles	PMT	1 month	January	**3.41**	1.81	**0.44**	2.75	1.89	1.05	0.99	0.81	0.91	0.88	1.24	2.20	**4.57**	2.62	0.44	1.75	3.20	**0.32**
			February	2.65	1.45	0.39	2.02	1.54	0.89	0.83	0.71	0.81	0.68	0.98	1.34	3.05	1.74	0.57	2.04	2.98	0.20
			March	1.97	1.41	0.26	2.46	2.52	1.47	1.19	1.07	0.82	0.72	0.96	1.69	3.57	2.15	0.38	**2.82**	**4.31**	0.13
			April	1.04	1.19	0.14	2.51	2.51	**1.48**	**1.41**	1.17	0.49	0.68	0.86	1.80	3.63	1.77	0.53	1.95	3.68	0.12
			May	1.03	0.86	0.12	2.32	2.54	1.40	1.24	1.04	0.41	0.43	0.60	1.18	2.32	1.64	0.47	1.96	3.69	0.10
			June	1.22	1.08	0.14	1.80	2.18	1.22	1.17	0.95	0.56	0.55	0.77	1.40	2.97	1.95	**0.57**	2.10	3.51	0.08
			July	1.99	1.04	0.29	**3.42**	**2.72**	1.33	1.09	0.92	0.60	0.49	0.71	1.40	2.82	1.57	0.26	1.24	2.55	0.15
			August	1.67	1.03	0.22	2.13	2.01	1.04	0.87	0.75	0.53	0.52	0.71	1.41	2.99	1.64	0.41	1.71	3.09	0.14
			September	2.33	1.31	0.31	2.13	1.62	0.87	0.81	0.66	0.73	0.64	0.90	1.42	3.02	1.76	0.45	1.59	2.63	0.18
			October	1.85	1.56	0.19	2.50	1.83	0.97	0.89	0.74	0.60	0.88	1.11	**2.34**	4.51	2.43	0.40	1.85	3.18	0.19
			November	3.05	1.76	0.36	1.74	2.07	1.48	1.38	**1.21**	0.98	0.95	1.24	1.93	3.99	2.35	0.51	1.55	2.19	0.28
			December	3.01	**2.10**	0.44	1.50	1.36	0.82	0.80	0.68	**1.20**	**1.04**	**1.48**	1.92	4.03	**2.70**	0.55	2.27	3.29	0.24

AIR QUALITY - CANADIAN STANDARDS FOR AMBIENT AIR

As was mentioned in the last match of step (2018) with the guidelines for the preparation of the environmental impact study, the Canadian Council of Ministers of the Environment established new Canadian standards Ambient Air Quality (NCQAA) for Nitrogen Dioxide (NO 2) from 2020 and 2025. The conclusions reached in the Environmental Impact Statement do not reflect the comparison criteria for NO 2 from 2020. The proponent did not identify the CAAQS Standards and Criteria for NO 2.

The proponent shall update the interpretation of the air quality results obtained for the construction and operational phases, taking into account the new Canadian ambient air quality standards (CAAQS) for Nitrogen: www.ccme.ca/en/current_priorities/air/ncqaa.html

ANSWER

The new NCQAA for established NO_2 by the CCME are presented in Table CEAA-60-1 of Appendix CEEA-60. The initial concentrations considered are also presented. These standards, established as targets under the Canadian Environmental Protection Act, are being progressively entered into practice. Indeed, two limit values, for the years 2020 and 2025, are established. For the purposes of this assessment, the limit values applicable for the year 2025 have been retained, ie the most restrictive values.

The results of NO_2 modeling were updated in Appendix CEEA-60 and compared to these new limit values. This update includes all changes to sources of programming for this series of questions. Here is the list of changes included in this update:

- Addition of CCME Standards for NO_2, Construction and Operation Scenario (CEEA-60);
- Addition of heating sources, construction and operating scenario (CEEA-67);
- Addition of generators, construction scenario (CEEA-69);
- Correction of an error of compilation of the surface considered for the source pore, scenario of construction and exploitation. Indeed, the area considered in the air quality study model (WSP, 2018) did not match that presented in Table A 32 and was overestimated.

Construction scenario

For the construction scenario, the modeling results are presented in Appendix CEAA-60, tablbes CEEA 60-2 and CEEA-60-3 for the scope and sensitive receivers respectively.

Modeled nitrogen dioxide concentrations exceed the 1 hour CCME exceedances at the application limit, but meet the standard at sensitive receptors. For annual periods, the results meet the CCME standard, both in the applied area and in sensitive receptors.

At sensitive receptors, peak concentrations are obtained at the Cree camp where, based on initial concentrations, they represent 92 % and 46 % of CCME standards for the 1 hour and annual periods, respectively. Project contribution is 29 % and 2 % of modeled total concentrations for 1 hour and annual periods, respectively.

The main contributing sources of the maximum concentrations modeled over a period of 1 hour are the exhaust gases from mobile equipment at 99.5% of the maximum concentrations modeled. The isoconcentration curves are illustrated in maps CEEA-60-3 and CEEA-60-4 of Appendix CEEA-60, for each of periods considered.

Operating Scenario

For the operating scenario, the modeling results are presented in tables CEAA-60-4 to CEEA-60-5 for the scope and sensitive receivers, respectively. Modeled nitrogen dioxide concentrations

exceed the 1 hour CCME standard, but meet the CCME annual standard, both in the applied area and in sensitive receptors in both cases.

At sensitive receptors, peak concentrations are obtained at the Cree camp where, based on baseline concentrations, they represent 102 % and 47 % of CCME standards for the 1 hour and annual periods, respectively. The project contribution represents 39 % and 3 % of the total modeled concentrations for the 1 hour and annual periods, respectively.

It is important to note that the CCME standard for the 1 hour period is very restrictive compared to the equivalent MELCC standard (414 µg/m^3 over the maximum 1 hour). The initial concentration considered is already 63 % of the limit value. Thus, the initial concentration greatly contributes to the 1- hour model exceedance at the Cree camp.

The main contributing sources of the maximum concentrations modeled over a period of 1 hour are the exhaust gases from mobile equipment at 94% of the maximum concentrations modeled. The isoconcentration curves are shown on the charts CEEA-60-5 and CEEA-60-6 for each of the periods considered.

61. AIR QUALITY - IMPACTS OF FOREST FIRES

On page 7-151 of the Environmental Impact Statement (EIA) it says: "... in an area within 5 km of the mine center, 99% of the area is disturbed. Fires have disturbed nearly 83% of this sector [...]. In an area 5 to 10 kilometers from the center of the mine, 74% of the surface is disturbed. The fires cover about 70% of these [...]. "

Also, on page 11-13 of the EIS: "A total of 58 fires affected an area within 50 km of the site between 1994 and 2014." It is also mentioned: "In addition, Forecasts show that by 2100, climate change is expected to increase favorable conditions for forest fires, increasing both the number of fires and their severity (Ouranos, 2015). As a result, the risk of forest fire in the area of the study site is considered important. "

In the section on current air quality conditions, the proponent did not mention the impacts of forest fires on the air quality of the area and around the future mine site.

The proponent must describe the impact of forest fires on the air quality of the area and site concerned.

ANSWER

Forest fires have a significant impact on local and regional air quality. Smoke from fires is a complex mixture of carbon dioxide (CO_2), suspended particles, water vapor, carbon monoxide (CO), organic compounds (such as acrolein and formaldehyde), oxides of nitrogen (NO_X) and various minerals[1]. Table CEEA-61a is about the generic emission factors estimated by the US EPA[2] which may be associated with emissions from a forest fire. They are provided in kg of emissions of one substance per ton of combustible material.

[1] https://www.inspq.qc.ca/pdf/publications/1679_ImpactsSanitParticulesIncendiesForet.pdf
2 https://www3.epa.gov/ttn/chief/ap42/ch13/related/firerept.pdf

Table CEEA-61a - Generic Emission Factors That May Be Associated with Forest Fires

Substance	Emission factor (kg / tonne)
CO_2	1,521
CO	144
$PM_{2.5}$	12
PM_{10}	14
NO_x	3.1
VOC	6.8

While fires produce significant amounts of carbon monoxide and carbon dioxide, particulate matter is the main issue as fine particles can be transported for hundreds of kilometers.

In order to evaluate the impact of forest fires on air quality, fire mapping provided by the Quebec Ministry of Forests, Wildlife and Parks (MFFP) was analyzed. The data in this map relate to all forest fires that took place in Québec for the period from 1972 to 2017, ie 46 years of data.

Table CEEA-61b presents statistics compiled by WSP for fires raging within 200 km of the study site. The data represents the sum of the areas burned in km^2, more specifically the total area per year and per month. For example, in 1972, a total area of 768 km^2 was burned within a 200 km radius of the site, including 11, 20 and 737 km^2 for the months of May, June and July, respectively. The compilation of these data shows that the intensity of the fires is very variable from one year to the next. Figure CEEA-61a also illustrates this large variation. The areas burned during 1983 and 2013 are particularly important.

Table CEEA-61b - Area burned by month and year within 200 km of the study site

Year	Area burned (km^2 per month)								Total of the year
	March	April	May	June	July	August	September	October	
1972			11	20	737				768
1973				55		530			585
1974				6	4				10
1975			1	8	27				36
1976				187	254		23		464
1977				14	164		1	2	181
1978			3	2	11				16
1979			0	10	3	6			19
1980	49		79	1		17			145
1981					949	791			1 740
1982				88					88
1983				1 785	4 375				6 160
1984									
1985				1					1
1986				1 166					1 166
1987					27	0			27

Year	Area burned (km ² per month)								Total of the year
	March	April	May	June	July	August	September	October	
1988			67		0	0			67
1989				0	0	1			1
1990					0	27			27
1991					0	1			1
1992					0				0
1993				0	849				849
1994				1	0				1
1995				2	1	0			3
1996				1 219					1 219
1997				426	1				426
1998					172				172
1999				4					4
2000			1						1
2001				41	9	178			227
2002					126				126
2003				255	4	98			358
2004				4	9	10			23
2005			1	2 319	603	53			2 975
2006			270	553	1	3			827
2007			85	78	108				271
2008				0	1	0			1
2009				87	531	1			619
2010			1	592	580				1 173
2011			7	7	4	33			52
2012			31	144	11				186
2013				499	9 804				10 302
2014			27	168	12				207
2015				11	1				12
2016				1	70	1			72
2017			1	63	0				64
Total	49	-	585	9 815	19 450	1 750	23	2	31 675
Max	49	-	270	2 319	9 804	791	23	2	-

Figure CEEA-61a - Number of fires and area burned per year within 200 km of the study site

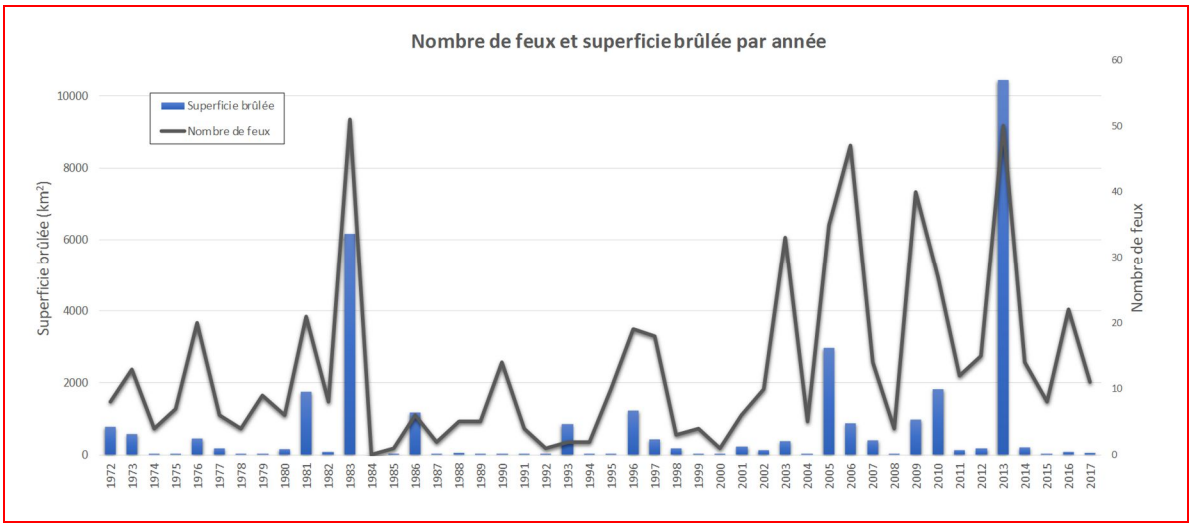


Table CEEA-61c has meanwhile classified according to the magnitude of each fire. This compilation shows that the majority (86% of cases) of fires caused burns below 75 km^2. Only a few major fires of more than 750 km^2 have occurred since 1972. A more detailed analysis shows that of the six fires of more than 750 km^2, three occurred on the same date in 2013. These fires are therefore probably connected.

Table CEEA-61c - Classification by Extent of Fire within 200 km of the Site Under Study

Classification (km^2)	**Number of lights (1972 to 2017)**
x <75	488
275> x> 75	53
750> x> 275	18
1500> x> 750	4
x> 1500	2

With respect to quantifying the impact of forest fires on air quality using results from a complete atmospheric dispersion study, WSP is of the opinion that the high variability of both intensity and frequency, would not permit the establishment of valid baseline concentrations comparable to the concentrations obtained under section 202 of the Clean Air Regulation (RAA).

In this context, WSP used the Playground Canada utility[3] developed using the BlueSky Framework (BSF) software suite to simply study a case. Indeed, this utility makes it possible to carry out the atmospheric dispersion of forest fires and thus to provide an order of magnitude of the concentrations likely to end up in the ambient air when a fire rages.

The scenario studied corresponds to a fire of 7,500 ha (average fire of 75 km^2) according to the default parameters suggested by the utility positioned near the project site. Dispersion results suggest that the daily average $PM_{2.5}$ concentrations (the only substance reported by the utility) for

[3] http://firesmoke.ca/playground/assets/docs/canada/UserGuide.pdf

the single day modeled[4] can reach 140 µg/m^3 at about 12 km from the origin of the fire. On the other hand, when the concentrations calculated by the utility are compared with the initial $PM_{2.5}$ concentration of 15 µg/m^3 used in the WSP dispersion study, the area concerned is located approximately 50 km from the origin of the fire.

Therefore, since the initial concentration determined by Article 202 of the AAR uses the 98th percentile of daily average concentrations, then it would take more than seven fires per year within 50 km of the site to exceed the value used by WSP the dispersion study, when only the contribution of forest fires is evaluated. However, according to the fire mapping data of the MFFP, although probable (occurrence of 8 fires in 1983, 2005 and 2013, ie three years in 46 years), on average one to two fires are reported in this zone per year. The initial $PM_{2.5}$ concentration of 15 µg/m^3 would therefore take into consideration the impact of forest fires on air quality.

On the other hand, WSP is aware that the 50 km zone is determined from partial modeling, limited by the flexibility of the Playground Canada utility. The uncertainty on this area is indeed very large.

In closing, it is important to note that several hypotheses have been made in this analysis and that the modeling results are from the Playground Canada utility and not from a complete modeling according to government requirements. The conclusions must therefore be interpreted with caution.

62. AIR QUALITY - DUST RECOVERED BY DUST COLUMNS

For dust collected by dust collectors, it is intended that they be recycled, stored, deposited or disposed of on the ground. However, few details are provided on these recycling, storage, deposition and / or disposal operations.

The promoter must:

A) *Describe how detailed the operations of deposition or disposal on the ground, dust recovered from precipitators and explain particular to what place this deposition and / or removal will take place.*

ANSWER

As the dust in question is from the ore, the dust will be collected in bags whose contents will be poured onto the feed conveyor.

B) *Explain how these methods of deposition and / or dust removal will comply with applicable laws, regulations and practices.*

ANSWER

As the dust will be recycled in the process, this activity d is part of the industry's best practices.

C) *Explain if the expected nature of the dust could pose a risk to the environment.*

ANSWER

Since the ore is not acid generating or leachable, it is expected that the dusts of these do not present any risk for the environment.

63. AIR QUALITY - INITIAL AMBIENT AIR

[4] Arbitrairement sélectionnés comme étant le 24 juin 2019. Seulement les données météorologiques de 2019 sont disponibles.

The proponent must provide information on ambient air quality in the project areas as required by the guidelines (section 9.1.2 Biophysical Environment). In section 6.9 of the Environmental Impact Statement, on pages 6-143 and 6- 148, the proponent mentions that there is no air quality measure for the study area and reference on this subject in the box on page 6-143: "Existing conditions: The project is located in a remote area where there are few industrial activities nearby".

The proponent must describe the ambient air quality in the project area in sufficient detail to provide an adequate picture of the initial condition. To do this, evaluate the possibility of using data from measurement stations located in other regions that may be representative of the site under study.

ANSWER

There is currently very little measurement data available to characterize ambient air quality in the study area. Indeed, among the stations of the Quebec Air Quality Monitoring Network (QSARQ), only the Radisson station is considered representative of the study area. By cons, only the data of fine particles ($PM_{2.5}$) for the period from 29 November to 31 December 2018 are available and total particulate data (MTP) for the period from July 1st, 2018 to December 31, 2018. Data for the year 2018 having been made available only recently. This is insufficient to establish initial concentrations under section 202 of the Clean Air Regulation (RAA). For this reason, the initial concentrations prescribed for northern projects in the Guidance Document - Preparation and Modeling of Air Emissions Dispersion - Mining Projects of the MELCC were considered in the WSP Atmospheric Dispersion Study.

However, data from the most northern RSQAQ stations were analyzed to meet this request, including the few weeks of hourly measurements of the Radisson station. The resulting initial concentrations are presented in Table CEAA-63c. For these stations, data for PMTs and $PM_{2.5}$ are available.

The compilation results show that the initial concentrations of 40 µg/m^3 and 15 µg/m^3 for PMT and $PM_{2.5}$ respectively, used in the air quality study (WSP, 2018), appear to be adequate to characterize the site under study.

Table CEEA-63c - Initial Concentrations of Particulate Matter from the Most Northern RSQAQ Stations

Station name	Region admin.	No station	Substance	Initial concentration (µg / m³)		Average annual concentration				Concentration 24 hours - 98 th percentile			
				Annual	24 h	2015	2016	2017	2018	2015	2016	2017	2018
Lac-Edouard	4	4750	PMT	10.3	35.1	10.7	9.9	11.6	9.1	38.2	26.0	50.1	26.2
Lac-Edouard	4	4750	$PM_{2.5}$	4.5	11.9	5.0	3.9	4.9	4.4	13.7	10.5	11.5	11.7
Radisson [1]	10	10200	PMT	7.9	36.4	-	-	-	7.9	-	-	-	36.4
Radisson [2]	10	10200	$PM_{2.5}$	2.4	6.8	-	-	2.4	2.3	-	-	7.7	5.9
Pémonca	2	2610	$PM_{2.5}$	4.2	10.0	5.0	4.0	4.1	3.7	11.7	8.6	9.9	9.8
Senneterre	8	8450	$PM_{2.5}$	4.5	11.5	4.9	4.3	4.0	4.7	12.0	10.0	10.8	13.3

[1] 28 daily measurements are available at this station for PMT. Statistics are for illustrative purposes only.
[2] 774 hourly measurements are available at this station in 2017 for $PM_{2.5}$. Statistics are given for guidance only for this year.

64. AIR QUALITY - LOCATION AND EMISSIONS OF STORAGE SITE OF TANTALITY

The tantalite storage site (DEP11) is not shown on map 8-A of the RS-6 study. According to Appendix A, Table A-1, this source appears to have been taken into account for modeling.

The proponent must indicate the tantalite storage site on the 8-A map of the RS-6 study and confirm that emissions from this source have been accounted for. If not, justify this decision.

ANSWER

The source DEP11 was not taken into account in the modeling. Its mention in Table A-1 is a typographical error and it is for this reason that it is not present on the 8-A map.

Indeed, during the analysis of the engineering plans, it was identified that this source has no exit to the atmosphere. This source represents the ventilation of the tantalite concentrate silo, which is located inside the mill building, as described in section 3.5.2 of the EIS (WSP, 2019).

65. AIR QUALITY - EMISSIONS FROM THE CRUSHING LINE

A PM2.5 / PMT ratio, based on data from Annex B.2 of the United States Environmental Protection Agency's AP 42 (Compilation of Air Emissions Factors), was considered to determine fine particulate matter emissions. Emitted by the crushing line. However, these data relate to distributions of sizes smaller than 10 µm whereas the ratio mentioned in section (3.6.1) of the RS-6 report refers rather to PM2.5 and PMT.

This ratio is also combined with a typical dust removal efficiency, in the case of untreated ore. However, this effectiveness is not mentioned in the RS-6 study.

The promoter must:

A) *Justify the approach taken to estimate the size distribution of fine particles from the crushing line.*

B) *Describe in more detail the typical combined dust removal efficiency that has been selected (the type of collector and its effectiveness).*

ANSWER

The $PM_{2.5}$/PMT ratios considered are primarily based on particle size distribution data at the uncontrolled source of Annex B 2 of AP-42. For sources related to the crushing line, the Category 3 distribution (ie, untreated ore) is used while for the other sources the distribution of Category 4 (ie, processed ore) is considered. Table CEAA-65a presents the particle size distributions considered.

At these particle size distributions, typical dust removal efficiency is then applied to determine particle ratios at the controlled source. The dust collection efficiency considered is taken from Table 1.28 of the European Commission Joint Research Center (JRC) report EUR 26129 EN (Schorcht et al., 2013) and corresponds to the efficiency of a bag filter dust collector. Efficiency is presented by granulometric slice[5] and presented in Table CEEA-65a.

[5] Despite the notation used in table 1.28 of the reference, the efficiencies are given by granulometric slice. The fact of considering the efficiencies as absolutes produces a granulometric incoherence, that is to say that the PMT becomes inferior to the PM10.

Uncontrolled particle size distribution and dust removal efficiency percentages are then combined to calculate the particulate matter ratios. The $PM_{2.5}$/PMT ratio for category 3 is given by the following calculation.

First, uncontrolled emissions by particle size range (E_x) are given by the following equations:

$$E_{PM<2.5} = 15\%\ E_{PMT}$$

$$E_{2.5<PM<10} = 36\%\ E_{PMT}$$

$$E_{PM>10} = 49\%\ E_{PMT}$$

where E_{PMT} represents total uncontrolled particulate emissions. Next, the emissions controlled by particle size range (EC_x) are then calculated as follows:

$$EC_{PM<2.5} = 15\%\ E_{PMT} \times (1 - 0.99) = 0.150\%\ E_{PMT}$$

$$EC_{2.5<PM<10} = 36\%\ E_{PMT} \times (1 - 0.9951) = 0.1764\%\ E_{PMT}$$

$$EC_{PM>10} = 49\%\ E_{PMT} \times (1 - 0.99784) = 0.10584\%\ E_{PMT}$$

Finally, the $PM_{2.5}$/PMT ratio is given by the ratio of controlled emissions:

$$\frac{EC_{PM2.5}}{EC_{PMT}} = \frac{EC_{PM<2.5}}{EC_{PM<2.5} + EC_{2.5<PM<10} + EC_{PM>10}}$$

$$= \frac{0.150\% \times E_{PMT}}{(0.150\% + 0.1764\% + 0.10584\%) \times E_{PMT}}$$

$$\approx 35\%$$

where EC_{PMT} is the controlled emission rate of total particles and therefore corresponds to the sum of the controlled emissions of each granulometric slice. Finally, the detail of the particle size distribution obtained for each source category is given in table CEEA-65a.

The modeled dust collectors are equipped with a bag filter whose effectiveness is derived from the JRC report mentioned in point A). This is presented in Table CEEA-65a.

Table CEEA-65a - Particle size distribution and efficiency of bag filters

Particle size (µm)	Dust removal efficiency (%)	Particle size distribution (%)			
		Category 3		Category 4	
		uncontrolled (% PMT)	controlled (% of PMT)	uncontrolled (% PMT)	controlled (% of PMT)
0-2.5	99	15	35	30	50
2,5-10	99.51	36	41	55	45
> 10	99.784	49	24	15	5

66. AIR QUALITY - CRYSTALLINE SILICA EMISSIONS

Based on the results of atmospheric dispersion modeling of contaminants, concentrations of metals and metalloids meet the standards and criteria of the Ministry of the Environment and the Fight Against Climate Change. However, despite the use of amphibolite as an aggregate on the roads, exceedances are still observed for crystalline silica. Modeling a scenario with a reduction in blasting (every other day) would make it possible to respect the standards for silica. According to the proponent, blasting would only occur "in one day in five".

The proponent must confirm the blasting schedule for waste rock, ie. one day in five, every other day or once a day.

ANSWER

The mining plan consists of two blasting patterns; blasting of waste rock and blasting of ore. For each pattern, the frequency of blasting is approximately one explosion every five days. For the exploitation phase planned at 350 days per year, this corresponds to 870 explosions per pattern for a total of 140 explosions per year. Over the course of one year, there will be approximately 140 days of exploitation with blasting and 210 days of exploitation without blasting. As such, globally, there will be roughly two explosions every five days. Table CEEA-61 shows the number of days for each situation.

For modeling purposes, the modeling scenario corresponds to the daily “worst case " and therefore to the day with a waste rock blast. In fact, blasting of waste rock is identified as the one with the highest emissions. This day is modeled on the entire meteorological sample, every 365 days of each of the five years of modeling. This modeling approach allows the worst dispersal conditions to be considered and a conservative assessment of the greatest possible impact on air quality. On the other hand, this methodology overestimates the annual concentrations as well as the annual frequencies of excess. The different scenarios (blast blasting, ore blasting and blast free) can therefore be weighted and combined according to their annual frequency in order to obtain a more realistic modeling result of the period under study.

The results presented in Table 14 of the Air Quality Study (WSP, 2018) for the annual concentrations of the annualized scenario (presented as a percentage of the limit value) and the number of exceedances (presented in hours/year) therefore correspond to the combination of the results of each of the scenarios weighted according to their annual frequency.

Note that no reduction to “one day in two" blasts has been modeled. The mitigation scenario presented in the study consists solely of the use of amphibolite as an aggregate on the roads.

Finally, it is important to note that the criterion of crystalline silica over a period of 1 hour has been revised by the MELCC since the study was submitted in version 6 of the document Quebec Standards and Criteria for the Quality of the Atmosphere (MDDELCC, 2018). Considering this new criterion, no crystalline silica overflow (for the 1 hour and annual periods) is modeled at the sensitive receivers in the attenuation scenario, and this, for all blast situations (day with blast or ore).

Table CEEA-66a - Annual frequency of each modelling scenario

	Modelling scenario			Total
	Days with waste rock blasting	Days with ore blasting	Days without blasting	
Number of days	70 days	70 days	210 days	350 days

67. AIR QUALITY - SOURCES OF EMISSIONS

According to tables A 1 and A 3 in Annex A of the RS-6 report, only emissions from the combustion of natural gas in the DEP08 and DEP12 kilns were taken into account.

However, according to the sectoral study on Greenhouse Gases (Appendix K of the Supplementary Information to the Environmental Impact Statement of February 2019), the consumption of natural gas would be 8 996 800 m ^{3} / year such also shown in Table 18.4 "LNG Consumption" in NI 43 101 Technical Report (November 29, 2017). This table shows the natural gas consumption for the various equipment and buildings used during the operation phase.

Referring to this list, it would appear that several sources related to the heating of buildings and facilities were not included in the air quality study (RS-6 report) and they would represent about 40 % of annual consumption of liquefied natural gas. Appendix K of the Supplementary Information also provides a list of stationary sources that use natural gas during the operation phase (Section 2.5.2, p.5).

The promoter must:

A) *Explain how the sources related to the heating of buildings and facilities were taken into account in the air quality study.*

B) *If applicable, include missing sources in the modeling of the atmospheric dispersion of contaminants.*

C) *If no, justify the approach used.*

ANSWER

Sources related to the heating of buildings and facilities were not considered in the air quality study (WSP, 2018). The buildings are heated using natural gas. The contribution of these heating sources has been added to the air quality modeling and an update of the results is presented in the Appendix CEEA-60. The description of these sources is presented below for each of the modeling scenarios.

Physical characterization and emission rates of heating sources were derived from preliminary engineering information, such as the number of heaters per building (or facility), their power, their natural gas consumption and the type of device (direct or indirect heating). As the detailed engineering of the project is not completed, the exact positions of the sources (position of the chimneys and ventilation outlets) are not currently determined. In lieu of having this information, the sources were grouped, to be conservative, into a single source modeled by building and by type of device. The power and natural gas consumption of the modeled source for a group are respectively equal to the sum of the powers and natural gas consumption of the sources associated with this group. The physical characteristics of the sources are however determined according to the characteristics of a single device. Modeled sources have been positioned in the center of buildings and treated as horizontal point sources for conservatism.

The physical characteristics are determined according to the type of device (indirect or direct heating). Sources related to indirect heating are treated as direct emissions of combustion exhaust gases while those related to direct heating are considered as emissions through the ventilation outlets of buildings. The physical parameters used are shown in Table CEEA-67a. With respect to the temperature, diameter, and velocity of the gases, since no data is available, typical values are used depending on the source type.

Emission rates are calculated from the natural gas consumption and emission factors in Section 1.4-1 and 1.4-2 of Section 1.4 of AP-42 (US EPA, 1995) for the category "Small Boilers (<100 MMBTU / h) Controlled - Low No_x burners". These emission factors are reproduced in Table CEEA-

67b and are constant for each source. The source emission rates, for their part, are presented in Table CEEA-67c.

For the construction scenario, since the ore processing plant is not in operation, only the source related to the administration building is considered (admdir). For the exploitation scenario, all sources are considered. Sources are located in Appendix CEEA-60, CEEA-60-1 and CEEA-60-2for each of the modeling scenarios. For modeling purposes, sources were modeled at nominal capacity over a 24- hour period. In addition, since the sources associated with heating will be active during the cold season only, they were modeled for eight months, from October to May. Emissions from these sources are therefore overestimated for modeling scenarios.

Appendix CEEA-60 presents the update of the modeling results for the substances of interest. This update includes all changes to sources of programming for this round of questions. The addition of these heating sources does not present a significant change in the modeling results. Thus, the maps of the results have not been updated.

Table CEEA-67-1: Physical Characteristics of Sources Associated with Heating

Login	Description	X (m)	Y (m)	Elevation (m)	Release height (m)	Temperature (K)	Speed (m / s)	Diameter (m)
garind	Garage - Indirect Heating	419,383	5,762,671	286.5	18.5	303.2	5.1	0.1
warind	Warehouse - Indirect Heating	419,421	5,762,688	286.5	16.3	303.2	5.1	0.1
wasind	Wash bay - Indirect heating	419,352	5,762,657	286.5	9.2	303.2	5.1	0.1
ambind	Garage Ambulance - Indirect Heating	419,364	5,762,628	286.5	5.7	303.2	5.1	0.1
admdir	Admin building - Direct heating	419,317	5,762,496	283.0	10.0	288.2	5.1	1.4
balind	Ball Mill - Indirect Heating	419,203	5,762,659	284.0	25.1	303.2	5.1	0.1
baldir	Ball Mill - Direct Heating	419,198	5,762,657	284.0	25.1	288.2	5.1	1.4
mixind	Flocculant Mixing - Indirect Heating	419,177	5,762,643	284.0	14.6	303.2	5.1	0.1
mixdir	Flocculant Mixing - Direct Heating	419,173	5,762,641	284.0	14.6	288.2	5.1	1.4
milind	Mill - Indirect heating	419,172	5,762,615	284.0	25.1	303.2	5.1	0.1
mildir	Mill - Direct heating	419,164	5,762,611	284.0	25.1	288.2	5.1	1.4
taiind	Tailing - Indirect heating	419,213	5,762,585	284.0	17.6	303.2	5.1	0.1
taidir	Tailing - Direct heating	419,207	5,762,582	284.0	17.6	288.2	5.1	1.4
priind	Primary Crushing - Indirect Heating	419,162	5,762,880	282.5	27.5	303.2	5.1	0.1
pridir	Primary Crushing - Direct Heating	419,157	5,762,877	282.5	27.5	288.2	5.1	1.4
traind	Transfer tower - Indirect heating	419,029	5,762,788	281.4	13.0	303.2	5.1	0.1
secind	Secondary Crushing - Indirect Heating	419,085	5,762,826	282.0	26.0	303.2	5.1	0.1
secdir	Secondary Crushing - Direct Heating	419,082	5,762,825	282.0	26.0	288.2	5.1	1.4
domind	Dome - Indirect heating	419,137	5,762,732	282.8	20.0	303.2	5.1	0.1
domdir	Dome - Direct heating	419,133	5,762,729	282.8	20.0	288.2	5.1	1.4

Table CEEA-67-2: Emission Factor for Natural Gas Combustion

	Emission factor [1]						
Units	PMT	PM_{10}	$PM_{2.5}$	CO	NO_x	SO_2	VOC
kg / m³	1.22E-04	1.22E-04	1.22E-04	1.34E-03	8.00E-04	9.60E-06	8.80E-05
lb / 10^6 scf	7.6	7.6	7.6	84	50	0.6	5.5

[1] : Section 1.4 of AP-42 (US EPA, 1995) ; Table 1.4-1 and 1.4-2; category " Small Boilers (<100 MMBTU / h) *Controlled - Low* No_x *burners* "; Content in sulfur : 2000 grains / 10^6 scf

Table CEEA-67-3: Emission Rates of Heating-Related Sources

Login	Natural gas supply (m^3/ h)	Power (kW)	Emission rate (g / s)						
			PMT	PM_{10}	$PM_{2.5}$	CO	NO_x	SO_2	VOC
garind	163	1711	5.49E-03	5.49E-03	5.49E-03	6.07E-02	3.61E-02	4.34E-04	3.97E-03
warind	163	1711	5.49E-03	5.49E-03	5.49E-03	6.07E-02	3.61E-02	4.34E-04	3.97E-03
wasind	30	311	9.98E-04	9.98E-04	9.98E-04	1.10E-02	6.57E-03	7.88E-05	7.23E-04
ambind	7	77	2.47E-04	2.47E-04	2.47E-04	2.73E-03	1.62E-03	1.95E-05	1.78E-04
admdir	111	1169	3.75E-03	3.75E-03	3.75E-03	4.15E-02	2.47E-02	2.96E-04	2.71E-03
balind	44	467	1.50E-03	1.50E-03	1.50E-03	1.66E-02	9.85E-03	1.18E-04	1.08E-03
baldir	48	504	1.62E-03	1.62E-03	1.62E-03	1.79E-02	1.06E-02	1.28E-04	1.17E-03
mixind	33	350	1.12E-03	1.12E-03	1.12E-03	1.24E-02	7.39E-03	8.87E-05	8.13E-04
mixdir	14	147	4.72E-04	4.72E-04	4.72E-04	5.21E-03	3.10E-03	3.72E-05	3.41E-04
milind	148	1556	4.99E-03	4.99E-03	4.99E-03	5.52E-02	3.28E-02	3.94E-04	3.61E-03
mildir	192	2016	6.47E-03	6.47E-03	6.47E-03	7.15E-02	4.26E-02	5.11E-04	4.68E-03
taiind	103	1089	3.49E-03	3.49E-03	3.49E-03	3.86E-02	2.30E-02	2.76E-04	2.53E-03
taidir	86	903	2.90E-03	2.90E-03	2.90E-03	3.20E-02	1.91E-02	2.29E-04	2.10E-03
priind	78	816	2.62E-03	2.62E-03	2.62E-03	2.90E-02	1.72E-02	2.07E-04	1.90E-03
pridir	52	548	1.76E-03	1.76E-03	1.76E-03	1.94E-02	1.16E-02	1.39E-04	1.27E-03
traind	11	117	3.74E-04	3.74E-04	3.74E-04	4.14E-03	2.46E-03	2.95E-05	2.71E-04
secind	33	350	1.12E-03	1.12E-03	1.12E-03	1.24E-02	7.39E-03	8.87E-05	8.13E-04
secdir	59	622	1.99E-03	1.99E-03	1.99E-03	2.20E-02	1.31E-02	1.57E-04	1.44E-03
domind	15	156	4.99E-04	4.99E-04	4.99E-04	5.52E-03	3.28E-03	3.94E-05	3.61E-04
domdir	33	350	1.12E-03	1.12E-03	1.12E-03	1.24E-02	7.38E-03	8.86E-05	8.12E-04

68. AIR QUALITY - EMISSIONS FROM THE CRUSHING LINE

Particulate matter emission rates from crushing line sources (DEPO1, DEPO2 and DEPO4) were set "based on information provided by Critical Elements Corporation" and this rate was estimated at 20 mg / Rm3. These crushers are normally equipped with dust collectors and it would be more conservative to adopt a minimum emission rate equal to the upper limit prescribed in section 10 of the Clean Air Regulation (RAA) (30 mg // Rm3) to account for possible breakage and wear of equipment, etc.

The Ministry of the Environment and the Fight Against Climate Change (MELCC) also raised this point and suggested using the provincial standard of the Clean Air Regulation. According to its response to the MELCC, the proponent commits to take the necessary measures to respect this emission standard.

The promoter must:

A) *Should the proponent need to redo the modeling: use a higher emission rate for crushers (DEPO1, DEPO2 and DEPO4) to account for equipment wear and potential malfunctions.*

B) *Describe the measures put in place to ensure that the proponent complies with the provincial emission standard of the Clean Air Regulation.*

ANSWER

The emission rate of 20 mg/Rm^3 for these sources is provided by the group responsible for the engineering of the ore processing plant and is a performance commitment of the dust collectors for CEC. Their emission rate has not been adjusted in the modeling. The rigorous implementation of

the Dust Management Plan (Appendix CEEA-58) will ensure compliance with this commitment and, therefore, RAA emission standards.

Indeed, this management plan includes good maintenance practices and regular inspections that will ensure the proper functioning of the purification equipment. Finally, the sampling of the sources will make it possible to verify the respect of the thresholds of emission.

69. AIR QUALITY - GENERATOR EMISSIONS

During the construction phase, the power supply to the site would be through generators until the power line is laid out. The generators seem not to have been included in the sources of air emissions during construction.

The promoter must:

A) *Confirm or deny that generator emissions have been considered during the construction phase and provide a rationale if they have been excluded from sources of air emissions during this phase.*

B) *If applicable, include these sources for modeling the construction scenario.*

C) *Explain what is the probability that the power line is not built before the stage of exploitation and the case may be, assessing the effects on the quality of air if a such a scenario proved probable.*

ANSWER

The generators were not considered in the construction scenario of the air quality study (WSP, 2018) since the information was not available during the characterization of this scenario. Currently, CEC plans to use two generators with a power of about 400 kW at the time of construction at a utilization factor of 50 %. These sources have therefore been added to the construction scenario.

Generator emissions rates were determined using the same method as for the off-road equipment exhaust gases described in Section 3.6.7 of the Air Quality Study. Power generators of 500 kW (671 hp) were considered to account for a power factor of 80 %. The estimated emission rates for each generator are given in Table CEEA-69a. Table CEEA-69b defines the scenario of modeling of the exhaust gases for the generators. By conservatism, the utilization factor of 50 % was not taken into consideration and two generators operating continuously were considered. The generators were considered as a single source, gen1x, and this one was positioned near the mobile crusher. The source is located on map CEEA-60-1 of Appendix CEEA-60. Physical parameters and emission rates for this source are given in Table CEEA-69c.

The results of this update are presented in Tables CEEA-60-2 and CEEA 60-3 of Appendix CEEA-60 for the area of application and sensitive receptors respectively. In general, the results update does not show any significant change in the modeling results, except for NO_2.

Indeed, the update of the results shows an increase in the maximum concentration modeled over a 1 hour period such that an exceedance of the MELCC standard is modeled at the limit of application. This concentration then represents 109 % of the limit value. In this context, the OLM method (Ozone Limiting Method) was used on NO_2 concentrations for a 1 hour period.
This method calculates the conversion of NO to NO_2, based on the NO_2/NO_x ratio at the source and the available ozone in the ambient air. To do this, ozone concentrations prescribed by the MELCC for the projects (MDDELCC, 2017) were used. This is 120 µg/m^3 for the time period. Regarding the NO_2/NO_x ratio, the different sources of NO_x have different source ratios of NO_2/NO_x (in - stack ratio). A value of 20 %, normally suggested for diesel engines (NLDEC, 2012), was used. The area of application results considering this method are presented in Table CEEA 60-6 for the standards of

interest. The maximum concentration modeled then meets the MELCC standard and represents 60 % of the limit value.

In this context, the result maps have not been updated.

CEC considers that it is unlikely that the power line will be built before the operation phase. The impact of this situation on air quality has therefore not been analyzed.

Table CEEA-69a - Description and Calculated Emission Rates for Generators Used on Site - Construction Scenario

Equipment	Type	Power (hp)	Tier	Loading factor [1]	Equipment emission rate [3] (g / s)					
					PM_{10} [2]	$PM_{2.5}$	CO	NO_x	SO_2	VOC
Caterpillar C15 generator	generator	671	T3	0.68	2.14E-02	2.08E-02	1.93E-01	3.19E-01	6.18E-04	2.29E-02

[1] Appendix A, Median life, annual activity and load factor values for nonroad engine emissions modeling, US-EPA, Report No. NR-005c, April 2004
[2] All particulate emissions are considered smaller than 10 µm, and therefore PMT = PM_{10}.
[3] US ENVIRONMENTAL PROTECTION AGENCY (US-EPA). Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling - Compression-Ignition. July, 2010.

Table CEEA-69b - Description of the Modeled Scenario for Generator Exhaust - Construction Scenario

Equipment	Use (%)	Number of equipment		Category	Associated source (s) for positioning
		Total in the fleet	Total considered		
Caterpillar C15 generator	50%	2	2	located	gen1x

Table CEEA-69c - Physical Parameters and Emission Rates Used for Generator Gas Exhaust Modeling - Construction Scenario

login	Description	X (m)	Y (m)	Elevation (m)	Release height (m)	Temperature (K)	Speed (m / s)	Equivalent diameter (m)	Emission rate (g / s)					
									PM_{10} [a]	$PM_{2.5}$	CO	NOx	SO_2	VOC
gen1x	Generator - Exhaust	419 455	5 763 281	288.0	1.7	788.2	0	0.40	4.28E-02	4.15E-02	3.87E-01	6.38E-01	1.24E-03	4.57E-02

All emitted particles are assumed to be smaller than 10 microns so PM_{tot} = PM_{10}.

70. AIR QUALITY - EMISSIONS OF BLASTING AND DRILLING

According to section 3.6.2 of the Environmental Impact Statement (Drilling and Blasting, page 19), drilling and blasting activities are modeled using volume sources. In some cases, it would appear that the initial values of the Y and Z sigmas were obtained for Surface-based Release Height (0). Moreover, in Table A 9 (drilling and exploitation), it would seem that for the same elevation, the release heights for drills are different in the operating scenario.

In the titles of Tables A 6 and A 8, it is mentioned "Emission rate - with attenuation (g / s)". According to our understanding, there would be no attenuation for blasting.

The promoter must:

A) *In order to validate the input data of the atmospheric dispersion model of the contaminants for the sigma Y, sigma Z and release height, provide details of the calculations and estimates of these data, in particular for Tables A 7 and A 9 (drilling) and Tables A 6 and A 8 (blasting).*

B) *Explain why, in Table A 9, for a same height, the height of the clock to the drills are different in the scenario of exploitation.*

C) *Explain the term "with mitigation" in the title of tables A 6 and A 8.*

ANSWER

The volume source parameters (release height, sigma Y, and sigma Z) were established according to the procedures described in Table 3-2 in Section 3.3.2.2 of the AERMOD Software User Guide (US-EPA, 2019) and the recommendations of the National Stone, Sand & Gravel Association's Fugitive Source Modeling Guide (NSSGA, 2007) . Both types of sources (drilling and blasting) have been modeled as a single source volume. In addition, drilling sources were modeled as elevated sources near a structure, the elevated source adjacent to a building, while blasting sources were modeled as surface sources. (" Surface-based source ").

Thus, according to the prescribed method, the release heights were set at half the height of the volume for each source. For drilling, the height of the source volume is determined by the height of the drill, while for blasting the height is determined by the blast height. The latter was estimated at 20 m by viewing several mine blasting events. Of course, this is an approximation and the actual conditions will vary. Nevertheless, given the distance of these sources from the application limit, the results of the modeling are weekly sensitive compared to the characterization of the initial physical parameters of these sources. Finally, to be fair to the various mining projects, WSP uses the same blast height for all mining projects.

The value of sigma Y is determined by the lateral dimension of the sources. For drilling sources, the lateral dimension considered is assumed to be equal to the height of the source; the latter have therefore been represented by a cubic volume source. For blast sources, the lateral dimension is based on a square of area equal to the skipped surface. The information needed to calculate source parameters is presented in Table CEEA-70afor drilling sources and Table CEEA-70bfor blasting sources.

The release heights of drilling sources are different since they are associated with drills of different sizes. Indeed, different models of drill were modeled during the operating scenario, and this, in order to represent as accurately as possible, the specifications of the equipment planned. The different drill heights used are shown in Table CEEA-70a.

Despite the use of the term "attenuated" in the title of the tables, no attenuation has been applied in the calculation of the volume emission rate associated with blasting.

Bibliography :

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US ENVIRONMENTAL PROTECTION AGENCY (US-EPA). 2019. User's Guide for the AMS / EPA Regulatory Model (AERMOD). Office of Air Quality Planning and Standards Air Quality Assessment Division Air Quality Modeling Research Triangle Park, North Carolina.

Table CEEA-70a - Parameters of volume sources associated with the drilling

Scenario	Identifier	Description	Associated drill		Width volume (m)	Volume height (m)	Sigma Y (m)	Sigma Z (m)	Release height (m)
			Model	Height (m)					
Construction	for1	Drill # 1	A. Copco SmartROC D65	3.5	3.5	3.5	0.814	1.628	1.75
Exploitation	for1	Drill # 1	A. Copco PV 235	6.4	6.4	6.4	1.488	2.977	3.2
	for2	Drill # 2	A. Copco PV 235	6.4	6.4	6.4	1.488	2.977	3.2
	for3	Drill # 3	A. Copco SmartROC D65	3.5	3.5	3.5	0.814	1.628	1.75

Table CEEA-70b - Parameters of volume sources associated with blasting

Scenario	Identifier	Description	Height breath (M)	Area fished (M^2)	Volume width (M)	Volume height (M)	Sigma Y	Sigma Z	Release height (m)
Construction	SKIP1	Oreing ore	20	351	18.73	20	4.4	9.3	10
	SKIP2	Sterile sautéing	20	897.8	29.96	20	7.0	9.3	10
Exploitation	SKIP1	Oreing ore	20	1390.5	37.29	20	8.7	9.3	10
	SKIP2	Sterile sautéing	20	6685	81.76	20	19.0	9.3	10

71. AIR QUALITY - EMISSIONS OF SAUTAGES

According to section 2.4.3 of the Environmental Impact Statement "one blast per day is modeled at 17:00". The same is repeated in section 2.4.4. However, according to Tables A 4 and A 5, the calculation of the emission rate has been made for blasting by five days.

The proponent must provide more details on blasting frequency and correct emission rates, if any.

ANSWER

The answer to question CEEA-60specifies the blasting frequency provided by the mine planning for each of the blasting patterns compared to that considered by the modeling. Notwithstanding the frequencies considered in the modeling scenarios, sources are characterized according to their expected frequency in mining planning. Thus, no correction is required on the emission rates.

72. AIR QUALITY - GREENHOUSE GAS EMISSIONS FROM CLOSURE MACHINERY

According to section 2.5 of Appendix K: "In the absence of a final scenario of use of the machinery for the stage of closing, the emissions of gases to effect of greenhouse from the machinery for this phase were estimated equivalent in intensity to those of the construction. Only the durations of the two phases differ: 18 months for construction and 6 months for closure. It appears that no vehicles or machinery will be used after the dismantling of the structures on the site. However, according to section 3.6 "a period of two years is assumed for the closure phase".

The proponent must provide more detail on the approach taken for the closure phase and justify the decision to provide that the machinery will only be used for a period of six months over the two years of closure.

ANSWER

The construction scenario currently considered is 2 years. The emissions associated with this phase have been adjusted accordingly in the GHG emission quantification note (Appendix CEEA-72).

73. AIR QUALITY - GAS EMISSIONS GREENHOUSE TRANSPORT WORKERS

In the sample calculations presented in Annex B of the GHG Technical Note (GHG Annex K), the distance used to calculate greenhouse gas emissions for transporting camp workers at the site is 20 km ("Camp to site 20 kms one way").

However, on page 7 of the Environmental Impact Statement Supplementary Document for the Ministry of the Environment and the Fight Against Climate Change, it is stated that the first option concerning workers' housing is the camp commercial, located more than 25 km north of the mining complex. The second option would be to house workers at a camp owned by the proponent and located approximately 3 km south of the mine site.

The promoter must:

A) *Justify the use of a distance of 20 km (one-way distance) for calculating GHGs emitted by the transport of camp workers to the mine site.*

ANSWER

The distance of 20 km was communicated by the promoter in his estimation of logistic distances. According to the map "Location of Worker Camp - Map 1 January 2019 ", this road distance would

be about 22.5 km. A conservative rounding of 25 km was considered as part of a recalculation of emissions.

B) *Correct, if necessary, this value and revise the estimate of GHG emissions emitted by this transport of workers. The proponent may choose to estimate GHG emissions from transportation for each of the options considered.*

ANSWER

The calculations were revised to consider a conservative distance of 25 km. A calculation error has also been corrected on the calculation of logistic transport emissions in the construction phase. The calculation now considers the round-trip distance.

74. AIR QUALITY - GREENHOUSE GAS EMISSIONS FROM THE MACHINERY

For greenhouse gas emissions from machinery in Table 4 of Appendix K, the totals in the last line correspond to "total emissions over 19 years of operation, construction and closure ". However, it seems that the annual emission values during the exploitation phase (second row of the table) have not been multiplied by 19 years in the totals of the last row. According to our understanding, the value of 47,061 t CO 2 eq should be multiplied by 19 before being added to the total of the last line.

In addition, please note that the total of stationary and explosive sources in Table 10 (17,943 t CO 2 eq) is different from the one mentioned in the text on page 10 (17,846 t CO 2 eq).

The promoter must:

A) *Explain and justify, as required, the values presented for total emissions over 19 years of operation, construction and closure*

B) *Correct the totals obtained in Table 4, if applicable.*

C) *Provide the right amount of greenhouse gas emissions from stationary and explosive sources*

ANSWER

The sum of the table was indeed erroneous, this error has been corrected (see Appendix CEEA-72).

The correct totals are: 17 846 t CO_2 and 17 943 t CO_{2eq}.

75. AIR QUALITY - MITIGATION MEASURES (IDLING MARKET)

With respect to idling, the proponent states, "To reduce fuel consumption, the elimination of idling and the use of engine heaters will be considered. (P.6-164; 13-6) and "Any unused electrical or mechanical equipment shall be extinguished, including trucks waiting for a load exceeding 5 minutes (p.6-120). "

The proponent must confirm whether the mitigation measure to eliminate idling will be put in place or only "considered", and justify in the latter case.

ANSWER

This mitigation measure will be put in place; employees operating the machinery will be trained in methods of driving and operating economically with the goal of reducing the iddling of vehicles and machinery and fuel economy.

76. AIR QUALITY - TRACKING FINE PARTICLES

Only the monitoring of total particulate matter in the air seems to be foreseen in the impact study (p.14-9). However, fine particle monitoring (PM2.5) is very important for the protection of health and the verification of the effectiveness of mitigation measures. In addition, even if the project is located in an environment with good air quality, the protection of air quality in unpolluted areas is important (http://airquality-qualitedelair.ccme.ca/ fr /).

The proponent must explain why fine particulate matter (PM 2.5) was excluded from the monitoring program. If necessary, add fine particle monitoring (PM 2.5) to its monitoring and surveillance program on air quality.

ANSWER

Sampling of additional particulate metals

The CEEA-76 air quality monitoring table lists the contaminants considered in the dispersion study with the exception of certain elements. The following metals and metalloids were not considered based on the project's zero contribution.

- Antimony: zero contribution of the project
- Cobalt: zero contribution of the project
- Selenium: zero contribution of the project
- Vanadium: zero contribution of the project

The following metals were not considered as part of the air quality monitoring program since the contribution, although not null, was considered insignificant:

- Manganese: the contribution of the project for this metal is low and manganese management is carried out by criteria and not a standard
- Titanium: the resulting concentration of titanium modeled is very low with respect to a criterion

Gas

The following gaseous substances were not considered as part of the air quality monitoring around the project since the concentrations obtained by conservative modeling are largely below the air quality standards of Schedule K of the Clean Air Regulation (RAA).

- Carbon monoxide (CO)
- Nitrogen dioxide (SO_2)

The concentrations obtained by modeling emissions of nitrogen oxides (NO_x) are in the air quality standards in Appendix K of RAA for this pollutant.

For these three gaseous substances, the cost and the technical complexity required for the continuous measurement of these gases is significant whereas the concentrations of pollutants at the sensitive receptors are not significant. WSP is of the opinion that monitoring of these pollutants is not required.

Table CEEA-76 Standards and criteria for ambient air quality

Nature of the contaminants	CAS	Limit value (mg/m)	Period (in the modelling context)
Silver (Ag)	7440-22-4	0.23	1 year
Arsenic (As)	7440-38-2	0.003	1 year
Barium (Ba)	7440-39-3	0.05	1 year
Beryllium (Be)	7440-41-7	0.0004	1 year
Cadmium (Cd)	7440-43-9	0.0036	1 year
Chrome (Cr, composés de chrome trivalent)	16065-83-1	0.1	1 year
Chrome (Cr, composés de chrome hexavalent)	18540-29-9	0.004	1 year
Copper (Cu)	7440-50-8	2.5	24 hours
Mercury (Hg)	7439-97-6	0.005	1 year
Lead (Pb)	7439-92-1	0.1	1 year
Thallium (T1)	7440-28-0	0.25	1 year
Zinc (Zn)	7440-66-6	2.5	1 year
Fine particles ($PM_{2,5}$)	-	30	24 hours
Total particles	-	120	24 hours
Crystalline silica	-	8.6	1 hour
Crystalline silica	-	0.07	1 year

77. AIR QUALITY - REQUIREMENTS FOR SOUND LIMITS IN CONSTRUCTION PHASE

*Concerning the noise limits to be respected during the construction phase, the proponent states "Since the operations of the mining project will include a construction phase, these guidelines from the Ministry of the Environment and the Fight against Climate Change * could also be applicable. (p.6-99) ».*

** Guidelines for noise levels from an industrial construction site.*

The proponent must confirm whether it intends to apply to the project the requirements of the Guidelines for noise levels from an industrial construction site. Health Canada recommends that they be considered.

ANSWER

CEC will consider the Guidelines for Sound Levels from an Industrial Construction Site to ensure that the effects of the work site are minimized.

78. AIR QUALITY - MITIGATION OF NOISE

Regarding the mitigation measures related to noise impacts, the proponent states:
"To further minimize noise at the mine site, the following specific mitigation measures are recommended:

- *All equipment residing on the worksites, excluding passing equipment (eg 10-wheeler trucks) or equipment used for short periods of time, will be equipped with a white noise recoil alarm. [...]*

- *All electrical or mechanical equipment not used must be switched off, also including trucks waiting for a load exceeding 5 minutes.*

- The use of engine braking must be prohibited inside the construction area (p.6-120)."

The promoter also states: "All unused electrical or mechanical equipment shall be extinguished, including trucks waiting for a load exceeding 5 minutes. "(p.13-5).

The proponent must confirm whether it intends to implement noise abatement measures that it indicates as "recommended" (eg, white noise recoil alarm, truck off if over 5 minutes, use prohibited motor brakes).

ANSWER

CEC intends to put in place the mitigation measures indicated as recommended to further minimize noise at the mine site.

79. AIR QUALITY - NOISE TRACKING

The proponent indicates that no noise monitoring program is required given that users only very rarely come around the project area (p.6-121). During consultations conducted by the Agency, the community of Nemaska raised a concern about the level of noise caused by the mine.

Health Canada is of the opinion that the monitoring of the sound environment, in particular through the implementation of a system for receiving and handling complaints, would be important in order to confirm that the sound environment does not have any effect on the sound environment the users of the territory.

The developer must re-evaluate its decision to do not perform a program of monitoring of noise and assess the implementation of a system for receiving and resolving noise complaints (via for example, the Implementation Committee). Justify if the implementation of such monitoring is not envisaged.

ANSWER

CEC will set up a system for receiving and resolving noise-related complaints, to confirm that the sound environment does not affect users in the area. This will be part of the complaint management program managed by the Implementation Committee.

WETLANDS

80. WETLANDS - PROJECT EFFECTS AND BALANCE OF WETLAND LOSSES

Section 7.1 Vegetation and Wetlands in the Environmental Impact Statement addresses wetland area losses (173.55 ha) and ecological value. However, wetland functions that will be lost as a result of the work have not been defined.

Wetlands likely to be affected by project activities will need to be described in terms of their location, size, type, taxonomic composition, and ecological function (Canadian Wetland Classification System, Group Wetlands National Working Paper, 1997).

The promoter must:

A) *Describe all the environments wet likely to be affected by the implementation of the project and their functions.*

ANSWER

The description of the wetlands likely to be affected by the project is based on the 35 surveys covering the wetlands concerned. The open ombrotrophic peatlands affected by the project were surveyed 20 times, the ombrotrophic peat bogs of 11 surveys, the shrub swamps of one survey, the tree swamps of two surveys and the ponds of one survey. The syntheses survey data of the wetlands are presented in Appendix CEEA-80a. All of the wetland vegetation surveys that were surveyed in 2011 and 2016 were presented in 2017 in the Vegetation and Wetland sectorial report of the Environmental Impact Statement. Sheets of 35 statements dealing specifically with wetlands affected by the project are listed in Apendix CEEA-80B.

Open ombrotrophic peat bog (open bog)

Open ombrotrophic peatlands are the main type of wetland that will be impacted by the project due to its omnipresence in the area. The tree layer of upland areas is rare or absent, but shrub cover is generally important, with the presence of black spruce (Picea mariana), blueberry (Vaccinium angustifolium), narrow-leafed kalmia (Kalmia angustifolia), rough alder (Alnus incana supsp rugosa), Labrador tea (Rhododendron groenlandicum) and calafrous cassander (Chamaedaphne calyculata). The herbaceous layer is not very present and consists mainly of cloudberry (Rubus chamaemorus), sediment sediment (Carex oligosperma), sedge sedge (Carex limosa), trifoliate smilacine (Maianthemum trifolium) and trichophore (Trichophorum cespitosum). The soil consisted of undecomposed sphagnum about ten centimeters thick in the upper stratum and sphagnum decomposed in the lower stratum. The summary data of the surveys are presented in Appendix CEEA-80A-1.

Woody bogroot bog (woody bog)

Woody bogs, as well as open ombrotrophic peatlands, are very common in the project area and account for the majority of losses. The tree layer consists almost entirely of black spruce and tamarack (Larix laricina). For the shrub stratum, calved leaved cassava, Labrador tea, narrow-leaved kalmia, and black spruce are the most commonly encountered species. The herbaceous layer is present very little and generally occupies less than 10 % of the plant cover, with cloudberry, clover sedge (Carex trisperma) and trifoliate smilacin as the most frequently encountered species. The soil has characteristics similar to open ombrotrophic peatlands, with an undecomposed upper sphagnum stratum in the first 10-20 cm surface, based on decomposed sphagnum moss. The summary of the records is presented in Appendix CEEA-80A-2.

Shrub swamp

Shrub swamps that will be impacted are on the shore of watercourses (riparian swamp). They are characterized by a low tree cover, a dense shrub layer dominated by bitter seaweed (Myrica scabies) and rough alder. The main herbaceous species are pubescent pigamen (Thalictrum pubescens) and broad-leaved cottongrass (Eriophorum vaginatum). The soil consists of undecomposed sphagnum 20 cm thick in the upper horizon, resting on the bedrock (Appendix CEEA-80A-3).

Tree swamp

The floristic composition of impacted tree swamps is similar to that of woody bogs. However, they are distinguished by a less thick organic soil (10 to 20 cm), resting on a lower mineral horizon (silty texture or bedrock). Like shrub *swamps,* tree *swamps* are mostly on the edge of watercourses or bodies of water. The tree layer is dominated by black spruce or tamarack. In the shrub layer, rough alder, sweet gale and Labrador tea are the most commonly encountered species. The herbaceous

layer is scarcely present (about 10% of cover) but composed of a great diversity of species without real dominance (Appendix CEEA-80A-4).

Pond

Only one survey in the ponds was completed in 2016 (Appendix CEEA-80A-5). The vegetation cover is very low and limited to borders or islets, with the presence of bitter seaweed, andromeda glaucous (Andromeda polifolia var latifolia), slough sedge, calandera, white snapper (Rhynchospora alba) and water clover (Menyanthes trifoliata).

B) *Assess the effects of the project on wetlands and their functions, including the habitat function for wildlife species at risk and migratory birds.*

ANSWER

The ecological functions of wetlands were evaluated based on the work of Hanson et al. 2008[6]. The areas of the main wetland types have been classified according to the identified ecological functions (Table CEEA-80-1). Since bogs are the type of wetland that will be more impacted by the project, the associated functions (nutrient export, carbon sequestration, and habitat functions) will be the primary impacts. All functions associated with hydrological processes (flow control, aquifer recharge, erosion protection and climate regulation) will be the least affected.

[6] HANSON, A., L. Swanson, D. Ewing, G. Grabas, S. Meyer, L. Ross, M. Watmough et J. Kirkby. 2008. *Aperçu des méthodes d'évaluation des fonctions écologiques des terres humides*. Service canadien de la faune, Série de Rapports techniques no 497, région de l'Atlantique. 70 p.

Table CEEA-80-1. Assessment of loss of functions of wetlands

Functions of wetlands	AFFECTED AREAS (TOTAL 173.55 HA)					
	High value		Average value		Low value	
	habitats	Ha	habitats	Ha	habitats	Ha
Hydrological functions						
Flow regulation	EPP, M	12,04	F	0	**B**	**161.51**
Refill of the aquifer	-	-	EPP, F	0.08	**M, B**	**173.48**
Erosion protection	M	11.96	EPP	0.08	**F, B**	**161.51**
Climate regulation	-	-	EPP, M, F	12,04	**B**	**161.51**
Biogeochemical functions						
Improved water quality	EPP, M, F	12,04	-	-	**B**	**161.51**
Export of nutrients	**F, B**	**161.51**	M		EPP	0.08
Carbon sequestration	**F, B**	**161.51**	M		EPP	0.08
Habitat functions						
Biological productivity	**B**	**161.51**	EPP, M, F	12,04	-	-
Biodiversity support	**EPP, M, F, B**	**173.55**	-	-	-	-
Species at risk	**EPP, M, F, B**	**173.55**	-	-	-	
Migratory Bird Habitat	EPP	0.08	M, F	11.96	**B**	**161.51**

Legend: EPP: shallow waters; M: swamps and swamps; F: fens; B : bogs

Note: Values in bold represent the dominant areas for each ecological function.

For wetlands directly affected by the project, all ecological functions are considered lost. For disturbed wetlands, some ecological functions may be retained, depending on the type of wetland, its location and the nature or intensity of the disturbance. Since this distinction is difficult to predict, it has not been presented in Table CEEA-80-1. The areas presented are therefore those of all disturbed or destroyed environments.

C) *Present a record of losses by type of wetland.*

ANSWER

Table CEEA-80-2 presents the areas of the different types of wetlands affected by the project components. The data makes it possible to distinguish between lost and disturbed environments. Wetlands considered to be lost include those in the pit footprint, dumps, ponds, roads, ditches and associated infrastructure (buildings, substations, etc.). Wetlands on or adjacent to planned transmission line rights and infrastructure are considered disturbed. The assessment of disturbed or destroyed wetland areas is presented in Tables CEEA-80-2 and CEEA-80-3. Map 80-1 (Appendix CEEA-80C) shows the location of wetlands according to the types of disturbances. In all cases, the loss or disturbance is considered permanent, although some wetlands may recover after the closure of the mine.

Table CEEA-80-2. Area of wetlands impacted by project components

Type of wetland	Pit	Stockpile	Infrastructure	Road right- of-way	Power line right-of-way	Basin	Grip of ditch	Total (ha)
Pond	0	0	0	0	0.08	0	0	0.08
Shrub swamp	0.24	0	0	0	0	0	0	0.24
Tree swamp	0	1.41	3.43	1.73	1.92	2.90	0.32	11.72
Open ombrotrophic peat bog	11,58	41.91	1.96	8.89	14.71	2.85	0.56	82.46
Woody boggy bog	3.92	60.11	1.85	5.49	5.31	0.67	1.71	79.05
Total	**15.74**	**103.43**	**7.24**	**16,11**	**22,02**	**6.42**	**2.59**	**173.55**

Table CEEA-80-3. Assessment of wetland losses directly affected by the project

Type of wetland	Disturbed area (ha)	Area destroyed (ha)	Total (ha)
Open ombrotrophic peat bog	23.52	58.94	82.46
Woody boggy bog	6.90	72.15	79.05
Shrub swamp	0	0.24	0.24
Tree swamp	3.61	8.11	11.72
Pond	0.08	0	0.08
Total	**34,11**	**139.44**	**173.55**

81. WETLANDS - COMPENSATION PROJECT

The impact study states that "In order to protect vegetation and wetlands ... a project to compensate for the loss of wetlands associated with the project will be developed and submitted to the Ministry of Environment and Struggle climate change and Environment Canada "(p.7-26).

The promoter must:

A) *Clarify if a project to compensate for wetland losses is still required. If yes, please specify the type of compensation that will be achieved and the objectives of the latter.*
B) *If applicable, outline the compensation program and specify the function (s) that will be compensated.*

ANSWER

A compensation project for wetland losses remains possible, but the concept of this has not yet been established. Discussions to this effect are in process.

82. WETLANDS - MITIGATION MEASURES AND CUMULATIVE EFFECTS

The impact study states that "The ecosystem value of the wetlands affected by the project is considered high since these environments are important ecosystems for a large number of plant and animal species and fulfill many functions (filtration, retention of floods, etc.). [...]. The significance of the effect on wetlands is considered strong and important for the facilities [...]. Thus, the residual effect on wetlands is considered strong and important. "(P.7-27 and 7-28).

However, mitigation measures to reduce the effects of wetland function losses are not presented.

In Table 5.2 (valued components), we find wetlands. However, wetlands are not mentioned in Section 10.4 of the Environmental Impact Statement. In this section, it states that "Some project CVs will not be cumulative because they do not interact with other activities or projects, both in space and time, or because residual impact of the project on these components is low or very low.

Given that the proponent predicts that there will be residual effects on wetlands following the application of mitigation measures and that wetlands are presented as a valued component of the environment, an assessment of cumulative effects on wetlands is required. is required, as required by the Agency's interim technical guidance "Assessment of Cumulative Environmental Effects under the Canadian Environmental Assessment Act, 2012" (www.canada.ca/en/agency-evaluation- environmental / services / policies-and- orientation / evaluation-effects-environmental-cumulative-lcee2012.html).

The promoter must:

A) *Identify mitigation measures that will be implemented to reduce the effects of wetland function losses, including the habitat function for migratory birds at risk and other species at risk.*

ANSWER

No additional mitigation measures to the one presented as part of the impact study are required. Of the mitigation measures that will be implemented during the construction phase, the Wetland Loss Compensation Plan is the one that will most significantly reduce habitat loss, particularly for migratory birds and other species at risk. Monitoring of wetlands is also proposed for those who will be disturbed, in particular to document the impacts of the project on plant communities and maintenance of ecological functions.

B) *Evaluate the cumulative effects of the project on different wetland functions , including the habitat function for wildlife and species at risk. If the proponent decides not to include wetlands in the cumulative effects analysis, it must justify its decision by supporting and supporting its decision in accordance with the Agency's interim technical guidance "Assessment of Cumulative Environmental Effects under the Canadian Environmental Assessment Act, 2012 " (www.canada.ca/en/environmental-assessment-agency/services/policies-and-guidance/assessment-effects-environmental-cumulative-lcee2012.html).*

ANSWER

The implementation of the project infrastructure will result in the loss of 173.55 ha of wetlands, in order of importance: open ombrotrophic peatlands, wooded ombrotrophic peatlands, tree swamps, shrub swamps and ponds. These habitats are present in large numbers in the project area under study and have been largely undisturbed by human activities.

Wetlands are a valued component (VC) with a high environmental value. Although any project must avoid and minimize disturbance to wetlands, losses are often caused by large projects, such as mining projects. On the other hand, there are compensatory programs to partially offset losses and wetlands abound within the spatial limits. For these reasons, the disturbance is considered low, which leads to a magnitude (intensity) of impacts on wetlands of average. The geographical extent is established as local, considering that there are no links between the various disturbed sites. The duration of the impacts is long and the probability of occurrence is high, as an impact could be manifested on the component, but without being assured. The cumulative residual impact on wetlands is considered medium (not significant).

This analysis also applies to wetland functions. The cumulative effects of the project on habitat functions for wildlife and wetland species at risk were covered in the impact study for the identified target species. For functions related to nutrient export and carbon sequestration, loss will be complete for destroyed environments, but these functions may remain for disturbed environments. These functions may also be subject to specific mitigation measures as part of the offset program to mitigate their loss.

AQUATIC FAUNA

83. AQUATIC FAUNA - FLOWS

The assessment of the effects of the project on water bodies and rivers was based on hydrological modeling. Map 1 (additional information for the CEEA, February 2019) locates the different flow calculation points in streams located on the periphery of the mine site. Although the effects of the project on the hydrological regime of these rivers have been modeled, uncertainties remain.

In general, the projected hydrological conditions demonstrate that stream flows in the study area will decrease due to the project footprint and dewatering of the pit. However, the scenario with three discharge points (lakes 4 and 6 and watercourse A) should limit the intensity of these flow variations when the dewatering wells are in operation.

Nevertheless, at the end of the operation, the discharge of water to lakes 4 and 6 will cease; water levels and flows will decrease again and water discharge via the final effluent will be reduced.

The promoter provides in section 14.3.1 of the environmental impact study, to make stage of building the monitoring of the course of water for which a reduction of flow rate of more than 10% is expected to validate the indirect effects of the project for these rivers and then check whether flow reductions affect the productivity of rivers.

The promoter must

A) *Provide, in the planned monitoring of stream flows, the following calculation points: A1, C1, M1, N1, C4, F2, D and E identified on map 1 (additional information for the CEEA February 2019) for the duration of the construction phase and then the mining phase of the mine to confirm modeled flows and anticipated effects.*

ANSWER

The calculation points mentioned will be included in the monitoring protocol. Please refer to section B) of this question for more details.

B) *Develop, for this monitoring, which should begin as soon as the pit is excavated, a protocol that will define the frequency of the readings at the previously mentioned calculation points and the presentation format of these results.*

ANSWER

Monitoring of the hydrological conditions of the watercourses impacted by the mining project will be carried out during the construction, operation and closure phases.

For this purpose, water level probes will be installed approximately at calculation points A1, C1, M1, N1, C4, F2, D and E identified on Map 1 (additional information for CEEA, February 2019). The precise location will be adapted according to the conditions on the sites. Indeed, in order that the harvested data can be exploited in an optimal way, the probes must be installed in a shallow part of the watercourse (to avoid being exposed during a period of low water), upstream of a hydraulic control (threshold) natural, free from the influence of a beaver dam. When the calculation

point is located at the outlet of a lake (points F2 and C4), the probe may be installed in the lake just upstream of the control section at the outlet. These probes will be installed each year in the spring once the streams are thawed (May-June), and removed in the fall before the frost (October).

In addition, two rain gauges (to have a redundancy in the data in the event of malfunction) and a barometer will be installed on the site, in order to be able to relate the variations of the levels in the rivers to the rainfall on the streams on the site.

Finally, flowrate measurements (measurement of velocities using a current meter, from which the flow in the watercourse is calculated) will be carried out near each level probe. Flowrate measurements should be done at a hydraulic control section, taking care that all flow passes through the volumetric section. One flowrate measurement per month will be carried out, from May to October (including a measurement during the installation of the probes and a measurement during the withdrawal) for a total of 6 flowrate measurements each year. Using the harvested data, a level-flow relationship will be established for each calculation point, which will make it possible to relate the variations in levels recorded by the probes to the flow variations in the streams.

Note that during each field trip for flowrate measurements, photos of the watercourse and instruments, as well as a video of the gauging site will be carried out to visually document the evolution of watercourses. In addition, once a year, a visit may be conducted to observe and describe the condition of sensitive features of affected waterways, such as potential spawning grounds and barriers to fish migration that may become impassable as a result of a decrease in flow.

MIGRATOR BIRDS

84. MIGRATORY BIRDS - IMPACTS OF LOSSES OF WETLANDS AND THEIR FUNCTIONS

Section 7.4 of the impact study outlines the impact of habitat loss on migratory birds and avian species at risk.

However, wetlands have not been considered as distinct habitat. According to a note under Table 3 (HR-10 p .14), certain types of wetlands, however, appear to have been included in one of the types of habitat s.

It is therefore difficult to properly assess the effects of loss of wetland functions on migratory birds and avian species at risk.

The proponent must describe the effects of wetland losses and their functions on migratory birds at risk and other species at risk.

ANSWER

On page 7-33 of the impact study, Table 7-36 presents the estimated losses for the open peatlands (see table CEEA-84-1). Ten (10) species could be affected by infrastructure encroachment on open peatlands. Of these, the Palm Warbler (26 pairs nesting), the Dark-eyed Junco (20 breeding pairs) and the bunting Lincoln (14 breeding pairs) are the flow will be most affected.

Table CEEA-84-1. Estimated losses (number of pairs equivalents) for bird species in open peatlands

Species	Density (ec / ha)		Estimated loss (breeding pair)		
	Average	SD	Minimum	Average	Maximum
Red-crowned Warbler	0.32	0.37	-	26.39	56.90
Slate Junco	0.24	0.34	-	19.79	47.83
Lincoln's Sparrow	0.17	0.17	-	14,02	28.04
White-throated Sparrow	0.15	0.06	7.42	12.37	17.32
Black-capped Warbler	0.10	0.14	-	8.25	19.79
Ruby crown kinglet	0.07	0.10	-	5.77	14,02
American Waxwing	0.05	0.07	-	4.12	9.90
Yellow-crested Warbler	0.05	0.07	-	4.12	9.90
Swamp Bunting	0.03	0.04	-	2.47	5.77
Green Warbler	0.03	0.04	-	2.47	5.77
Total	**1.20**	**1.24**	**N / A** [1]	**98.88**	**200.82**

Estimated total losses could not be estimated since the standard deviation obtained is higher than the average. The fact that only two wetlands have been inventoried can explain this result.

In the case of point-of-play surveys, forested wetlands (wooded peatlands and tree swamps) were classified as sphagnum softwood habitat (RS-01, RS-02, RS-12 and RS-16 stations). Although peat thickness characterizes these habitats as wetlands, the bird communities found there are very similar to those of Sphagnum coniferous trees in the study area that are not considered to be wetlands. Indeed, as shown in photos 84-1 to 84-4, the two habitat types are very similar in terms of their composition, especially at the level of tree and shrub strata.

In addition, tree swamps in the study area are generally associated with watercourses. Transects were made in these environments (MH-03, MH-04, MH-05 and MH-06, see page 37 of sector R-10). As mentioned on page 37 of the sector, the bird communities encountered were mainly forest except for MH-03 and MH-04 where a marsh sparrow was heard. It should be noted, however, that the area is generally very fragmented and that these individuals may come from open wetlands located near these wetlands.

For woodland peatlands, transects were made in open peatland assemblages and woodland peatlands (MH-01, MH-08, MH-10 and MH-11). For these environments, as they are very diverse, it is difficult, if not impossible, to obtain density values associated with open and distinctly forested wetlands. However, because of their small surface area in these assemblages, open peatlands have few species typical of open habitats. For forested peatlands, bird communities are the same as those found in forest stands of Sphagnum coniferous trees.

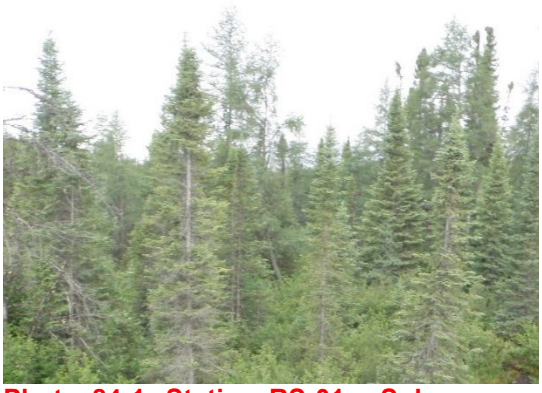

Photo 84-1. Station RS-01 - Sphagnum Softwoods Considered a Wetland

Photo 84-2. RS-12 Station - Sphagnum Softwoods Considered a Wetland

Photo 8 4-3. RS-08 Station - Sphagnum Softwoods Not Considered a Wetland

Photo 84-4. Status RS-14 - Sphagnum Softwoods Not Considered a Wetland

With regards to the special status species, these have been discussed in section 7 of the impact assessment (pages 7-106 to 7-119). The potential habitat for each of these species has been mapped, as such the habitat area and the number of potential pairs that will be impacted is known. It includes wetlands.

It should be noted that wetland functions were discussed in answer to question CEEA-80. The largest area of wetlands that will be affected will be ombrotrophic peatlands, whose value has been assessed as “low ". In sum, most of the wetlands affected by the project in the study area are of low quality as habitat for migratory birds. In fact, there are few specialist species, particularly because of the linear and discontinuous appearance of these environments.

85. MIGRATORY BIRDS - MITIGATION AND MONITORING MEASURES

In the impact study, the proponent states that "[...] work related to deforestation will be carried out as far as possible outside the nesting period for birds.”(P.7-98).

The proponent also mentions that "The areas will be deforested as much as possible outside the nesting period of the main species present at this latitude, between May 30 and August 15. This measure aims to prevent the destruction of nests. "(P.7-123).

In addition, the proponent states that "No specific monitoring and follow-up program is proposed for this component. As far as possible, deforestation will be carried out outside the nesting period. In the case where deforestation work is required during the nesting period, a specific authorization request will be sent to the competent authorities and special mitigation measures will be put forward, such as an ornithological inventory and protection areas where the presence of nests and / or chicks is confirmed. [...] "(P.7-125).

"As far as possible", "as far as possible", etc., formulations remain evasive and do not allow to determine the real effectiveness of the mitigation measures proposed to reduce the effects of the project, and especially when a reference is made to the protection of nesting migratory birds. These measures should be explicit, achievable, measurable and verifiable, and be described in order to avoid any ambiguity in the level of intention, of interpretation and of the setting in work (ref. Birds Regulations migratory).

The proponent shall identify the avoidance, mitigation, and / or environmental monitoring measures that will be put in place to prevent and minimize negative impacts on migratory birds and species at risk, including during wildlife activities site development such as deforestation.

For this purpose, the Avoidance Guidelines may be useful. (Ref: www.canada.ca/en/environment-climate-change/services/prevention-negative-effects- migratory-birds / guidelines-matter-avoidance.html).

ANSWER

During periods bycatch risk, in the event that some deforestation is carried out during the nesting season, special attention will be given to the presence of eggs and nests at the work site. The following avoidance, mitigation and monitoring measures will be considered for the project:

- The projected infrastructure will be concentrated in the smallest possible area to reduce sprawl.
- The work areas will be clearly marked on the ground to avoid further encroachment.
- Work will be monitored to ensure that no incidental catch of nests or eggs is made, the areas where the work will be carried out will be inspected before authorizing the work (if in times of nesting), in accordance with the management plan for birds.
- The proponent will document, using environmental monitoring reports, the presence of migratory bird nests and species at risk and the actions taken to ensure their protection. This measure will ensure compliance with federal regulations, namely the Migratory Birds Convention Act, 1994 and the Migratory Birds Regulations.
- An employee awareness and training program will be established. As a result, workers will be made aware of the presence of migratory bird nests, including species at risk such as Common Nighthawk, and what to do if a nest is found.
- The results obtained during the avian fauna surveys (validation of the work areas before deforestation, if during the nesting period) will be taken into account in the planning of the works.
- Work will be stopped in the buffer zone if a nest is discovered until nesting is complete.

In the case of the discovery of a nest, the procedure to be followed takes place in five stages which are as follows:

- Step 1: find the nest
- Step 2: establishment of the protection zone
- Step 3: marking the protection zone

– Step 4: monitoring nests and nearby work

– Step 5: Monitoring Report

Step 1: Nest Discovery

Once the nest is located, the species, location (GPS coordinates), habitat, and stage of nest development should be recorded. Deforestation and construction activities should be re-evaluated to determine if the work can be moved, delayed or altered so as not to impact the bird and its nest.

Step 2: Establishment of the protection zone

If activities cannot be moved, delayed or altered so as not to impact the nest and the bird, an appropriate buffer zone will be put in place to protect the bird and bird nest. This protection zone will be determined by a wildlife biologist or technician. It will vary according to the species, the habitat and the type, level and duration of the disturbance. The proposed buffer zones are presented in Table CEEA-85-1.

Table CEEA-85-1. Recommended protection zones (buffer zone) around bird nests

Species	***Protection zone (m)***
wildfowl	*10 to 30 m, up to 50 m*
Aquatic and wading birds	*Up to 100 m*
Sandhill Crane	*100 m up to 1000 m*
Birds of prey - active *Birds of prey - inactive*	*1,000 m*
Most passerines and other small birds	*50 to 1,000 m (depending on the level of disturbance)*
Species with special status	*1 to 5 m, up to 10 to 50 m*
Swallows colony	*50 to 100 m up to 200 m*

Source: Environment Canada (2017). The shorter distances are often associated with urban or industrial environments, while the longer distances are associated with rural or wooded areas.

Step 3: Marking the protection zone

The buffer zone will be delineated using painted survey stakes, markup tape or other marking material to delineate the edges of the buffer zone so as to identify it. The nest itself will not be identified with signal tape or other similar material as this would increase the risk of predation.

The coordinates of the nest must be indicated on the mark, as well as the direction and the distance from the nest. Beacons and other markings should not be left in the immediate vicinity of the nest to reduce the risk of nest predation. Once the buffer zone is in place, a qualified environmental controller should carefully monitor the nest for any sign that the nest is disturbed. If disturbed, construction activities should cease immediately and the buffer zone should be re-evaluated.

The activity must be assessed in order to reduce the level of disturbance and if necessary, will be postponed until the chicks have left the nest.

Step 4: Nest monitoring and nearby work

None of the buffer zones in place will be deforested or built until a biologist or technician confirms that the birds have left the nest and the surrounding area (mobile young). The whole will be determined according to the stage of development during the first observation and estimates based on the life cycle of the species (incubation period and specific flight) as well as observations made in the field.

If a nest is located near a path or road, vehicles may pass with care. They will not be allowed to stop in the recommended buffer zone. The places where it is forbidden to stop will be clearly indicated.

Step 5: Monitoring Report

The proponent will document, using environmental monitoring reports, the presence of migratory bird nests and species at risk and the actions undertaken to ensure their protection. This measure will promote compliance with federal regulations, namely the Migratory Birds Convention Act, 1994 and the Migratory Birds Regulations.

Awareness program

An awareness program will be integrated with the training of new employees and contractors who will work on the site. This program will specifically focus on migratory birds and species at risk and other species likely to frequent the study area. As a result, workers will be made aware of the presence of bird nests and what to do if a nest is discovered. The awareness program will be updated as necessary, in connection with the modifications to the management plan.

86. MIGRATORY BIRDS - MAPS OF POTENTIAL HABITATS

Section 7.4 of the Environmental Impact Statement (2018) presents five potential habitat distribution maps for five species at risk (Maps 7-7 to 7-11) to which the observations of these species are superimposed.

We note that for each of the maps, species observations are located at the same listening stations. For example, on the December 2017 version of Map 7-8: Short-eared Owl, 6 mentions / observations are illustrated while the species was observed only once (see map 7-8 version May 2017).

The developer must correct the cards habitat potential for the species bird in danger indicating for each of the listening stations, the number of statement (s) / comment (s) for each species.

ANSWER

The changes have been made (see maps in Appendix CEEA-86).

87. MIGRATORY BIRDS - RISKS OF CONTAMINATION

No negative effect on migratory birds has been associated with the potential presence of harmful substances on the mine site, in particular in tailings ponds, dumps, ponds, etc.

Mining activities are likely to release harmful substances that will be accumulated and stored on the mine site, particularly in parks, dumps and ponds, structures likely to be frequented by birds.

The promoter must:

A) *Evaluate the effects of the use of parks, dumps, and ponds by migratory birds.*

ANSWER

Tailings ponds, waste rock dumps and sedimentation and accumulation ponds are likely to be used by avian fauna. This is particularly the case for water collection ponds and storage tanks that could be used by waterfowl (feeding, grooming and feathering) and birds that can feed above and in the periphery of them. The accumulation pond may contain some level of contaminants (eg SS, metals) and could have negative effects on migratory birds. Therefore, in the event of the actual presence of contaminants, these could accumulate in the tissues of the prey they feed on.

For the water collection ponds, a submersible float pump will be temporarily installed during the dewatering of lakes 1 and 2. This will be moved when the level is too low and will pump into a sedimentation pond near Lake 3 (for Lake 2) and Stream A (for Lake 1). Thus, the pumped water

will transit through a sedimentation basin before its downstream discharge, so as to limit the suspended matter in the watercourse. Apart from the presence of suspended matter, these ponds do not contain contamination hazards for avian fauna.

As for other infrastructures (parks and stockpiles), their use by avian fauna is considered negligible. Indeed, the inconvenience caused by the use of its infrastructures (ex: machinery), will result in an avoidance of these sectors by the avian fauna.

Thus, the main risk of contamination will be caused by the accumulation pond. With respect to the effect of contaminants on avian fauna, the magnitude is considered medium (socioeconomic and ecosystem values are high and the degree of disturbance is low). Indeed, taking into account the various mitigation measures to eliminate the risk of contamination (see answer 87B), the likelihood that contaminants found in the storage pond affects significantly local bird populations is negligible. The magnitude (intensity) of the effect is thus average. The geographical extent of this effect is punctual: the accumulation basin occupies only a small area. The duration of this effect was considered average. Indeed, although the presence of contaminant may be permanent on the prey populations (invertebrates, fish) on which they could feed, the effect is not permanent (dilution, decantation, decontamination). Finally, the probability of occurrence of a contamination is low, given the various preventive measures that will be applied during the project.

Overall, the residual effect of the risks of contamination by the basins on the component "avian fauna" is thus weak and not important.

B) *Identify the risk of contamination for migratory birds that would use these infrastructures.*

ANSWER

As part of this project, the risk of contamination for the birds are connected to the potential presence of various metals such as copper, zinc and silver that could be present in the accumulation pond (WSP, 2019). In addition, note the presence of suspended solids whose content will vary according to the periods of the year (50 to 500 mg/L). According to the soil geochemistry study (CTEU-9, March 2017), soil pH varies between 7.5 and 9 (WSP, 2019).

Some studies have demonstrated a link between the presence of metals in the environment and the accumulation of metals in the tissues of prey and their predators such as waterfowl and waterfowl (Antoine et al., 1992, Mazak et al. 1997, Environment Canada 2002, Environment Canada 2013). However, it is too early to speculate on the potential presence of aquatic organisms in the accumulation pond that could be food for waterfowl. On the other hand, the alkalinity of the water makes the presence of invertebrates unlikely. When present in high concentrations, copper and zinc tend to bioaccumulate in bird tissues (Antoine et al., 1992)

C) *Present and discuss mitigation and monitoring measures to be put in place to reduce the risk of contamination to migratory birds*

ANSWER

The water that will be transported to the accumulation pond will be treated before being released to the environment. A verification procedure with a rejected water quality register will be put in place to validate compliance with the criteria of Directive 019 and the Metal Mining and Diamond Mining Effluent Regulations (MMER). In the event that the quality of the treated water is unsatisfactory, the water will be returned to the accumulation basin rather than the effluent.

Given that there is a risk of contamination for migratory birds that may frequent the accumulation pond, the proponent undertakes to develop a migratory bird-specific intervention plan to minimize the potential impacts of these waters on birds likely to use this pond. The proponent undertakes to set up recognized scaring equipment for the accumulation pond that poses a risk for the avian

fauna on the mine site. It should be noted that some birds will avoid the sector due to disturbances resulting from project activities (including noise).

During the closure period, the effects on migratory birds should cease once the tailings management facility is drained and rehabilitated, and when the water quality of the tailings pond, the tailings management facility, responds to requirements established in the mine closure plan. These effects are therefore considered reversible.

88. MIGRATORY BIRDS - EFFECTS ON NIDIFICATION

The Shore Swallow and the Common Nighthawk are two species of migratory birds on the list of endangered species (Appendix 1 of the Act, the Species at Risk), which are present in the area 'study. The Common Nighthawk is fond of open spaces while the Swallow searches for heaps or embankments where it can dig its nest.

During the construction, operation and even closure phases, the various activities on the site are likely to destroy or create environments favorable to the nesting of these two species as well as to other species of birds. The effect of mining activities that may affect the environment and affect bird nesting should be assessed during all phases of the project. Measures should be identified and put in place to protect bird nesting during the different phases of the project.

The promoter must:

A) *Assess the effects of the Project on the nesting of migratory bird species at risk, including the Bank Swallow and Common Nighthawk, during the construction, operation and closure phases. For this assessment, consider the environmental changes caused by the various activities on the mine site that could result in the creation of suitable habitat for these species.*

ANSWER

In construction and operation periods, the anticipated effects of the project on the common nighthawk are the same as those evaluated on pages 7-123 and 7-124 of the update of the Environmental Impact Statement. In fact, the current habitat of the species will disappear during the construction phase (notably the burnt and the gray pine forests). In order to avoid nesting of the species during construction, the proponent will ensure that there are no areas available for nesting (shredded wood deposit areas, gravel, etc.) for the period of May 30 to August 14th.

During the closing period, some areas will be suitable for nesting. This is the case of the tailings stockpile and filtered waste rock which will be covered with 150 mm of overburden followed by seeding. For the overburden pile, seeding will be carried out directly on the surface of the pile and will be done gradually. Indeed, some portions of this stockpile can be seeded following its establishment.

In the case of the Bank Swallow, it nests in a variety of habitats including aggregate pits (sand pits and gravel pits) and earth piles, ranging in slope from 76 to 105 degrees (Garrison 1999, COSEWIC. 2013, Regroupement Québec Oiseaux, 2016). It looks for substrates composed of a mixture of sand and silt to dig its nesting burrow.

As no habitat is present in the area of the proposed infrastructure, no impact of the project is expected for this species concerning the deforestation and stripping activities that will be carried out during the construction period. However, measures will be taken to maintain the slope of less than 70 degrees (not suitable for nesting) in exploited areas (if quarry and sand pit presence, loose deposits). In the event that areas are used by the Bank Swallow, they will not be exploited until the end of breeding. A minimum protection zone of 50 m should also be applied around the colony to avoid disturbance during nesting. Also, note that the levees and infrastructure will be consolidated

and that these materials are too large for use by the bank swallow neither in operating and closing periods.

B) *Describe the measures of mitigation and of monitoring that will be made in up to reduce the effects on nesting bird species migrating.*

ANSWER

Mitigation measures are described in the response to question 88A.

89. MIGRATORY BIRDS - NOISE FROM DYNAMITAGE

7.4.5 (p.7-97), 7.6.5 (p.7-152) and 7.7.5 (p.7-181) of the Environmental Impact Statement are presented, the effects of noise on migratory birds and species at risk.

The noise and vibrations caused by the blasting activities, however, do not appear to have been considered in the description of the effects of the project during the exploitation phase on avian fauna as well as on species at risk.

The noises caused by the blasting activities are unexpected and sudden and can cause effects or behavioral reactions on the fauna, reactions generally different than those generated by constant noises.

The promoter must:

A) *Assess the effects of blasting activities on migratory birds and species at risk.*

ANSWER

As mentioned in section 7.7.5 of the impact study, activities causing noise and vibrations could cause disturbance to local populations of birds and chiroptera. Depending on their duration and intensity, the effects of these disturbances may be reflected in the disruption of the behavior of individuals, particularly with regard to movement and foraging, or the loss of quality or loss of certain habitats, such as diurnal resting areas, maternity and feeding sites. Birds and chiroptera could thus avoid habitats located at the periphery during blasting operations, which could have repercussions on the reproduction of individuals. Indeed, the number and diversity of species potentially present at the periphery of the work sector could possibly decrease. In addition, other effects could be felt at the level of communication between individuals, especially for songbirds (Brumm 2004, Dutilleux et al., 2015).

According to a recent meta-analysis of research documenting the effect of noise on wildlife, the threshold at which noise impacts are felt in birds would be 40 dBA (Shannon et al., 2015). With regard to air overpressure, the frequency spectrum of air overpressures caused by blasting is generally between 2 and 200 Hz. Humans cannot hear the noise generated at frequencies below 20 Hz. The acceptable limit for certain groups of fauna would be lower than that for humans, ie between 1 and 10 Hz for avian fauna (Larkin et al., 1996).

However, few studies have quantified the impact of point sources of noise, as is the case with blasting activities. Dooling and Popper (2007) believe that, to cause physiological damage, a point source, such as blasting, must emit noise with an intensity greater than 140 dBA. Based on these data, the maximum sound intensity of blasting, measured at the level of the natural habitats bordering the site, should not exceed 140 dBA during the breeding season of the avifauna and chiroptera.

With regard to the air overpressure on terrestrial fauna, it is also a subject that is little discussed in the scientific literature. The safe limit established for humans, according to MELCC's Directive 019 on the mining industry, is 128 dB (MDDEP, 2012). Thus, the measurement of air pressure at the level of natural habitats bordering the site should not exceed 128 dB during the breeding season of the bird and chiroptera. These criteria are applicable to natural habitats, that is to say which are not anthropogenic and have not been directly affected by the works.

Note also that the noise caused by blasting will likely be momentary and that mitigation measures implemented (see answer question 89B) will reduce the effects of disturbance on birds. In addition, the parameters targeted for explosive charges will be adjusted to meet the limits set out below for these two criteria.

B) *Describe the measures that will be implemented to mitigate the effects of disturbance, including blasting, on migratory birds and species at risk.*

ANSWER

The act on explosive regulations, the Explosives Regulations Act, will be complied with and the necessary steps will be taken to ensure that the activities comply with the requirements specified therein. In addition, site supervision will be carried out during the works, thus ensuring compliance with the noise regulations on construction sites.

For blasting, Directive 019 imposes a noise limit to be respected:

"a) where there is no point of impact within a 1 km perimeter around the mine site

— The maximum permissible vibration speeds on the ground due to blasting operations are the speeds given in Table 2.5.

— For an open pit mine, the maximum air pressure threshold for any dwelling, if any, is 128 linear decibels. ".

Despite the fact that the noise level of the blasting is above the avian fauna tolerance level, blasting activities carried out during the exploitation period will be located in the pit sector.

In addition, the noise caused by the blasting will be momentary and not continuous. In addition, blasting activities will be carried out after deforestation, which reduces the potential impact on wildlife since nesting habitats will no longer be available at the site of the work.

It should also be noted that the workers' schedule is scheduled over a 12-hour period, from 7 am to 7 pm and from 7 pm to 7 am. As there will be no blasting activity outside the 7 am to 7 pm period, this will reduce the potential effects on bird fauna during rest periods for daytime species, and feeding periods for nocturnal species.

References :

DOOLING, RJ and AN POPPER. 2007. The Effects of Highway Noise on Birds. Jones and Stokes Associates. Online : https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents / bio-effects-hwy-noise-birds-100707-a11y.pdf .

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90. MIGRATORY BIRDS - MONITORING AND MONITORING PROGRAMS

No monitoring or environmental monitoring programs were proposed for both migratory birds and species at risk (subsections 7.4, 7.6.8, and 7.7.8).

Considering that migratory birds, species at risk and their habitat are valued components of the environment for the project, and that the residual effects on these components are considered non-zero, specific monitoring and follow-up programs should be developed. and implemented for the different species or groups of species present or likely to frequent the territory.

The various monitoring and follow-up programs should take into account the elements of recovery strategies (where available) for each species at risk.

The proponent must present and detail the monitoring and follow-up programs that will be implemented during all phases of the project for migratory birds and for each species at risk present or likely to be in the study area.

ANSWER

Migratory birds:

A follow-up will be carried out at the beginning of the exploitation and closure period in order to validate the presence of species with special status on the periphery of the study area, as well as their use of this one. The monitoring program consists of producing inventories that are detailed below. With respect to the monitoring program, this is presented in response to question 85.

INVENTORY PLAN

The inventory plan will be determined according to the potential habitats of the different target species available at the periphery of the infrastructure. Where possible, some listening points made in 2012 and 2016 will also be part of the follow-up.

Two inventory methods will be used as part of the follow-up program:

- Daytime listening inventory for Canada Warbler, Olive-sided Flycatcher and Rusty Blackbird.
- Evening inventory for Common Nighthawk and Short-eared Owl.

DAYTIME INVENTORY BY LISTENING POINTS

The primary objective of land bird inventories is to determine the composition and abundance of birds nesting in forest and wetland environments. Canada Warbler, Rusty Blackbird, and Olive-sided Flycatcher are the special-status species that will be monitored. However, it should be noted that all the bird species seen and heard during the inventories will be collected on the field leaflets. To do this, two methods of enumeration were used, namely the limited radius count (LRD) and the abundance index (SPI) (Environment Canada, 1997).

Limited radius enumeration (DRL)

The DRL method consists of counting all birds seen and heard from a fixed point, within a certain radius and over a given period of time (Ralph et al., 1995, Bibby and Burgess, 1992). In this study, birds will be surveyed for 15 minutes within a 75 m radius. To ensure the independence of the data collected, each station will be at least 250 m apart.

The stations will be inventoried once, in a period between 4:15 (half an hour before sunrise) and 10:00 am. In order to mitigate the effect of the observer on the activity of birds, each count will be preceded by a two-minute break. In addition, because weather conditions affect bird detection, counts will be made on days with optimal conditions, ie, with no rain and with light winds.

During counting, two individuals of the same species will be considered different when they are seen or heard simultaneously, if they answer each other or if morphological characters distinguish them. In addition, at the end of each listening period, singing returns will be used to increase the probability of detection of rare or discrete species, special status species or new nesting behaviors.

When traveling between stations, all observations of new species, infrequent or precarious species will also be noted. Before, during, and after the counts, as well as during the movements, the observers will pay particular attention to the behaviors of the birds in order to determine their nesting status according to the codes of the Atlas of the Breeding Birds of Quebec (AONQ, 2019).

Point of abundance index (IPA)

The IPA method has been used concurrently with that of DRLs (Blondel et al., 1981). Unlike the previous method, it imposes no limit on the distance of the enumeration. Its advantage lies in the fact that it covers much more space than the DRL method, which makes it possible to identify species that have a larger territory, which are rarer or more discreet.

Analysis

The number of pairs equivalents, that is potential breeding pairs, will be calculated from the radius within which the count will be made (75 m). A male singer, a drumming woodpecker, a couple, an adult heading for a nest or accompanied by young people will be considered as a couple equivalent. A silent individual or emitting a contact cry is equivalent to a half-equivalent-torque (0.5). For individuals moving above the station, they will be excluded from this calculation.

Densities will then be reduced by the number of pairs equivalents per hectare (EC/ha). In addition, the frequency of observation or constancy will be calculated by dividing the number of stations where a species has been detected by the total number of stations surveyed within a radius of 75 m.

The density for each of the status species (and all other inventoried species) can therefore be evaluated and compared between the different years of monitoring.

NIGHT INVENTORY

Common Nighthawk

Inventories will be made in June and in the evening to inventory the nighthawk. To do this, the standardized protocol of Knight et al. (2018) will be used. Stations will be set up along roadsides near open areas such as barrens, regenerating stands and open wetlands. The location of the stations will depend on the access to the ground to make the inventory safely. Stations will be inventoried in the potential habitat of the species located on the periphery of the mine, but also near the infrastructures and the ponds (food).

Each station will be preceded by a two-minute silence period, followed by two three-minute listening periods. The distance and direction where individuals will be heard will be noted. The date, time and all the information related to the station will also be recorded. To reduce bias in the detection of individuals, inventories will be conducted under optimal inventory conditions.

Short-eared owl

Observation stations will be carried out to validate the presence of the owl in these environments. The inventory method used is based on the protocol developed by the ministry in 2011 (MRNF, 2011) and the work of Gagnon et al. (2015). Observation stations will be placed near open areas and will be selected based on access to land.

The inventories will be conducted at night when there is no rain, no haze and light winds (≤ 20 km/h or ≤ 3 on the Beaufort scale). They will start 90 minutes before the start of sunset and will end no later than 30 minutes after sunset. Each station will have a duration of 20 minutes.

Thus, each station will be scanned with binoculars. The position of each short-eared owl (or any other species of birds of prey) heard or seen will be marked on a map and registered in the field notes. Individual behavior will also be noted: rest, hunting, intraspecific or interspecific aggression, courtship, copulation and food transportation.

PROPOSED TIMELINE

A first inventory will take place in the first year of operation of the project (year 1 of operation). Subsequently, inventories will be carried out every 5 years (year 6 and 11). A follow-up every five years is considered sufficient since most of the target species are faithful to their nesting sites (Reitsma et al., 2009, Brigham et al., 2011, Altman and Sallabanks, 2012).

This monitoring will validate the presence of these species on the periphery of the deforested area. At each monitoring, the results obtained (density, abundance, location of species with status) will be compared to those of previous years. The analyses will take into account the potential disturbances caused by the project, but also all other surrounding disturbances (eg logging, other projects, etc.).

After closure, an inventory of Common Nighthawk will be conducted to validate the use of the waste rock dump, filtered tailings pond and overburden pile. The stations will be located in accessible and safe locations.

Chiroptera :

The acoustic survey conducted in 2018 confirmed the presence of five species of bats, including silver, red and ash bats, which are migratory species and are on the List of Wildlife Species that may be designated as threatened or vulnerable by the MFFP (MFFP, 2019). The inventory also confirmed the use of the study area by bats of the genus Myotis, including the little brown bat that could be specifically identified. Both species of the Myotis genus, that is, Little Brown Bats and Northern Bats, are considered endangered in Canada and have been on Schedule 1 of SARA since 2014 (Government of Canada, 2014). Mitigation measures will be put in place to reduce potential residual effects on bats and a follow-up program is proposed to validate the effectiveness of these measures. The whole is detailed below.

Reduction measures

The mitigation measures that will be implemented to limit the effects on bats during the various phases of the project are presented in section 7.7.6 of the impact study.

Moreover, the work of deforestation will be conducted outside of the breeding season of birds, which extends from May 1 to August 15, to the extent that this is possible. This interval also includes the breeding season of bats, which generally extends from June 1 to July 31.

However, it is possible that there will be schedule delays or changes to the work schedule. Migratory corridors or areas of reproductive importance were not identified during the acoustic survey of chiroptera (WSP 2019). In addition, no maternity of bats has been identified as part of the inspection of the buildings present on the site (WSP, 2018). Nevertheless, the use by bats of natural maternity sites (snags, natural cavities, etc.) is not excluded. Therefore, if deforestation work is to be carried out outside the authorized period, a pre-inventory will be conducted to identify the potential presence of maternity sites and, if appropriate, mitigation measures will be put in place so that they are not disturbed until the bats leave the site. The procedure to follow is described in more detail in the following section.

Procedure in case of discovery of maternity sites (restricted period)

Step 1: Inventory of potential maternity sites

The characteristics of the maternity sites vary according to the different species of chiroptera although the precise needs of each species are not always well known. Some species, such as the great brown bat or the little brown bat, may use buildings as a breeding site for their young (Tremblay and Jutras 2010). Several species also use large diameter snags. Some species, such as the Common Bat, perch in living trees (Perry and Till 2007, Brigham 2005), and roost at treetops or under bark. Little brown bats, northern bats and eastern pipistrelles can also use rock structures, such as crevices in the cliff face (Tremblay and Jutras 2010).

In 2018, a search for maternity sites of bats was conducted (WSP, 2018). This research focused more specifically on the use of buildings present on the study site by bats. It revealed that none of these buildings were used as a maternity site. Therefore, in the event of the need to carry out a complementary inventory of potential maternity sites, it will instead target natural sites such as large diameter snags.

The inventory method used will be based on the Ontario Small Brown Myotis and Northern Bat Habitat Identification Protocol (MNRF 2016), which identifies the most suitable snags and acoustic inventory nearby, during evenings where weather conditions are favorable. The use of night vision binoculars may also improve the validation of the use of a snag by bats.

Step 2: Establishment of the protection zone[7]

If a maternity site is identified and the activities cannot be moved, delayed or altered so as to have no effect on it, a protection zone with a radius of 100 m (buffer zone) will be put in place to ensure protection.

Step 3: Marking the protection zone

The buffer zone will be delineated using painted survey stakes, markup tape or other marking material. The maternity site itself will not be identified and no markup will be placed in close proximity to it so as not to increase the risk of predation.

The coordinates of the site will be indicated on the markers, as well as the direction and the distance with respect to the site.

Step 4: Monitoring of maternity sites and work done nearby

Once the buffer zone is in place, a wildlife biologist or technician should carefully monitor the site for any signs of disturbance. If this were the case, construction activities should cease immediately and the buffer zone would be re-evaluated. The activity in question will be postponed until the end of the breeding period of the bats (July 31) or until the young bats have left the site.

None of the buffer zones in place will be deforested or constructed until the end of the bats' breeding period (July 31) or until a wildlife biologist or technician has confirmed that the young bats have left the site. This confirmation will be done by a regular check of the activity of the chiroptera (visual and acoustic).

[7] The case being, mainly pertaining to certain activities causing significant noise (such as blasting), the establishment of a buffer zone could be replaced by the installation of an acoustic barrier (vertical isolating panels).

If a maternity site is located near a path or road, vehicles can pass with care. They will not be allowed to stop in the recommended buffer zone. The places where it is forbidden to stop will be clearly indicated.

Step 5: Monitoring Report

The proponent will document, using environmental monitoring reports, the possible presence of bat maternity sites and the actions undertaken to ensure their protection. An example of a monitoring report may be provided by WSP to the monitoring team.

Follow-up program

In order to monitor the effectiveness of mitigation measures, we plan to set up a series of sampling stations. These stations will be strategically positioned to assess the effect of noise and luminosity on birch land use. Sampling will occur during the bat reproduction period, which generally extends from June 1 to July 31.

Measured parameters

At these stations, we propose to monitor the following parameters: the ambient noise and the night light (intrusive light) in parallel with the activity of the chiroptera. These parameters are, in fact, the main components that could have an effect on chiroptera. The information collected will validate the actual attenuation of these parameters and possibly verify their potential correlation with the activity of bats around the work area.

Station layout

The disposition of the stations should make it possible to evaluate the losses of peripheral habitats, if any, associated with these two parameters. For this purpose, these will be positioned later according to the definitive layout plan and according to the propagation models anticipated for the noise and for the light.

Frequency and duration

A bimonthly follow-up is proposed for the period surrounding the breeding of bats, ie 2 visits in June and 2 visits in July. The visits will take place in the evening from the sunset (civil). The selected evenings must correspond to favorable meteorological conditions for the inventory of chiroptera, ie:

- Wind less than 20 km / h.
- No precipitation. If there are no better nights, a small amount of precipitation may be tolerated (< 3 mm), a low drizzle or a time-limited rainfall.
- Hot temperature (> 10 ° C).

For each station, the two targeted parameters (noise and brightness) will be measured using hand-held devices. At each visit, a minimum of 15 minutes will also be allocated for acoustic detection of bats at each station.

Where possible, we recommend that the first steps be taken prior to construction activities to establish a baseline. Monitoring will continue during construction and during operation. The duration and years of follow-up will be determined later, when the detailed schedule of construction and start-up will be established.

Description of the habitat

For each station, the habitat will be summarily characterized (main species, height of cover, etc.).

Report

An annual report describing the observed results will be produced.

References:

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WSP. 2019. Rose-tantalum Rose Project. Acoustic inventory of chiroptera. Product report for Critical Elements Corporation. 12 p. and annexes.

CARIBOU

91. CARIBOU - DISRUPTION OF HABITAT BY FIRE

On page 7-145 of the Environmental Impact Statement, the main source of disturbance of caribou habitat is naturally occurring and is associated with the large fires that affected the study area during the Last 50 years.

In Map 7-14 (p.7-147), the study area shows habitat that has been disturbed by fires in the past 50 years, as well as anthropogenic activities.

However, according to the boreal population woodland caribou recovery strategy (www.canada.ca/en/environment-climate-change/services/population-public-species/resettlement-programs/caribou-wood- boreal -population- 2012.html), disturbed habitat is defined as: "Habitat showing: Visible anthropogenic disturbances on Landsat imagery at a scale of 1:50 000, including habitat within a 500 m buffer zone of the disturbance anthropogenic and / or fire-related disturbances in the last 40 years, based on data provided by provincial and territorial jurisdictions."

The promoter must:

A) Review the description of disturbed habitats in the study area considering only fires 40 years old and under.

ANSWER

The description of disturbed habitats considering only fires of 40 years or less is presented in Table CEEA-90a, replacing Table 7-44 of the impact study. It excludes natural disturbances (fires) from 40 to 50 years.

Thus, as mentioned e to the impact study, the main source of disturbance of caribou habitat remains natural and is associated with large fires that have affected the study area during the 40 last years.

The variation in natural disturbances between the two analyses is of the order of 2187 acres on the scale of the study area representing a radius of 50 km from the proposed center of the mine. The 40- to 50- year-old fires now considered undisturbed areas are located within the 30 to 40 km (119 acre) and 40 to 50 km (2,068 acre) ranges. This difference is minimal when compared to the scale of the study area. Indeed, the total disturbance rate remains at 60%. It should also be noted that disturbances in a radius of 0 to 30 km remain unchanged.

Table CEEA-91a Analysis of disturbance of woodland caribou habitat at ranges ranging from 5 to 50 km from the center of the mine

Distance from the center of the mine (km)	Disturbance	Area (ha)	Disturbance (%)
0 to 5	Anthropic exclusively	1 301	17
	Natural only	2 402	31
	Natural and anthropic	4 072	52
	Sub-total	**7 775**	**99**
5 to 10	Anthropic exclusively	3 209	14
	Natural only	7 232	31
	Natural and anthropic	6 908	29
	Sub-total	**17 348**	**74**
10 to 20	Anthropic exclusively	8 287	9
	Natural only	33 441	35
	Natural and anthropic	11 611	12
	Sub-total	**53 339**	**57**
20 to 30	Anthropic exclusively	9 151	6
	Natural only	57 361	37
	Natural and anthropic	17 048	11
	Sub-total	**83 560**	**53**
30 to 40	Anthropic exclusively	4 074	2
	Natural only	93 111 (93 229)	42 (42)
	Natural and anthropic	24 050	11
	Sub-total	**121 234 (121 353)**	**55 (55)**
40 to 50	Anthropic exclusively	6 104	2
	Natural only	150 931 (152 999)	53 (54)
	Natural and anthropic	25 000	9
	Sub-total	**182 035 (184 103)**	**64 (65)**
Total	Anthropic exclusively	32 126	4
	Natural only	344 476 (346 664)	44 (44)
	Natural and anthropic	88 690	11
	Sub-total	**465 292 (467 479)**	**60 (60)**

Note: The numbers in parenthesis s are the areas where a change was made following the analysis. The numbers are between parenthesis s are those from the new analysis.

B) To review the map that shows the interference of background anthropogenic and natural and include 40 years and more lights in the non-habitat class disrupted.

ANSWER

The revision is presented on the map found in Appendix CEEA-91.

C) Review the analysis of project effects on caribou habitat, if necessary.

ANSWER

No changes were made to the analysis of project effects on caribou habitat.

D) Review the cumulative effects analysis, if necessary.

ANSWER

No changes were made to the cumulative effects analysis of the project on caribou habitat.

92. CARIBOU - CUMULATIVE EFFECTS

In section 10.7.1 of the Environmental Impact Statement, the proponent presents the cumulative effects on caribou habitat without taking into account habitats with the biophysical characteristics required by caribou to complete their life processes, as described Appendix H of the Woodland Caribou Recovery Strategy (Rangifertarandus caribou), boreal population, in Canada.

The promoter must:

A) Describe the consequences of cumulative effects on population goals and to distribution identified in the program of recovery of woodland caribou, which are the following:

Maintain the population of the local population

- *Maintain the habitat status in terms of area and undisturbed habitat types, to ensure self-sufficiency of the local Woodland Caribou population. This is to maintain a minimum of 65% of undisturbed habitat and the availability of biophysical attributes necessary for caribou wood.*

ANSWER

The project is not likely to have any impact on the woodland caribou population. Historically, woodland caribou do not frequent the area of projected infrastructure that is highly disturbed and enclosed by linear anthropogenic structures that prevent connectivity with adjacent habitats.

A mapping of the woodland caribou's habitat potential within a 500 m buffer zone around the project components is presented in section 7.6 of the impact study. This mapping was done according to the woodland caribou's life cycle, which is divided into four periods (or type of habitat), namely calving (map 7-18), rearing young (map 7-19), the rutting season (map 7-20) and the winter period (map 7-21). It determines the sensitivity and importance of the habitats that will be affected by the project based on its availability during the annual life cycle of the species.

The four habitat types were selected based on criteria established by the federal government (Government of Canada, 2011) and are presented in Table 7-46 of the Environmental Impact Statement. A buffer zone of 500 m on both sides of anthropogenic environments (eg: power line over a peat bog) has been added. These habitats, as well as the fires that occurred less than 40 years ago, were not considered as potential habitat.

Considering the probability that these fires will regenerate, a new analysis of the caribou habitat that may be disturbed in the mine footprint and its zone of influence of 500 m at the periphery of the facilities was carried out.

No ecoforest database published by the MFFP is available for this area. The information bases available to characterize the environment are vegetation and wetlands derived from the Northern Quebec Forest Inventory Program (NWFP), forest fires from Natural Resources Canada, as well

as photo-interpretation and vegetation inventories completed by WSP in 2016 as part of the project EIA.

The information obtained from the photo-interpretation and the WSP inventory provide a better level of precision than those obtained from the PIEN and have been retained to analyze and describe the biophysical characteristics of the different types of habitats frequented by woodland caribou to accomplish its vital processes in the study area. The interpretation of the data was based on large-scale caribou habitat descriptions with the following criteria (Government of Canada, 2011):

Conifer and hypnum forests in poorly drained and upland coniferous environments with abundant terrestrial lichens. Stands of black spruce, jack pine, and balsam fir with abundant lichen.

Bodies of water and wetlands (swamps, marshy areas with tamarack presence).

Mountains or wavy terrain.

Altitude of 300 m.

Intermediate values of the normalized difference vegetation index.

Selection of old burns (over 40 years).

The altitude level of the study area varies between 245 and 360 m. However, we did not consider the altitude criterion of 300 m or more, which would discredit much of the area as potential habitat for woodland caribou.

Based on the habitat description presented previously, the vegetation groups represented by the black press (lichen or moss), the gray pine forest, the indeterminate softwood stands, and the woodland peatland best meet the large-scale habitat conditions woodland caribou (boreal). Open and shrubby peatlands were also considered as they can be used during calving, calving and rutting.

Components of the project

Project components, including temporary components (temporary roads, borrow pits, labor camps, storage areas, etc.), cover an area of 614.0 ha. A zone of influence (buffer) of 500 m has been drawn around the mine components and covers, including these, an area of 1,890.4 ha (Table CEEA-92a). The analysis at the scale of the footprint of the mine and its zone of influence of 500 m, shows that the areas of these sectors are already impacted in proportions of 100 % and 97 % respectively as it had been presented in the impact study.

Table 92a. Projected mining infrastructure area of their area of influence of 500m and proportions currently disrupted by anthropogenic elements permanent and natural

Zoned	Area of the area	Permanent human disturbance		Anthropogenic undisturbed area	Natural disturbance outside the anthropogenic disturbance zone		Total disturbance		Undisturbed	
	Ha	Ha	%	Ha	Ha	%	Ha	%	Ha	%
Mining infrastructure	614.0	229.7	37	384.3	384.3	63	614.0	100	0.0	0
500 m buffer zone around the footprint	1 276.3	670.2	53	606.1	564.1	44	1 234.3	97	42.0	3
Total	**1 890.4**	**900.0**	**48**	**990.4**	**948.4**	**50**	**1 848.3**	**98**	**42.0**	**2**

Current permanent human disturbance

As mentioned in the impact study (section 7.6.4.1), the location of the lithium - tantalum Rose mining project represents one of the most disturbed areas by anthropogenic elements in the study area covering a radius of 50 km.

We simulated the current permanent anthropogenic disturbances by projecting a zone of influence of 500 m at the periphery of the anthropic elements present on the territory. The permanent disturbance elements selected are the Nemiscau -Eastmain-1 road and electric transmission lines. Proportions of 37 % of projected mining infrastructure and 53 % of their 500m influence zones are permanently disturbed by these features and cannot be considered habitat for woodland caribou.

Current natural disturbances

Current natural disturbances have been estimated within the projected mining infrastructure as well as within a 500 m buffer zone at the periphery of the infrastructure. To do this, forest fires under 40 years old have been selected. These natural disturbances represent respective proportions of 63 % and 44 % of the area covered by the projected mining infrastructure and its 500 m buffer zone (Table CEEA-92a).

As mentioned in the impact study, although these areas have the potential to regenerate, a 15 % (170 ha) portion of the 500 m buffer zone, not included in the disturbance zone, must be considered anthropogenic, has undergone two consecutive fires, which considerably limits its regeneration potential. Each critical habitat type of woodland caribou was mapped for both study areas (map found in Appendix CEEA-92). In addition, the synthesis of the results of the habitat analysis of boreal caribou is presented in Table CEEA-92b.

Considering the entire area of influence (projected infrastructure and buffer zone), and excluding anthropogenic disturbances, only 3.5% of the habitat corresponds to large-scale habitat criteria for boreal caribou, that is, caribou-friendly habitat that is free from disturbance. This situation seems to be common at the scale of the landscape on the outskirts of the lithium - tantalum Rose mining project.

The proportions of large-scale habitats in the portion of the area of influence of the proposed mine cover 585.7 ha or 59.1 % of the area. Of these, 55.8 % (552.7 ha) of the area was affected by fires less than 40 years old.

For peatlands that could represent habitats used during calving, parturition and rutting, they cover 26.8% (264.9 ha) of the area of influence and 29.5% (113, 2 ha) of the projected infrastructure area. Of these peatlands, the total present in the proposed infrastructure area has been affected by recent fires, while 26.1% (258.0 ha) has been affected in the area of influence.

Thus, the area of the components that respond to the habitat types used by woodland caribou to complete their vital processes in the area of the mine's proposed infrastructure and its zone of influence is insignificant at the scale of the area. Study Area (50 km) and even less at Conservation Unit QC-6 of the Woodland Caribou Recovery Program (Rangifertarandus caribou), boreal population, in Canada.

As a result, the project will have no discernible impact on maintaining a minimum of 65 % undisturbed habitat, as well as on the availability of biophysical attributes required by woodland caribou to ensure self-sufficiency for the local population.

Table 92b Analysis habitat potential s boreal caribou in the portion of the footprint of the mine and its buffer area 500 m undisturbed by permanent anthropogenic elements

Study zone	Influence area (990.4 ha)						Mine footprint (384.3 ha)					
	Total		Fire		Undisturbed		Total		Fire		Undisturbed	
	Ha	%	Ha	%	Ha	%	Ha	%	Ha	%	Ha	%
Large scale habitat												
Black spruce	80.8	8.2	80.8	8.2	0.0	0.0	15.8	4.1	15.8	4.1	0.0	0.0
Stand with indeterminate softwood	57.6	5.8	56.5	5.7	1.1	0.1	14.0	3.6	14.0	3.6	0.0	0.0
Mixed stand predominantly coniferous	110.0	11.1	110.0	11.1	0.0	0.0	45.4	11.8	45.4	11.8	0.0	0.0
Gray pine forest	337.3	34.1	305.4	30.8	31.9	3.4	154.5	40.2	154.5	40.2	0.0	0.0
Sub-total	*585.7*	*59.1*	*552.7*	*55.8*	*33.0*	*3.5*	*229.7*	*59.8*	*229.7*	*59.8*	*0.0*	*0.0*
Habitat potential farrowing of farrowing and rutting post												
Woody boggy bog	122.3	12.3	121.6	12.3	0.6	0.1	68.0	17.7	68.0	17.7	0.0	0.0
Open ombrotrophic peat bog	142.7	14.4	136.4	13.8	6.3	0.7	45.2	11.8	45.2	11.8	0.0	0.0
Sub-total	*264.9*	*26.8*	*258.0*	*26.1*	*6.9*	*0.7*	*113.2*	*29.5*	*113.2*	*29.5*	*0.0*	*0.0*
Other groups not selected as potential habitat												
anthropogenic	1.2	0.1	1.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bétulaie	30.5	3.1	30.5	3.1	0.0	0.0	12.9	3.4	12.9	3.4	0.0	0.0
Burned	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Shallow water (pond)	0.6	0.1	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lake	38.9	3.9	36.8	3.7	2.1	0.2	0.7	0.2	0.7	0.2	0.0	0.0
Tree swamp	26.1	2.6	26.1	2.6	0.0	0.0	11.7	3.1	11.7	3.1	0.0	0.0
Shrub swamp	2.7	0.3	2.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mixed population with leafy dominance	39.5	4.0	39.5	4.0	0.0	0.0	16.0	4.2	16.0	4.2	0.0	0.0
Planting	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tank	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sub-total	*139.8*	*14.1*	*137.6*	*13.9*	*2.1*	*0.2*	*41.4*	*10.8*	*41.4*	*10.8*	*0.0*	*0.0*
Total	**990.4**	**100.0**	**948.4**	**95.8**	**42.0**	**4.4**	**384.3**	**100**	**384.3**	**100.0**	**0.0**	**0.0**

The permanent human disturbances were not included in this table. Thus, the total area of the zone of influence is equivalent to 1,890.4 acres (anthropogenic disturbances of 900 acres) and that of the mining infrastructure 614.02 acres (anthropogenic disturbances of 229.72 acres).

B) Present a cumulative effects analysis on woodland caribou, taking into account the habitat requirements of woodland caribou.

ANSWER

As previously presented, the lithium - tantalum Rose mining project will not have a significant impact in terms of direct or functional loss of habitat for the woodland caribou likely to frequent the area and thus, no cumulative effect. The environment is already permanently disturbed by about 48 % in the mine footprint, including an area of influence of 500 m at the periphery.

The components of the environment that can meet the requirements of caribou habitat characteristics are very fragmented and their connectivity with the surrounding environment is greatly reduced by existing linear structures, which enclave the study area of the planned infrastructure and its area influence of 500 m. Indeed, note the presence of the Nemiscau - Eastmain-1 road and two power lines.

93. CARIBOU - PORTRAIT OF THE USE OF THE STUDY AREA WITH THE HELP OF RADIO COLLARS

On page 7-151 of the Environmental Impact Statement, the proponent uses data collected by the Quebec Ministry of Forests, Wildlife and Parks using telemetry collars to draw a portrait of the use of the study area by boreal caribou. Given the lack of information on the context in which these data were collected, it is difficult to assess their value.

According to the comments of the Cree Nation Government, data from telemetry tracking would be partial data since a small number of individuals in the caribou herd are equipped with telemetry collars.

The promoter must:

A) Provide the necessary information to understand why the caribou telemetry data was taken.

ANSWER

According to the information provided by the MFFP (email dated 05-09-2019 from Guillaume Szor Biologist M. Sc, Wildlife Management Directorate of Nord-du-Québec), the data presented come from the population monitoring program of Woodland caribou carried out by the MFFP. The purpose of this monitoring is to improve knowledge of the distribution, abundance, trend and population dynamics of boreal (woodland) caribou in order to inform and support management and conservation decisions for this species. The acquisition of telemetry data is only one of the many components of this program. These telemetry data are used, among other things, to establish the range of different populations, describe patterns of habitat use and estimate survival rates of different segments of the population. They also make it possible to locate individuals in order to obtain different biological indicators making it possible, among others, to evaluate the trend of a population.

Considering that the female segment of the population is the one that has the greatest impact on the population of woodland caribou populations, current monitoring is very largely geared towards tracking females. Thus, the data presented are not necessarily representative of the male segment of the population. In addition, a very small proportion (<5 %) of each woodland caribou population is equipped with telescopic collars, but these are as evenly distributed across the range of the population as possible. It is therefore important to remember that the lack of telemetry data in one area does not necessarily mean the absence of caribou. Moreover, given the gregarious behavior of woodland caribou, particularly during the winter season, it is important to consider that a telemetric location at a given location may mean the presence of several caribou.

B) Explain the purpose and objectives of these studies on telemetry data using caribou transmitters, the methodology used, the choice of individuals that were followed, the sex, the percentage of individuals monitored, the limitations of the study, etc. or clearly indicate where it is possible to obtain this information.

ANSWER

The MFFP's inventory and monitoring methods are standardized throughout Quebec and represent the best sources of information available at the provincial level. It is on the same basis of information, provided by provincial and territorial jurisdictions, that the scientific assessment for the identification of critical habitat for the Boreal population of Woodland Caribou (Rangifer tarandus caribou) in Canada (update 2011) based its average estimate of local population size presented in Appendix F of the Boreal Woodland Caribou Recovery Strategy. Although these data may carry some biases, they allow, among other things, to establish the range of different populations and to describe the patterns of habitat use by density of point of occurrence analyzes. It reflects the best picture of woodland caribou use of the study area, which, as mentioned in the EIS, reveals a very low level of use by boreal caribou.

C) Review the description of the use of the area of study by the caribou as well as the effects on caribou considering the biases associated with the use of telemetry data.

ANSWER

The analysis of the habitat conditions confirms that the area offers few biophysical elements favoring the presence of caribou and, in return, natural and anthropogenic disturbances favoring, in the current conditions, the avoidance of this zone. Thus, despite the biases associated with the use of telemetry data provided by the MFFP, it is possible to conclude that the effects of the project on caribou presented in the EIS remain representative of the situation. This does not exclude, however, beyond doubt, the fact that a caribou may have frequented the area, especially when traveling, despite the absence of telemetry data. This situation, however, seems unlikely.

94. CARIBOU - EFFECTS

In the impact statement, the proponent mentions that habitat loss and alteration, noise and light disturbances and collision risks are the potential effects for each phase of the project on the caribou Boreal.

However, other effects are likely to be generated by the project. For example, noise and vibration generated by blasting activities, loss of connectivity within the study area or in the Qc-6 area of ease of movement of predators. Any negative effects of a caribou project should be identified and consistent with the recovery strategy.

In order to be consistent with the Boreal Woodland Caribou Recovery Strategy, the description of anticipated effects should at a minimum address effects on individuals (eg, mortality, predation), maintenance of connectivity, and undisturbed habitat within the 500-meter buffer zone and their combined effects on recovery objectives for woodland caribou, boreal population.

Section 7.6.8 (p.7-176) states that the project will have no effect on caribou, despite the loss of habitat created by the project.

As a result, no monitoring and follow-up program is proposed.

The promoter must:

A) Review the identification and description of the direct and indirect effects of the project on the woodland caribou (ie, individual) as well as on the different types of habitat frequented taking into account all project activities including blasting.

ANSWER

The main threats to boreal caribou identified in Chapter 4 of the Woodland Caribou Recovery Strategy, Boreal Population, that may be associated with the Project are habitat alteration (loss, degradation or fragmentation) caused by human activities and predation. With respect to habitat loss, this effect was addressed in the response to question CEEA 92-a.

Habitat fragmentation

Boreal caribou are negatively influenced not only by the destruction or modification of habitat, but also by the excessive fragmentation of it (Courtois, 2003). Linear structures can act as barriers to movement and fragment habitat (St-Laurent et al. 2012). Several authors mention that by acting as a barrier to movement, the road leads to a loss of functional habitat, in addition to leading to its fragmentation (Renaud et al., 2010). The effect of a road as a barrier to caribou movement or the fragmentation of its functional habitat is proportional to the volume of traffic on it. In the short term, Mahoney and Shaefer (2002) mention that it would be the construction of the road and its use by the vehicles, rather than the physical structure itself, that would actually have negative impacts on the caribou, especially during the crucial phases of its life cycle.

The mining Rose Lithium project - tantalum is located near the Nemiscau-Eastmain-1 road. The projected sections of roads to link the mining project are located within the permanent disturbance zone of the Nemiscau -Eastmain-1 road. The projected access network is thus deployed mainly in the mine site. Overall, the proposed mine site is concentrated in an area extending approximately 4 km in the west-east axis. Habitats on both sides of the proposed mining infrastructure offer no exceptional conditions for boreal caribou. The plant groups and biophysical conditions found there are widespread throughout the region. Habitats located in the area of influence are greatly disturbed by recent fires, anthropogenic structures, or an overlap of both types of disturbance.

In conclusion, the project will have no effect on the fragmentation of boreal caribou habitat. In fact, the proposed small-scale mine site is located between existing infrastructures (road and electric power line), allowing the caribou to easily bypass it. In addition, there is poor habitat quality for boreal caribou within and around the mining site's influence zone. Thus, it is highly probable, considering these elements, that the caribou already avoids the zone of influence of the projected mine site.

Increase in predation

The increase in caribou predation in relation to anthropogenic infrastructure is associated with two phenomena, namely, the increase in predator density and the improvement of their condition of displacement, thus increasing their hunting efficiency.

Deforestation by natural (fire) or anthropogenic (logging) causes of the boreal forest rejuvenates the forest landscape and promotes the development of hardwood species (felling). These early stages of forest regeneration provide quality habitat for moose, which increases its density, but in turn causes an increase in densities of its main predator, the gray wolf (Canis lupus). By apparent competition, the increase in wolf density increases the predation pressure on the woodland caribou, which, because of its smaller size, is more vulnerable to this predator's attacks. In addition, deforestation is not only good for moose. Indeed, by developing berry biomass, it also provides favorable conditions for increasing black bear densities (Brodeur et al., 2008), another important predator of woodland caribou, mainly for fawns. (Pinard et al., 2012).

These effects of deforestation on moose, and ultimately on wolf and black bear populations, are now recognized as a major cause of woodland caribou declines in North America, as predation has been identified as one of the major factors limiting caribou populations (Quebec Woodland Caribou Recovery Team, 2013). This phenomenon has already been found in most of the range of boreal caribou.

Certain natural conditions can however limit the evolution of this phenomenon. For example, studies have found that nesting risks are generally lower for spruce stands (Grondin et al. 2003). It has also been shown that in some northern regions, coniferous species appear to persist in stands regenerated by natural gaps without hardwood invasion (Pham et al. 2004).

Studies also indicate that the probability of encounters between the woodland caribou and the wolf increases in proximity to linear structures. Authors note that linear corridors, such as roads, allow wolves to travel at higher speeds and be more efficient at hunting, thereby increasing their predation pressure on large ungulates. (Recovery Team Quebec Woodland Caribou, 2013). Low-density roads can sometimes be used as a seasonal movement corridor, but their use ceases with the construction of important roads, such as asphalt roads, or when opportunities for encounters with wolves and men increase (Nellemann et al., 2000).

The deforestation areas for the infrastructure development of the Rose lithium-tantalum mining project are not likely to favor moose habitat conditions and thus allow an increase in wolf and black bear populations representing the main predators of the boreal caribou. Mine infrastructure does not include linear features that allow wolves to travel at higher speeds and be more efficient at hunting, thereby increasing their predation pressure on large ungulates including boreal caribou.

B) Describe and explain the effects of direct losses for each habitat type by presenting the biophysical characteristics required by caribou to complete their life processes.

ANSWER

No significant direct loss of habitat required by caribou to complete its life processes is apprehended.

C) Identify and describe all possible measures to minimize the negative effects of the project on the caribou wood, population boreal and its habitat; all the effects negatives should be considered (not only important effects). Mitigation measures must be consistent with the recovery strategy for the species.

ANSWER

Considering the nature, extent and location of the Rose lithium-tantalum mine project, the main findings regarding the potential effects on boreal caribou and its habitat conditions are as follows:

- Despite the potential presence of caribou in the study area or near the project footprint during seasonal movement, current knowledge indicates that the species has used it very little in the past decade, whether they are forest-dwelling caribou or migratory caribou.

- In the zone of influence of the mine including this one, the medium in the natural state, without considering the anthropic disturbances, is constituted in proportions of the order of 40.9% of biophysical elements not answering to large-scale habitat criteria for boreal caribou and this is common at the landscape scale at the periphery of the mining project.

- This area has undergone recent fire disturbance that will take, even in an optimistic scenario, more time to regenerate than the entire life of the mine (23 years).

- Considering the large area covered by these lights, if habitats regenerate properly, habitat conditions that will be recreated will be abundant on the edge of the mine. In fact, the fires disturbed caribou habitat by 44 % within a radius of 50 km around the center of the proposed mine.

The Rose lithium-tantalum mine project meets the criteria to mitigate the negative effects on boreal caribou based on the following items where it minimizes the footprint of the project:

- using an area where habitat is intensely disturbed by human activity and fire, and historically uncrowded by both boreal caribou and eastern migrants;
- using a biophysical environment that is widespread on the landscape scale;

- using a medium that, under natural conditions, has low biophysical conditions that meet the characteristics of the critical habitat necessary for the vital functions of the species;

- limiting the spread of infrastructure in the territory, including access roads that can cause habitat fragmentation and the creation of corridors favoring the movement of predators;

- limits the life of the mine to a period 2 times shorter (23 years) than that required for the regeneration of conditions in areas naturally disturbed by fire (approximately 40 years);

- Restoring all areas of the mine following its closure, either by revegetation or impoundment techniques.

As a result, the Rose Lithium-Tantalum mine project will have no foreseeable effect on caribou and its habitat during both construction and operational activities of the Project, and thus no potential impact on the objectives of the Recovery Strategy.

D) Update the analysis of the project's residual effects on caribou wood

ANSWER

No update is necessary.

E) Describe the effects of residual effects on the population and distribution objectives identified in the Woodland Caribou Recovery Strategy (ECCC 2012) as follows:

- *Maintain the population of the local population.*
- *Maintain the habitat status in terms of area and undisturbed habitat types, to ensure self-sufficiency of the local Woodland Caribou population. The goal is to maintain a minimum of 65% undisturbed habitat and the availability* of biophysical attributes required for woodland caribou.

ANSWER

This aspect has been answered in answer to question CEEA-92 A.

F) Considering the update of the potential effects of the project on boreal caribou, evaluate and discuss the appropriateness of implementing a monitoring program.

ANSWER

The low probability that the species will frequent the zone of influence of the mine during periods of construction, operation and restoration of the environment makes it very difficult to set up a monitoring program for boreal or migratory caribou , particularly for the detection of individuals who come to frequent the mine site and its surroundings. Alternatives to educate users in the project area will be developed in a general species at risk monitoring program. The collaboration of MFFP and Cree communities will be solicited in the development and implementation of this program.

95. CARIBOU - UNRESTORED AREAS

On page 7-176 of the Environmental Impact Statement, it is stated that restoration work will be carried out during the closure phase and that softwood species will be preferred.

The promoter must:

A) Evaluate the areas that cannot be restored during the closing phase (pit, roads, etc.).

ANSWER

A redevelopment and site restoration plan for the Rose Lithium tantalum project was filed in 2019 "Redevelopment and Site Restoration Plan for the Rose Lithium Tantalum Original Project. Version No. PC 2019/01/28 657142-0000-4GER-0001".

This plan provides for the total area of infrastructure to be revegetated during the closure phase (520.7 ha). The pit (93.3 ha) will be filled with water and will integrate with the aquatic environment of the area (see map in Appendix CEEA-95). Thus, we consider that all areas will be restored following the closure of the mine.

B) Specify whether a follow-up of the restoration activities will be carried out. If applicable, describe the monitoring program.

ANSWER

The restoration plan includes agronomic monitoring during the post-restoration period. This monitoring will last for a minimum of 5 years and will be carried out in the form of annual inspections. The inspections will consist mainly of a visual evaluation of various parameters such as the condition of the plants, the percentage of areas showing a vegetative revival, soil erosion, etc. Thus, the monitoring will be carried out by a qualified professional who will confirm the viability and sustainability of the vegetation according to the conditions in place. In addition to visual inspection, a vegetation survey will be conducted to assess vegetation cover, species composition, density and frequency.

If necessary, booster fertilizers will be applied and replanting will be done. Agronomic monitoring will assess the growth and diversification of the species implanted at closure and take actions if adjustments are needed. A visit report including the information collected and the relevant photographs will be made following the inspection.

SPECIES AT RISK

96. SPECIES AT RISK - EFFECTS ASSESSMENT

Evaluation of the environmental effects of the various phases of the project on species at risk (species listed in Schedule 1 of the Species at Risk Act [SARA]) and evaluated by the Committee on the Status of Endangered Wildlife in Canada [COSEWIC]) is incomplete or incomplete for some species such as wolverine and caribou, an eastern migratory population.

The assessment of the environmental effects of the project and the cumulative effects should include all species at risk likely to be in the study area (past, present, future), including the wolverine. We also recommend that species that have been assessed by COSEWIC, but are not yet listed on Schedule 1 of SARA, be included in the assessment of environmental and cumulative effects, including caribou, the migratory population of the species. Is.

The promoter must:

A) Assess the environmental and cumulative effects for all species at risk likely to be in the study area, including wolverines.

ANSWER

Wolverines

In Quebec, wolverine relative densities, based on the probable distribution of the species, are considered to be low (Fortin et al. 2004). The project study area is located south of the probable range of the species (Fortin et al. 2004).

In April 1989, two populations were distinguished, including the eastern population in Quebec and Labrador, which is likely to frequent the mine sector. This population was designated an endangered species in May 2003, which means a species facing imminent extinction on the planet or in the country. COSEWIC 2014 Assessment and Status Report noted that wolverine sightings continue to be reported throughout the eastern subpopulation (Quebec and Labrador), but no observations were confirmed since 1978. Recent observations and research indicate that the wolverine is very rare, at a level not detectable by current survey activities, or extinct in Quebec.

Indeed, Tardif et al. (2005) reports 16 mentions for the entire Quebec territory in the CDPNQ database. However, according to the Wolverine Recovery Plan, most observations made in Quebec are currently unconfirmed. The latest official survey taken in the eastern population are two wolverines caught in Labrador in 1965, and in Quebec near Schefferville in 1978 (Dagenais, 1988). In Quebec, there has been no record of capture for 40 years in Aboriginal communities within the Wolverine's historical range (Environment Canada 2016).

In 2006, a systematic inventory of 100,000 km^2 in the Abitibi-James Bay lowland natural province identified two possible wolverine tracks, a few dozen kilometers from LaSarre and Matagami (Environment Canada 2016, Fortin 2006). However, these tracks have not been confirmed as those of a wolverine. In addition, Environment Canada (2016) also mentions that low-level aerial surveys in Quebec did not reveal the presence of the species.

Wolverines are generally associated with the presence of migratory caribou. The regions most likely to be home to the Eastern population are northern Quebec and Labrador (eg Torngat Mountains, Groulx Mountains, Otish Mountains) (Gallais and Messier 2012). Large caribou herds (George River and Leaves River) frequent their areas over several hundred thousand square kilometers (Couturier et al. 2004). As mentioned on page 7-155 of the impact study, the presence of migratory caribou in the area covering our study area is considered marginal (Quebec Woodland Caribou Recovery Team, 2013a).

Considering the low probability of the presence of this species, the territory it occupies, the small size of the area of influence of the mining project, and the intensity of human occupation present on this sector, the mining project Rose lithium - tantalum will have no effect on this species. There is therefore no impact, mitigation measures, or cumulative effect apprehended.

Chiroptera

The assessment of the effects of the project on the bats is presented in section 7.7 of the impact study.

B) Assess the environmental and cumulative effects for species assessed by the Committee on the Status of Endangered Wildlife in Canada that are not yet listed on Schedule 1 of the Species at Risk Act and are likely to occur the study area, including the caribou, eastern migratory population.

ANSWER

Caribou

As mentioned in section 7.6.5.2 of impact assessment, the caribou migratory population of the East is likely to frequent the study area during the winter period, from mid-November to mid-March, in search of food. However, its presence is considered marginal. The MFFP telemetry tracking data indicate that over the past decade, individuals from the Leaf River population have frequented the study area. These visits were all made in winter between December 1st and January 6th. The duration of their stays in the area ranged from 2 to 16 days. Nearly all location points are located in the northern portion of the study area more than 25 km from the center of the proposed mine

Caribou in this population are likely to frequent the area when population numbers are high and the population is moving south for foraging. The population of the herd of the leaf river has experienced a sharp decline in the order of nearly 70 %, from more than 600 000 in the early 2000s to 181 000 in November 2016 (MFFP, 2018). The population indicators for the herd vary greatly from year to year and the demographic situation of the herd is very worrisome. It is therefore unlikely that it will visit the mine project area in the next few decades. For the same considerations as for boreal caribou regarding biophysical conditions and the level of environmental disturbance in the area of influence of the mine, we conclude that the project is not likely to have adverse effects on the population of the migrating caribou from the east Leaf River herd.

Chiroptera

For its part, the cumulative effects assessment of the project on bats is detailed in the response to the following question (CEEA-97).

C) Describe the effects of cumulative effects on the population and distribution objectives identified in recovery strategies, where available.

ANSWER

Caribou

No consequences of cumulative effects on population and distribution objectives identified in the recovery strategies are captured for caribou in the Eastern Migratory Population.

Chiroptera

As noted in the response to the following question (CEEA - 97), the project will not result in significant cumulative effects on bats. Thus, no impact is expected on the population objectives of the Recovery Strategy for Little Brown Myotis, Northern Myotis, and Eastern Pipistrelle (ECC, 2018). In areas affected by White-nose Syndrome (WNS), these goals are, in the short term (12-18 years), to halt downward trends or, if possible, to in the long term (many generations) reach a self-sustaining, resilient, redundant and representative population (ECC, 2018).

Similarly, no negative consequences are anticipated with regard to the objectives of the Recovery Plan for three species of bats resident in Quebec: the little brown bat (Myotis lucifugus), the northern bat (Myotis septentrionalis) and Eastern pipistrelle (Perimyotis subflavus) - 2019-2029 (Recovery Team of Quebec Bats, 2019). Indeed, the objectives of this plan are aimed at public awareness, population monitoring and knowledge acquisition, as well as the development, application and evaluation of protection or mitigation measures.

References:

ENVIRONMENT AND CLIMATE CHANGE CANADA (ECC). 2018 of the little brown bat Recovery Program (*Myotis lucifugus*), Nordic bat (*Myotis septentrionalis*) and the eastern pipistrelle (

Perimyotis subflavus) in Canada Recovery Strategy Series of the *Act on Species at Risk* , Environment and Climate Change Canada, Ottawa. ix + 189 p.

TEAM RECOVERY OF THE BRAINS-MOUSE OF QUÉBEC (2019). Recovery plan for three species of bats resident in Quebec: the little brown bat (Myotis lucifugus), the northern bat (Myotis septentrionalis) and the eastern pipistrelle (Perimyotis subflavus) - 2019-2029 , produced for the Ministry of Forests, Wildlife and Parks, Wildlife and Habitats Management Branch, 102 p.

CUMULATIVE EFFECTS

97. CUMULATIVE EFFECTS - ASSESSING THE IMPORTANCE OF CUMULA TI FS EFFECTS BY USING CRITERIA

To the P. 10-4 of the Environmental Impact Statement (EIS), the proponent states that "cumulative effects can be assessed in terms of intensity, duration and extent. The integration of these criteria then makes it possible to qualify the cumulative effects of a project as being important, not important or unknown. "However, the proponent does not refer to the definitions of these criteria, nor does it specify whether the definitions presented in Section 5 of the EIS are adopted, including the intensity that considers several subcriteria.

In addition, the criteria and potential sub-criteria are not systematically described and justified for each cumulative effects significance assessment. For example, in section 10.7.2.4 of the EIS (pp. 10-35, Cumulative Effects on Migratory Birds), the proponent states: "The cumulative effect of this project on migratory forest birds is low intensity., point range, long duration and low probability of occurrence. Thus, the significance of the cumulative effect is considered very low. Although general explanations are provided before these last sentences, it is not possible to make the link with the mentioned criteria.

The promoter must:

A) Define the criteria of evaluation of the effects cumulative, including the magnitude, geographic extent, duration and sub-criteria if necessary (contexts ecological and social, frequency, reversibility, environmental standards, guidelines Guidelines and objectives).

B) Describe and justify the evaluation of its criteria and sub-criteria, if applicable, for each of its valued components. This description and justification must be made for the examples given, but also for all valued components. The examples provided are not exhaustive.

C) In the case where sub-criteria are used in the cumulative effects assessment, ensure that when subcriteria do not apply to a component, it is clearly indicated to show that This is not an oversight and its criterion does not take into account this / these element (s). For example, the ecological context may not apply to all valued components.

ANSWER

Table R-97 provides the rationale for the criteria used to determine the significance of cumulative effects. The description of the criteria is explained in detail in the EIS for the effects assessment methodology (see also CEEA-33). Temporal boundaries were explained in the EIS and summarized in Table 10-1 of the EIS.

Table CEEA-97 Rationale for Criteria Used to Determine Significance of Cumulative Effects

Component	Ecosystem value Justification		Socio-economic value Justification	Degree of disturbance Justification	Intensity (magnitude)	Spatial extent	Duration	Probability of occurrence
Woodland Caribou	**Great.** Recognized qualities for which protection is a source of concern for certain listed or potentially present species		**Great.** Legal or regulatory protection measures	Application of special mitigation measures **Low.** Loss and disturbance of limited habitat (remote projects), with little significant impact on woodland caribou conditions to fulfill vital functions necessary to maintain population level The completion of the various projects will not lead to any significant variation in the increase in the rate of woodland caribou habitat disturbance, particularly in the analysis unit (radius of 50 km at the periphery of the mine). The effects in terms of real or functional loss of habitat are limited to a zone of influence of 5 km on the periphery of the mine where the environment is already greatly disturbed. So little cumulative effect with other potential projects	**Average**	**Regional**	**Long**	**Low**
Migratory birds	**Average.** Low specific wealth		**Low.** No concerns raised by the public	Application of common and specific mitigation measures **Low.** Species that are likely to be most affected by the various projects will be the same species that have the highest abundance (at least in the area of influence of the project) Similar habitat types around the project site will allow these individuals to find new nesting sites, thus little influence with other potential projects	**Low**	**Regional**	**Long**	**Average**
Species of birds at risk	**Great.** Strong interest and recognized qualities		**Great.** Legal or regulatory protection measures	Application of common and specific mitigation measures **Low.** Similar habitat types around the project site will allow these individuals to find new sites for nesting. Of the five status species, the Olive-sided Flycatcher, Canada Warbler and	**Average.** Positive cumulative effect for Common Nighthawk	**Regional**	**Long**	**Average**

Component	Ecosystem value Justification		Socio-economic value Justification	Degree of disturbance Justification	Intensity (magnitude)	Spatial extent	Duration	Probability of occurrence
				Rusty Blackbird were not found in the inventories. Little influence with other potential projects Bonus for the Common Nighthawk				
Chiroptera	**Great.** The conservation of most species of bats is the subject of consensus among the scientific community		**Great.** Legal status of conservation now enjoyed by most species of bats	Application of common and specific mitigation measures Application of common and specific mitigation measures **Low.** The natural environments present on the site are of average quality for chiroptera. Deforestation during the breeding season. Sufficient replacement habitat of similar quality in the region	**Average**	**Regional**	**Long**	**Low**
Fish and fish habitat	**Great.** Element of strong interest even though fish are scarce in the restricted study area		**Great.** Legal or regulatory protection measures. Food resource for the Crees	Application of common and specific mitigation measures **Low.** Distance from potential projects. The cumulative effect on fish and their habitat is unlikely to be significantly increased by the project	**Average**	**Regional**	**Long**	**Low**
Current Use of Lands and Resources by the Crees	N / A -		**Average.** Valorisation by the First Nations and intimately linked to their cultural identity	Application of common and specific mitigation measures **Low.** Users of the territory may continue their traditional activities in the same place, or else, elsewhere in the territory	**Low**	**Local**	**Long**	**Low**
Community welfare and human health of the Crees	N / A -		**Average.** Component valued socially and culturally	Application of common and specific mitigation measures **Low.** The agreements for the work can bring a certain well-being. Standards applicable to projects (dust, sound, water quality, etc.) will guarantee the health of the Crees; removal of projects limiting any cumulative effect	**Low**	**Local**	**Long**	**Low**

98. CUMULATIVE EFFECTS - QUALITY OF WATER AND AIR, AND SOUND ENVIRONMENT

In the section on Determination of Valued Components (VCs) for the Cumulative Effects Analysis (pp. 10-6) of the Environmental Impact Statement, the proponent mentions: "Only the VCs of the biological and human media were considered for cumulative effects analysis. The components of the physical environment, such as water and air quality, sound and light, which may have raised concerns from Cree communities, are considered globally in the cumulative effects analysis. of the Cree Communities component of Eastmain and Nemaska."

The only reference to these VCs in the Cumulative Effects Analysis is in Section 10 (pp. 10-55): "Although individually, the Rose Mine Project and each of the other projects in the territory may have overall effects. low residuals on the CV Current use of lands and resources for traditional purposes, they result in each time changes to sections of traplines (increased ridership, noise and light pollution, changes in the quality of the air and water, pressure on the resource, area avoidance and land loss) which, cumulatively, can disrupt the activities of the Crees in the long term. However, although the projects mentioned will change the way the activities will take place in the territory, they will not prevent the continuation of activities on the territory."

The proponent must provide more detail on how the components of the physical environment, such as water and air quality and sound environment, were considered in the cumulative effects analysis of the Cree Communities component. Eastmain and Nemaska.

ANSWER

The cumulative effects analysis for the Cree Communities component included the current use of lands and resources, as well as community welfare and human health. Several valued components addressed in the cumulative effects were directly or indirectly related to the Cree Communities component, such as water quality (such as fish and mammals and their habitats), air quality, and sound environment.

From the start, it should be noted that the territory of the mine site is not used much by the First Nations; the mine area is not frequented by the tallyman. Other potential activities (mining, forestry, tourism, etc.), although on the Cree territory (mainly in Category III lands), are a good distance from one another. Traditional food consumption in the area of study and its surroundings is also occasional, which rules out the chronic contamination through substances consumed on a daily or weekly basis.

In fact, the communities consulted do not see this as a constraint to the exercise of their cultural or traditional activities. The arrival of the project is not incompatible with current or future use in planning and land use. Although the territory was modified with the creation of Hydro-Québec's Eastmain 1 reservoir, the Rose project is not perceived by the Cree as a cumulative impact.

As part of the consultations with the various communities, CEC presented a summary of the impacts associated with the project, particularly in relation to the impacts on the quality of the water and air as well as the associated impacts at the level of birds, fish, mammals and mitigation measures put forward to minimize impacts. At the level of the human environment, the main constraint identified is the increase in traffic (as well as noise and dust). Through the various information sessions and the contacts with the members of the different communities, it was recognized that the mitigation measures and programs put in place are sufficient. Concerns were already taken into account and addressed.

In general, mining projects can sometimes lead to changes in air, water or soil quality that can affect traditional foods. For example, the dust raised by the circulation of ore trucks can be deposited on plants consumed as traditional foods. Contact water with tailings (sterile rock or

tailings from the concentrator) could also impact surface water bodies and contaminate aquatic species consumed by Aboriginal people.

CEC has put in place measures to minimize the spread of potential contaminants in the physical environment and thus the exposure of native people to potential contamination of traditional foods. These common mitigation measures are listed in Table 5-6 of the EIS. The most important mitigation measures are:

- All contact water with ore, waste rock and the industrial area will be collected and reused as process water. The volume of water that will be returned to the environment will therefore be minimized, thereby reducing a potential source of water contamination. In addition, all contact water will be treated via a treatment unit before returning to the environment.
- Mitigation measures will be introduced to reduce the emission of dust into the atmosphere.
- A no-hunting zone on the mining/industrial site, particularly for safety reasons, which also coincides with the greatest risk of contamination of the environment.
- A spill contingency plan to prevent the spread of potential contaminants.
- A two-way communication plan to take into account the concerns of the community and the changes perceived on the territory via traditional knowledge and to inform users of the territory of the current operation and/or risks, if any, in case of incident/accident. This communication plan will include a complaints management system.

Thus, the mining Rose Lithium-Tantalum project will have a potential for cumulative effects on the current use of lands and resources by the Cree of medium intensity, punctual extent and duration. Thus, this cumulative effect is considered not important. There is also potential for cumulative effects of the project on community well-being and human health. The latter is considered of low intensity, of local extent and of long duration. Thus, the cumulative effect is considered not significant.

99. CUMULATIVE EFFECTS - RELEASE OF MERCURY FROM THE CREATION OF THE EASTMAIN RESERVOIR

According to the Society to Overcome Pollution (SVP), mercury deposited and accumulated in boreal forest soil undergoes transformation to methylmercury following the flooding of the territory during the creation of a hydroelectric reservoir. The methylmercury in water would then bioaccumulate in fish. According to the SVP, currently, the area flooded by the Eastmain 1 reservoir releases mercury from the soil.

Also, as mentioned by the Proponent in section 10.7.6.2 of its Environmental Impact Statement (p.10-51) "the discovery of high levels of mercury in the flesh of fish, due to industrial pollution in the south James Bay and the impoundment of reservoirs further north encouraged the Crees to modify their harvesting and fish consumption strategies. "

The proponent must assess the cumulative effects of mining operations (eg, soil reclamation, and other projects identified for the cumulative effects assessment) on mercury concentrations to and from the Eastmain Reservoir. The proponent must consider this assessment in the cumulative effects section on Aboriginal communities (human health).

ANSWER

Geochemical reports show that the rock is non-leachable, especially for mercury.
As for the handling of the soil, all the soils handled are found either in a stockpile (for waste rock, tailings, and overburden), or on the industrial zone. All the stockpiles are surrounded by ditches, and the water from these ditches is monitored, and can be treated in an unlikely event of mercury being detected in these waters. It is the same case for the water of the industrial zone.

For all these reasons, no cumulative effect is expected for the release of mercury from disturbed soils and even less so for the fish that can be used as food for the Crees.

ACCIDENTS AND FAILURES

100. ACCIDENTS AND MALFUNCTIONS - ACCIDENTAL DISCHARGE OF PETROLEUM PRODUCTS

The proposed mitigation measures in Table 5-6 for hydrocarbons are primarily regulatory requirements (provincial petroleum equipment regulations). The extent of mitigation H7 includes equipment to be used and procedures to be implemented in case of accidental product éversement oil. However, it is not indicated whether preventive measures will also be put in place by the proponent for the transfer of petroleum products, for example the use of berms that are deployed at the time of delivery of petroleum products and which may to contain a spill that may occur and to prevent contamination of soils, surface water and groundwater.

Environment and Climate Change Canada notes that the use of physical barriers related to the transfer of petroleum products, coupled with procedures, are preventative measures that could be used to contain spills that may occur during the transfer of products and thus prevent contamination of soil, surface water and groundwater.

The promoter must:

A) Describe the preventive measures that will be implemented to prevent any contamination of surface water, soil and groundwater by spills that may occur during refueling of petroleum equipment.
- Spill kit in all vehicles
- Adding cloths and containers?

ANSWER

Less mobile equipment such the shovel bulldozer will be refueled in the pit with the help of tanker trucks.

The preventive measures are as follows:

- All operators and supervisors will be trained on spill prevention, the importance of protecting the environment, particularly water, and the prevention and emergency measures.
- All equipment will be equipped with a kit in case of leakage, including absorbent cloth and container that operators may put under a possible leak.
- Before the transfer of fuel, operators should check the condition of the hoses, fasteners and transfer points.
- If there is a leak, the transfer is immediately stopped, a perimeter is defined around the leak and a cleaning is done.

B) Add to Table 5-6 the appropriate actions identified on pages 11-19 and 11-20 of the Environmental Impact Statement, for example: the design of transfer locations according to good industrial practices.

C) Provide details on the product transfer area, ie, in addition to establishing procedures, will include physical barriers and review its assessment of effects based on these mitigation measures.

ANSWER

Truck transfer areas will be outside the pit, away from traffic, on designated areas that will be equipped with physical barriers such as riprap or catchment ditch. Final design of these transfer areas will be done during detailed engineering.

101. ACCIDENTS AND MALFUNCTIONS - PROBABILITY OF A SPILL OF PETROLEUM PRODUCTS

To the P. 11-20 of the environmental impact statement, the proponent states: "The history of incidents at similar sites shows that a spill of petroleum products can occur during the life of the mine. The probability is therefore considered average. "

According to the definition of average probability, a spill of petroleum products could "occur once during the operating life of the facility. " The definition of a high probability rather indicates" may occur several times in the operating time installation. "

The proponent must justify why the likelihood of a petroleum spill incident is considered medium.

ANSWER

The operation experience shows that the probability should be high. It is the prevention and response measures that ensure that the consequences of potential spills are minimal.

102. ACCIDENTS AND MALFUNCTIONS - RISK PREVENTION MEASURES ASSOCIATED WITH THE ACCUMULATION OF MINERAL RESIDUES AND STERILE

In section 11.2.5.9 of the Environmental Impact Assessment, the proponent identifies two risk prevention measures associated with tailings and waste rock accumulation (slope instability):
- *carrying out hydrogeological and geotechnical studies; and,*
- *performing a slope stability analysis.*

However, these measures, as formulated, do not indicate how they will prevent possible risks.

The promoter must:

A) Explain how the realization of hydrogeological and geotechnical studies will prevent the risks associated with the accumulation of waste mining and the sterile and indicate when and how often these studies will take place.

ANSWER

Hydrogeological and geotechnical studies are inputs to determine the stability parameters of structures. The engineers responsible for the stability are able to make calculations in order to ensure they are designing stable structures knowing the hydrogeological and geotechnical conditions existing at the mine site.

B) Explain how the achievement of a slope stability analysis will prevent the risks associated with the accumulation of waste mining and the sterile and indicate when and how often this analysis will take place.

ANSWER

The production of a design stability study is the best way to prevent risks associated with slips or instabilities. Qualified engineers are responsible for these studies and incorporate safety

considerations into the design of tailings and waste rock stockpiles and storage areas. During construction, a properly trained work supervision team will ensure that the work is done according to the plans as determined by the stability studies. In operation, annual inspections are also carried out by qualified personnel to ensure the stability of the accumulation structures.

103. ACCIDENTS AND FAILURES - ROAD ACCIDENTS

In section 11.2.5.10 of the Environmental Impact Statement (EIS), the proponent identifies accidents involving hazardous materials and ore trucks on the road network as a potential risk. As a preventive measure, it proposes, among other things, the "maintenance of an emergency measures plan that includes a response procedure in the event of a spill on the road network. "

The emergency measures plan (section 11.3 of the EIS) presents a "road accident procedure". It is specified, however, that "this procedure applies to road accidents occurring on the property of Critical Elements Corporation and does not apply to accidents occurring on public highways. "

The promoter must:

A) Explain whether and how it has to intervene in cases of accidents involving the dangerous goods on public roads, including Highway Eastmain-1.

ANSWER

The drivers will be trained to handle accidents involving hazardous materials. The driver will be responsible for determining whether the spilled material can be safely contained. In this case, he will be responsible for following the steps listed below:

- Control the spill immediately using the spill kit available in the truck.
- Isolate the danger zone and prohibit access.
- Evacuate the premises (other road users near or involved in the accident, if possible)
- Notify the Emergency Command Team (ECT)
- The ECT will advise the Sûreté du Québec and the nearest emergency services

The ECT will be responsible for completing and transmitting the environmental incident report to the MELCC and advising Environment Canada

B) If he intends to intervene in the event of an accident on the public road network, present a procedure in the event of a road accident applying to accidents occurring on the public roads and ensure the applicability of this procedure with the authorities concerned.

ANSWER

CEC does not intend to intervene in road accidents as this is the responsibility of the authorities, but the resources and knowledge of the company will be put at their disposal.

104. ACCIDENTS AND MALFUNCTIONS - RISK PREVENTION MEASURES ASSOCIATED WITH FOREST FIRES

In section 11.2.5.11, the proponent identifies fire risk prevention measures, including: "SOPFEU".

However, this measure, as formulated, does not indicate how it will prevent potential risks.

The proponent must explain what the "SOPFEU" measure is and how it will prevent the risks associated with wildfires.

ANSWER

CEC will work in collaboration with SOPFEU members through the services provided by this organization.

These services may include:

- a notice of forest work for deforestation, in order to allow SOPFEU members to communicate with CEC at about meteorological conditions that may affect the safety of burning wood on the site;
- a site inspection during deforestation to obtain advice on the best deforestation and residue burning techniques to prevent forest fires;
- a vulnerability study when the infrastructures are put in place to maximize prevention on the site;
- training programs for employees on forest fire prevention as well as members of the Emergency Response Brigade (ERB) on the best techniques to extinguish or contain a fire.

In addition, CEC will sign an agreement with SOPFEU to obtain protection in the event of a forest fire.

105. ACCIDENTS AND FAILURES - RISK LEVEL ASSOCIATED WITH A FOREST FIRE

To the P. 11-34 of the Environmental Impact Statement (EIS) (section 11.2.5.11), the proponent indicates that a forest fire threatening the facilities could occur during the life of the mine and the probability of occurrence is considered average. According to the definition presented on p. 11-3, an average probability is described as follows: "may occur once during the operating life of the facility".

According to section 12.3 of the EIA, "between one and eight fires per year have occurred affecting an area within 50 km of the site" and "lightning is predominantly the primary cause of these fires". It adds: "The forecasts show that, by 2100, climate change is expected to increase the favorable conditions for forest fires, increasing the number of fires and their severity. As a result, the risk of wildfire in the area of the study site is important. "Table QC-85-4, presented in the Ministry of the Environment and Climate Change Response Document (2019), is also of high importance.

The proponent must explain in more detail the reasons for a medium probability or re-evaluate the probability of occurrence and the level of risk associated with a forest fire in the study area.

ANSWER

As mentioned in the Environmental Impact Statement, the level of risk is based on risks to people and property. Although there are presently on the site, in its natural state, several fires per year, the proposed mitigation measures (clearing of the site, restrictions on open fires, raising staff awareness of the problem of forest fires, water supply dedicated to fire protection located near the processing plant, hydraulic network with fire hydrant, maintenance of an emergency measures plan including a procedure of intervention in case of forest fire, SOPFEU), will prevent and control these fires before they can cause damage to infrastructure or endanger the employees.

106. ACCIDENTS AND MALFUNCTIONS - ASSESSING ADDITIONAL RISK OF ACCIDENTS AND FAULT IDENTIFIED

To the P. 21 of its additional information (2019), the proponent identifies accident scenarios that could have environmental impacts and were not presented in the Environmental Impact Statement (2018). Although he elaborates on the potential impacts, he does not make an assessment of the risks, that is, their severity and probability.

The proponent shall assess the probability of possible accidents and malfunctions and the severity for any additional hazards identified in the additional information as provided in section 11.2.5 of the EIS.

ANSWER

The risks and probabilities remain as described in the impact study (summarized in Table 11-28). The only additional hazard identified in the additional information was the dike on Lake 3. This latter infrastructure is no longer part of the project.

107. ACCIDENTS AND FAILURES - RAPIDITY OF INTERVENTION OF INTERNAL AND EXTERNAL TEAMS

On several occasions in the Environmental Impact Statement (EIS) and the additional information (2019), the proponent mentions that the prevention and control measures planned to minimize the impact of the risks of accidents and possible failures will be put in place "quickly" including mentioning the emergency measures plan that will allow "quick" interventions.

In section 11.3 of the EIS, the proponent briefly elaborates its procedures in the event of an injury accident (section 11.3.7), in case of fire in a building (section 11.3.8), in the event of a forest fire (section 11.3.9), in the event of a spill of hazardous materials (section 11.3.10), in the event of an explosion (section 11.3.11), in the event of a road accident (section 11.3.12) and in the event of a leak gas (section 11.3.13). For each procedure, several teams and individuals may be called upon to intervene. Intervention teams or external individuals (such as the Forest Fire Protection Society, the nearest hospital service, the 911 emergency service, Urgences-Santé, the Nemaska fire department, the Sûreté of Quebec, the explosives supplier, a team specialized in hazardous materials recovery, Cree Board of Health and Social Services of James Bay in its response to the question QC-84 of the Ministry of Environment and Struggle Climate Change 2019) are even identified in these procedures in addition to the Critical Elements Corporation response teams (the Emergency Command Team [ECSU], the Emergency Response Brigade [BISU], the health and safety-environment coordinator [ESS], the emergency measures coordinator [CMU], the sectoral manager [CSEC], the director general).

However, the proponent does not provide an estimate of the time of application of these procedures and it is not possible to determine whether the desired timeliness could be technically feasible given the possible coordination between internal and external stakeholders and the localization. of the site in northern and remote areas.

The promoter must:

A) For each of its procedures, in case of emergency, estimate a realistic intervention time (ie specify how long each team and individual will be on site to intervene).

ANSWER

For emergencies such the that mentioned are above, there will be a team formed locally that can respond in minutes and manage the situation in time. In the case of extreme emergency that the team cannot manage (forest fire, violence, serious injury), external stakeholders will be contacted and the response time is estimated at 2-3 hours .

B) Clarify the roles of external stakeholders in each of the procedures in case of emergency.

ANSWER

During an emergency, external stakeholders will be contacted to perform the following roles:

- Sûreté du Québec: When a situation cannot be controlled by the emergency response brigade (ERB), they will call the Sûreté du Québec who can create and control access to a security perimeter, maintain access to circulation routes and accompany emergency vehicles, ensuring security of citizens and of workers and assist with their evacuation.

- Nemaska Firefighters: The Nemaska firefighters are responsible for ensuring the protection of the population. It will be essential for ERB to be in contact with the Nemaska Fire Department if there is a possibility of gas leakage, explosions, or a fire that the intervention brigade cannot control without assistance.

- Forest Protection Society against fire (SOPFEU): It may be necessary to contact SOPFEU in the event of a fire forest or fire of such a scale that it becomes impossible for the fire brigade and Nemaska fire services to contain it.

- Explosives Supplier: The supplier of explosives could be contacted about an explosion for which of the additional information would be required.

- Eastmain and/or Nemaska Police: When a situation cannot be controlled by the emergency response brigade, they will call the Eastmain and/or Nemaska police which will ensure the safety of citizens and workers and assist with their evacuation.

108. ACCIDENTS AND MALFUNCTIONS - SPEED OF INTERVENTION AND DISTANCES OF PROPAGATION OF REJECT NOT CONFORMING TO THE FINAL EFFLUENT

To the P. 30 of the additional information (2019), the promoter explains the effects can s of non-compliant to the final effluent discharge. It states that "the anticipated impacts will be the same as in the case of a spill of hazardous materials in the aquatic environment."

As a preventive measure, he proposes (on page 27) "means of intervention with the aim of allowing a rapid intervention during a spill and limiting its spread, thus its impacts on the components of the environment (presence a trained response brigade to respond quickly to a spill and allow the containment of the product, presence of spill kits, sediment barriers, machinery, etc.)."

It should be noted that the Cree communities have raised concerns about possible incidents and their effects on watercourses, particularly in the case of non-compliant effluent discharge.

The promoter must:

A) State what it means by "fast "when it indicates that it plans to intervene quickly in the event of a discharge that does not comply with the effluent. The proponent must present this information in quantitative (time) rather than qualitative terms and provide details of how it plans to intervene within this timeframe.

ANSWER

As mentioned in answer 24c, the water is analyzed continuously before the exit of the WTP. If it does not comply with the regulations, the water will be re-circulated to the storage tank. Therefore, the water that will flow to Stream A will be analyzed by the treatment plant sensor and qualified as compliant with the regulations. If the water is non-compliant, the necessary repairs will be made before the water is discharged into Stream A.

B) In order to estimate the spatial effect of an incident, estimate (quantitative) distances for the possible spread of a non-compliant discharge under different scenarios of response time and time after release (until a return to an uncontaminated state), considering the mobile and less mobile substances in the environment, and represent the whole on one or more maps.

ANSWER

Non-compliant discharges will not be released into the stream A but rather recirculated to the WTP, as mentioned above. In this way, no non- compliant water will be found in the environment.

109. ACCIDENTS AND MALFUNCTIONS - ORGANIZATION AND TASKS OF THE EMERGENCY MEASURES PLAN

In section 11.3.1 of the Environmental Impact Statement, the proponent indicates that in its emergency measures plan the "Director of Operations, Mine Site [DOP]" and the "Superintendent of Mines [SMIN]" are responsible for three identical tasks:

- *Decide on the evacuation of the site, if required;*
- *Obtain an assessment of the emergency and identify the initial measures; and,*
- *Declare the end of the emergency and authorize the reinstatement of the premises, if applicable.*

In addition, in section 11.3.3, the proponent indicates that "the decision to evacuate the site can only be made by the DOP or his replacement".

To avoid confusion in possible emergency, the proponent must identify in its Plan of measures of emergency of responsible unique, and their replacement, for each task. Justify if this is not possible.

ANSWER

The Superintendent of Mines [SOM] is responsible for the above three tasks only when the Director of Operations [DOP] is absent.

110. ACCIDENTS AND MALFUNCTIONS - INTERVENTION TIME OF HOSPITAL SERVICES

In section 11.3.7 of the Environmental Impact Statement, the proponent indicates that the emergency response brigade should contact Urgences-Santé and the nearest hospital.

He added that the transfer, if required, will be done by ambulance.

The Government of the Cree Nation (CNG) has also raised concern about the mechanisms of cooperation between the sponsor and the health department of the Cree Lands Baie - James (Cree Health Board) incident involving several injured and would require the evacuation of these. CNG also states that the Nemaska clinic is the closest health service to the Rose project.

The promoter must:

A) Being given the location of the site of the project in the region remote, identify from now the nearest hospital to be contacted in case of need.

ANSWER

The closest hospital that will be contacted if needed is the Chibougamau Hospital.

B) Estimate the time that would take an ambulance to arrive on the scene of the site of the project from its point of departure.

ANSWER

If an ambulance is deemed necessary, it would leave the CMC Nemaska, a trip that would take about 1 to 2 hours depending on the road conditions.

C) Specify whether a transfer by helicopter may be considered and the case may be, estimated time to reach an emergency service helicopter to the scene of the site project.

ANSWER

The estimated time of arrive for an emergency helicopter would be about 1 to 2 hours.

111. ACCIDENTS AND FAILURES - INVOLVEMENT OF THE FIRE DEPARTMENT OF NEMASKA

In sections 11.3.8, 11.3.10, 11.3.11 and 11.3.12, in the emergency procedures involving fires, the proponent indicates that "the help of the firefighters of Nemaska, Nemiscau" could be requested if required.

The proponent shall, regarding the involvement of the Nemaska fire services in its emergency procedures involving fires, specify:

- *its workforce*
- *its availability (for example 24 / 24h, 7/7 days)*
- *its response time and arrival on the scene.*

ANSWER

It is too early in the process to reach an agreement with the Nemaska Fire Department. It should be noted that CEC's Emergency Response Brigade (ERB) will be adequately trained and equipped to fight a fire and that the Nemaska firefighters' intervention would only be required if the ERB ails to contain the fire. In the event that this intervention is required, the response time is estimated to be 1 to 2 hours.

112. ACCIDENTS AND FAILURES - EMERGENCY MEASURES PLAN (INFORMATION FOR ABORIGINAL COMMUNITIES)

On several occasions in his emergency plan (section 11.3 of the environmental impact study), the proponent indicates that he will make sure to keep the various intervention groups and departments informed of the various incidents that may occur.

The promoter must:

A) Specify whether, for any type of incident, whether minor or not, inform the Aboriginal communities (Eastmain, Nemaska and Waskaganish) of the incident and the follow-up of the situation, as well as inform them of the various incident reports.

ANSWER

As stipulated in the Impacts and Benefits Agreement, CEC will notify the Environmental Committee of any environmental incidents. The emergency response plan will be established in cooperation with the committee and communities and will include a communications plan by which all incidents are reported to the communities.

B) Evaluate the possibility of informing these three Aboriginal communities within 24 hours of the incident and indicate how it intends to do so.

ANSWER

Depending on the severity of the incident, it will be possible to publish the information in CEC's bulletin, display on band council billboards or on the radio.

113. ACCIDENTS AND MALFUNCTIONS - EMERGENCY MEASURES PLAN (AVAILABILITY OF RESPONSE PERSONNEL)

In section 11.3.1 of the Environmental Impact Statement, the proponent provides a brief description of the key roles and responsibilities of the Emergency Measures Plan stakeholders.

He mentioned among others at least one member of the Brigade of intervention in emergencies will be on site when the business industry will be in progress. Then he added that the brigade members have particular responsibility as being "reached s and available s at all times (when in need) . "

The promoter must:

A) Apart from the on-site member, specify how many members of the Emergency Response Brigade (ERB) will be on duty at all times and explain why this number will be sufficient.

ANSWER

The amount of ERB members will determined later in the process, but the best practices will be respected to ensure that enough members are on duty.

B) Indicate that he intends by " be available in any time " for the members of the ERB, that is to say, specify whether members on duty will be able to visit the site in a given maximum time for example.

ANSWER

According to the rotation of shifts, one or more members of ERB will be available at the mine site while others will be reachable at the workers' camp.

C) Specify how members on duty will be "reachable at all times ", ie whether these members will have an effective means of communication in remote areas (eg a pager, a telephone satellite).

ANSWER

Members of the ERB that will be available at all times will be present at the mine site or the workers' camp and reachable by cell phone or radio. The security guard at the camp will also be reachable and able to contact ERB members if necessary.

114. ACCIDENTS AND MALFUNCTIONS- EMERGENCY MEASURES PLAN (PRESENTATION OF PROCEDURES AND ALERT PROCESS)

The proponent presents in its emergency measures plan (section 11.3 of the environmental impact study) several intervention procedures and an alerting process. These procedures and the alert process have several action steps in a list format.

The promoter must, given the importance of an effective understanding in emergency situations, present for each of the intervention procedures and for the alert process a communication diagram identifying the various stakeholders. The proponent could consider these schemes as an integral part of the emergency measures plan and the training that will be given to the various stakeholders.

ANSWER

The requested diagrams can be found in Appendix CEEA-114.

MONITORING AND ENVIRONMENTAL MANAGEMENT

115. SURVEILLANCE AND ENVIRONMENTAL MANAGEMENT - SURFACE WATER MONITORING

In the section detailing the modification of the physicochemical characteristics of lakes 3, 4 and 6 water and their thermal regime (page 6-66 of the environmental impact study), the proponent mentions that "the characterization of the nine wells planned pumping will be necessary."

The proponent must specify when and how this characterization will be carried out (for example: during works, pre-works, at several times during the project).

ANSWER

Before being discharged in lakes 3, 4 and 6, the pumped ground water will be discharged into settling ponds. The proponent undertakes to monitor the parameters of the final effluents from sedimentation basins in accordance with guideline 019. Table CEEA-115a presents the parameters monitored and the frequency of monitoring that will be carried out at each point of discharge.

Table CEEA0115a - List of parameters to be analyzed and frequency of monitoring under Directive 019

	Column I	Column II	Column III	Column IV
Frequency	Continuously	3 times a week	1 time per week	1 time per month
Parameter	pH Debit	SS Debit pH	As Cu Fe Ni Pb Zn	Acute toxicity

In addition to the follow-up provided in Table CEEA-115a, further annual monitoring will also be conducted for each release point. Table CEEA-115b presents the parameters that will be analyzed during the annual monitoring.

Table CEEA-115b - List of parameters used during annual monitoring

GROUPE 1			GROUPE 2[2]	GROUPE 3[3]	GROUPE 4
STANDARD PARAMETERS	NUTRIENT	MINERA OR METALLIC ELEMENT	CYANIDE FAMILY	SULPHIDE FAMILY	BIOLOGICAL PARAMETERS
Alcanlinity Chlorides DBO[5] DCO Debit Hardness Fluorides Hydrocarbons (C_{10}-C_{50}) SS pH Dissolved solids Total solids Phenolic Substances (phenol index) Sulphates Turbidity	Ammoniacal nitrogen Total nitrogen Kjeldal Nitrates + nitrites Total phosphorus	Aluminium Arsenic Cadmium Calcium Chrome Cobalt Copper Iron Magnesium Manganese Mercury Molybdenum Nickel Lead Potassium Radium 226 [1] Sodium Zinc	Cyanates Total cyanide Thiocyanites	Sulphur Thiosulphates	Acute toxicity
1. Annual monitoring of this element is only required for establishments for whih the minreal deposit is composed of 2. The annual parameters in Groupe 2 apply only to the final effluent of treatment plants of precious metals, or plants 3. The annual parameters of Group 3 are required for establishments exploiting or treating sulphurous ore.					

116. MONITORING AND ENVIRONMENTAL MANAGEMENT - ROLES OF COMMITTEES

The promoter plans a monitoring committee whose objective is to encourage the involvement of the local community in the project as a whole. This committee will be formed from the beginning of the construction of the project until the complete completion of the works planned in the plan of redevelopment and restoration. The monitoring committee will be composed of at least one representative of the middle News, a representative of the middle economic, a citizen and a representative of an indigenous community consulted by the government on the project.

The proponent also plans an exchange and consultation committee to discuss and establish solutions to the various issues related to the activities of the mine. This committee could include users of the territory, members of the Eastmain community, mine workers, Eastmain service representatives or the Band Council, etc.

The promoter must:

A) Clarify the roles of each of these two committees.

ANSWER

The Monitoring Committee, set up under the Mining Act, will have the mandate to exchange information, identify problems and concerns, find common solutions and inform the public about the CEC's mining activities in the region.

It will be up to the Monitoring Committee to specify its mandate. For example, its role could be to:

- Act as an intermediary between the population and the groups affected by the project on the one hand and the mining operator on the other.
- Serve as a meeting and exchange place to promote dialogue between the population, interest groups and the mining operator.
- Promote the sharing of local know-how and scientific knowledge between the local community, the operator and the independent experts.
- Evaluate the environmental and social performance of the project in relation to the commitments made by the mining operator as well as the conditions attached to the mining lease and environmental certificate of authorization.
- Optimize the positive impact of projects for the local community.

The Implementation Committee will be responsible for ensuring the proper implementation of the IBA between CEC, the Community of Eastmain and the Grand Council of the Crees, serving as the main communication forum between the parties and producing the required reports by the implementation of the future IBA.

This committee will also be responsible for the other functions conferred in the IBA or any other agreement made by the parties involved, as well as the creation of the Environmental Committee which will represent the interests of the Cree parties in all that is related to the environment.

B) Specify which committee will be responsible for the activities of monitoring and of monitoring in the mine.

ANSWER

CEC will be responsible for mine monitoring and surveillance activities. The two committees will be composed of different members and will address different audiences, so they will be responsible for ensuring that the results of these follow-ups are forwarded to their respective publics.

C) For each of the two committees, evaluate the possibility of including a representative from the three communities concerned by the project, namely Eastmain, Nemaska and Waskaganish. If not, justify.

ANSWER

It will be possible to include a representative from each community in the monitoring committee. For the Implementation committee, the members of the committee are defined in the IBA as three members selected by CEC, including a member of the mine site management team, and a member of the management team of the company, as well as three members selected by the Cree parties, including two members chosen by Eastmain and one member selected by the Grand Council of the Crees (Eeyou Istchee) / Cree Nation Government.

117. MONITORING AND ENVIRONMENTAL MANAGEMENT - RAPID IDENTIFICATION OF CONTAMINATION

The proponent plans several monitoring and environmental monitoring programs. However, it is unclear how the proponent could quickly identify environmental contamination caused by mine activities. The proponent does not provide enough details on the frequency of follow-ups to ensure that, in the event of a contamination episode, corrective actions can be taken quickly after the finding of contamination.

The proponent shall, for each of the follow-up and monitoring programs that it will put in place, specify how the program will rapidly identify a contamination of the environment.

ANSWER

The staff in environment and in health and safety will make daily rounds and be trained to recognize signs of contamination. Depending on the nature of the contamination, employees will start the emergency plan process. For the water treatment plant, the water will be continuously analyzed before being discharged into stream A, and if it is non-compliant, it will be re-circulated.

118. MONITORING AND ENVIRONMENTAL MANAGEMENT - ACCESSIBILITY OF FUTURE RESULTS

In section 4.1 of the Environmental Impact Statement, the proponent states that "The communication program has the following objectives: [...] To disseminate the results of the field studies."

On page 4-10, the proponent also makes the following commitments: "It is also mentioned the importance of transmitting to the community the results of studies carried out under the project. The importance of communicating to the community the results of the studies carried out as part of the project is also mentioned, to which CEC undertakes to respect. "

The proponent should clarify whether it also plans to make the results of these follow-up programs publicly available (ie, make them accessible other than to the communities affected by the project), and by what means.

ANSWER

CEC will share the results of monitoring programs through the Environment Committee (mentioned in answer 116).

119. SURVEILLANCE AND ENVIRONMENTAL MANAGEMENT - SEDIMENT QUALITY MONITORING PROGRAM

The proponent plans a water and sediment quality monitoring program to minimize the effects of the project on the quality of surface water and sediments. The proponent plans for this monitoring program to "establish a baseline and monitor the quality of the water in the effluent stream. "

It is unclear whether the proponent plans follow-up to compare sediment quality upstream (or in areas not affected by the proponent's exploration activities) and downstream from the Rose Mine Complex. Such a program could be used to identify potential deposition areas for suspended solids from overburden deposition areas, waste rock dumps and tailings in streams downstream of the mine site.

The proponent must specify whether the sediment quality monitoring program provides for a comparison between sediment quality upstream and downstream of the mine complex. If not, justify the decision.

ANSWER

CEC is committed to include, in the monitoring, areas upstream and downstream of the mining complex in order to compare sediment quality. Map 2 in the " Characterization of Surface Water and Sediments to Establish the Initial State of the Environment Prior to Project Implementation " report in Appendix 46 shows sampling locations.

CURRENT USE OF NATIVE PEOPLE

120. CURRENT USE OF ABORIGINAL PEOPLE - MITIGATION MEASURES LIMITING THE EFFECTS ON TRADITIONAL FOOD COLLECTION ACTIVITIES

In order to limit the impact of the project and the activities of the mine on traditional food collection activities, the proponent undertakes to make "necessary adjustments" to reduce nuisances: "It should also be noted that frequent and regular contact will be maintained between the RE1 landmines trader and Critical Elements Corporation to ensure that the mine's operations do not adversely affect those of the territory's users and, if required, to make the required adjustments. (P.4-21; 8-62)

The proponent plans to "Mitigate disturbances caused by mine activities during periods of spring waterfowl hunting and moose hunting in the fall". (P.8-60)

Prior to construction, the proponent plans to put in place a "Community-based medicinal plant harvest program, prior to construction." (P.8-61).

During construction, the proponent provides "Measures to facilitate the movement of activities affected by the project (moose hunting grounds, snowmobile trails, fishing grounds, etc.)". (p.8-61) It also states: "Several mitigation measures will be implemented during the construction and operation phases to allow users of the territory to continue their traditional activities in the same place, or else, elsewhere on the territory. "(P.8-61)

The proponent indicates, however, that users will have to "adapt" their practices to the presence of the mine without further explanation: "The presence of the mine and the conduct of these activities will not prevent Cree users from continuing their activities, particularly hunting, fishing and trapping. However, they will have to adapt their practices to the presence of the mine. "(P.8-57)

The proponent must specify the mitigation measures to limit the effects of the project on traditional food collection activities (eg hunting, fishing, berry picking / medicinal plants, etc.) and review its effects assessment. Based on these mitigation measures.

ANSWER

The following mitigation measures will be put in place:

- Adaptation of operations during Goose and Moose Breaks
- Environmental monitoring will take into account traditional food gathering activities, as discussed with the RE1 tallyman
- Members of the Eastmain RE1 family will have the right to trap on the mine site, with the exception of large mammal traps for safety reasons
- CEC will require employees and suppliers to respect speed limits to ensure road safety for other users and animals that frequent the area.
- Ongoing communication between CEC management and community members will allow CEC to adjust mitigation measure if impacts or issues are felt.
- The trapline owner of the RE1 site will be consulted during the restoration of the site in order to encourage the resumption of traditional activities on the territory of the mine

121. CURRENT USE OF NATIVE PEOPLE - USE AND DESCRIPTION OF NAVIGABLE LANES

In section 1.9.3 of the Environmental Impact Statement (EIS) Guidelines, the Agency is asking the proponent to describe land and water access routes, including shipping lanes and waterways types of boats.

It is also requested in the guidelines, to describe how the project may interfere with navigation, to add information to the EIS that will:

- *Identify all project components that will affect waterways and water bodies, including a description of each activity (eg, dredging, bed or stream bank modification) that may affect the waterways navigable waters and bodies of water;*
- *Provide information on current and historical use of all waterways and water bodies that will be affected by the project, including current use by Aboriginal groups, if they are known.*

The proponent's EIS does not contain enough information for the Agency to assess the effects of the project on navigation. The proponent reports navigation only in these sections of its EIS: "In addition, it should be noted that watercourses and waterbodies that are located in the project area are also little frequented by users. The rivers therein are not considered to be waterways, particularly because many of them are small and intermittent in nature. Thus, no impact on the navigation is thus apprehended as part of this project (4-5.) "And" The project will not result in changes to the use of cries for navigation: classes affected water are not used to move on the territory. (P.8-45) ».

This information would also allow Transport Canada to determine if the project requ wandered a decree under the Act on the protection of navigation.

Additional information is required to determine the navigability of the affected watercourse. The use of watercourses by the communities of Eastmain, Waskaganish and Nemaska must be better documented.

The proponent must consult all relevant stakeholders (trap masters, band councils of the Eastmain, Waskaganish and Nemaska communities and / or the administrative environment services of these communities) for the traplines where Lake 1 is located. , Lac 2, the upstream portion of Lac 3, the stream B and the portion of the stream A (beetween Lake 1 and the main mining effluent) and provide the following information for each of the watercourses (the answer to each question must be accompanied by enough details to be able to cross-check it):

1. *Is there a local name (toponym) for this plan / watercourse?*
2. *Among the plans / watercourses that will be affected by the project, identify those used as a commercial or recreational transportation or navigation route or as a transportation or navigation route by Aboriginal individuals for the purpose of exercising their rights recognized and confirmed by section 35 of the Constitution Act, 1982 ?*
3. *Specify if this usage is current and / or past?*
4. *Provide details on the current and / or past use of these plans / streams?*
5. *Is it reasonable to think that one or more of these plans / streams may be used in the future even if they are not currently used?*
   If yes, why?
6. *If it is possible that these plans / streams will be used in the future, provide specific details on how they would be used?*
7. *Y - he has plans / streams used together to join Plans / inland waterways navigation creating a network that would extend beyond the*
   Established limits of a known navigation channel?

To the extent that no information is available, specify the steps taken to obtain the information.

ANSWER

1. Is there a local name (toponym) for this plan / watercourse?

No, there is no local name for this plan / watercourse.

2. Among the plans / watercourses that will be affected by the project, identify those used as a commercial or recreational transportation or navigation route or as a transportation or navigation route by Aboriginal individuals for the purpose of exercising their rights recognized and confirmed by section 35 of the Constitution Act, 1982 ?

None of these lakes or streams are used for transportation.

3. Specify if this usage is current and / or past?

It has been confirmed that the lake and streams are not currently used for transportation, nor will they be during the life of the mine.

4. Provide details on the current and / or past use of these plans / streams?

The water bodies and stream are currently checked for beaver habitats for hunting, as they were in the past. They will not be used for beaver hunting during the life of the mine as the beavers will be trapped prior to the lakes being drained.

5. Is it reasonable to think that one or more of these waterbodies / streams may be used in the future even if they are not currently used? If yes, why?

The streams and waterbodies will not be used during the life of the mine.

6. If it is possible that these plans / streams will be used in the future, provide specific details on how they would be used?

See the answer to question 5.

7. Are there plans / streams jointly used to join inland waterways / plans creating a navigation network that would extend beyond the established limits of a navigation channel?

No, since water bodies are not used for transportation, this is not possible.

122. CURRENT USE BY INDIGENOUS PEOPLE - ZONES OF STUDY AND INFLUENCE OF THE HUMAN ENVIRONMENT

In the guidelines sent to the proponent, the proponent is encouraged to consult with Aboriginal groups to confirm the spatial boundaries of the project (section 7.2.1). The Agency states that "The study boundaries must be defined taking into account the spatial extent of potential environmental effects, traditional and local knowledge, current use of lands and resources by Aboriginal groups, and ecological, technical, social and cultural considerations."

In section 8.3.2 of the Environmental Impact Assessment (EIS), the proponent states that the human environment study area is the one used to evaluate the effects of the project on the "common uses" component lands and resources for traditional purposes ". He goes on to say: "This is an area of 256 km ^{2} including all the planned infrastructure (pit, factories, etc.) and a zone of influence established at approximately 5 km. around the project components ". However, the proponent does not provide any justification for choosing this zone of influence.

In section 8.3.2.4 of the EIS, the proponent indicates that the selected study area of the human environment "crosses four traplines: R16 and R19 of the community of Nemaska, R10 of the community of Waskaganish and RE1 of the community of Eastmain. Section 8.4.2 states that an expanded study area "within the Eeyou Istchee James Bay Territory" has been used to describe conditions related to community well-being.

In the Agency's consultations with the community of Nemaska, it repeatedly reiterated that it was concerned about the limits of the study area of the human environment that do not include the roads that will be requested by the community the project, or all users of R16 and R19 traplines and their camps. It also indicated that the proximity of the project to the community (38 km) should be taken into account when assessing the effects. The study area of the human environment, as defined by the proponent, does not make it possible to assess the potential effects of the project on the common uses of the nine families of Nemaska (R19) using camps on both sides of the road Nemiscau -Eastmain-1.

In reading the EIS, the Agency is not able determined if the Cree communities affected by the project were consulted in establishing the spatial limits of the human environment of the study area used especially for assessment of the effects of the project on current uses of the land for traditional purposes and whether their comments, concerns and knowledge were taken into account in determining these boundaries.

During the Agency's consultations with the Waskaganish community, the Waskaganish community repeatedly indicated that it did not understand or visualize the precise trajectory of the water flowing from the final mining effluent to the community's R10 trapline.

As part of its assessment of the impacts of the project on Aboriginal and treaty rights, Cree communities, the Agency wishes to know the areas identified for the relocation of Cree camps in RE1, R16 and R19, if this information is available known to the sponsor.

The promoter must:

A) Specify if Cree communities, and which were consulted in the development of the area of the human environment of study. If these consultations have not been completed, reassess the size of the study area of the human environment in light of the comments, concerns and knowledge of the Cree communities. Provide documents detailing consultation dates, comments and concerns raised during these consultations, and how they influenced the selection of the study area.

ANSWER

Following concerns raised by the communities, CEC has expanded the study area to include Waskaganish in the consultation process. CEC has heard the concerns of this community and has included them in the development of mitigation measures. It should also be noted that in the ongoing consultation process, the three communities (Eastmain, Nemaska, and Waskaganish) will be consulted throughout the life of the mine.

B) Justify the perimeter of the zone of influence of the study area of the human environment.

ANSWER

As mentioned in the answer 122, consultations with communities show that the human environment study area enables CEC to consider concerns of communities impacted by the project.

C) Integrate the Cree camps of the Nemaska trapline R19 which are accessible by the Nemiscau-Eastmain-1 road to the study area of the human environment. Inquire about the level of

confidentiality required from the tallymen and provide these responses confidentially to the Agency, as appropriate.

ANSWER

The tallyman of trapline R19 confirms that camps can be found at the following locations along the Nemiscau -Eastmain-1 road:

- *At kilometer 22, 3 camps are present*
- *At kilometer 26, 1 camp is present*
- *At kilometer 36, along the road of the south dike, 2 camps are present*

These camps will be included in the study area of the human environment.

D) Evaluate the effects of the project, including increased road transport, on the current use of lands and resources for traditional purposes on camp users (in C) and related activities. The proponent must assess the effects on the quality of the Cree experience in the camps as well as access to them.

ANSWER

The increase in road traffic will impact access to the trapline and the hunting and trapping of animals on the territory. It will be important for CEC to put in place the necessary measures to ensure that workers and suppliers respect speed limits on the road in order to ensure the safety of other users.

It will also be useful to educate workers and suppliers about hunting and trapping on traplines so that they can respect these practices, for example, when a user of the field is hunting on the road, it would be preferable for passing vehicles to slow down or stop, to ensure the safety of the hunter and not to scare the animal in question.

E) Provide maps showing all RE1, R16, R19 (Nemaska) and R10 (Waskaganish) traplines including the location of areas valued for hunting, fishing and gathering as well as the precise location of camps . The precise layout of the final mining effluent in the Waskaganish trapline must be presented on the appropriate maps. These maps will locate future land use areas and projected resources by the tallymen and camp relocation areas known to date by the proponent. Inquire about the level of confidentiality required from the tallymen and provide these responses confidentially to the Agency, as appropriate.

ANSWER

During the consultations held in Waskaganish in 2018, one participant informed CEC that a map containing the valued areas of each trapline was being produced. However, we were also informed that this map was confidential and could not be shared with proponents.

123. CURRENT USE BY INDIGENOUS - CRI INCOME MONITORING AND SECURITY PROGRAMS AND GOVERNANCE OF TRAPPING MASTERS

In section 8.3.8 of the Environmental Impact Statement (EIS), the proponent proposes a follow-up program on the use of land and resources for traditional purposes for the tallyman and members of his family using the RE1 field. This monitoring would be carried out upstream (before construction) for the reference state and eight more times during the life of the project and would consist of several meetings on various themes related to land use and resources. The main objective would be to "ensure that the activities of the mine do not harm those of the users of the territory and if necessary, to make the necessary adjustments". The proponent proposes to submit the reports of this follow-up program to the Exchange and Consultation Committee. This committee

seems to be the main recipient of the various monitoring reports proposed in connection with the Cree communities.

The proponent does not propose to specifically monitor the users of the RE1, R16, R19 and R10 traplines enrolled in the Cree Income Security Program over the years, the amount of moose and migratory and forest caribou harvested annually. , appreciation of the relocation camps and perceived effects by masters of trapping the project on their role of governance and their capacity for resource management wildlife.

On page 8-32 of the EIS, the proponent documents the income security program for Cree hunters and trappers (CIP), stating: "For the period 2000-2001 to 2014-15, the rate of participation in the entire territory of [Eeyou Istchee Baie-James (EIBJ)] fell an average of 6% [...]. In Eastmain, the percentage of ESP participants rose from 13% to 10% during this period and from 17% to 5% in Nemaska. He adds that in Eastmain, 79 people (64 adults and 15 children for 51 family units) were enrolled in the ISP in 2014-2015 and 41 people (36 adults and 5 children for 24 family units) in Nemaska. It should be noted that the ESP provided average incomes of just over $ 16,700 per provider unit (family) in 2014-2015. On page 8-53, the proponent states that 3 Nemaska members using R19 trapline are registered in the RSP.

On page 8-49 of the EIS, it states that the tallyman has the responsibility, within the boundaries of the land he holds, to "decide between the resources to be exploited and the areas to be conserved each year in order to ensure the renewal of the species taken. It adds that "the tallyman remains [...] an emblematic figure of the traditional way of life and the knowledge associated with it. He represents and leads the group formed by regular users of the trapline. They are mainly members of his extended family and the families of his hunting partners. "

In the Agency's consultations with the community of Nemaska, it expressed concern about the potential effects of the project on the common uses of the nine Nemaska (R19) families using camps on both sides of the river the Némiscau - Eastmain-1 road. The community of Nemaska has expressed concern over the increase in noise and vibrations that could force families to change hunting grounds.

As part of its assessment of the project's impacts on the aboriginal and treaty rights of Cree communities, the Agency will seek to assess the extent to which the project could affect the tallymen's governance role, including its ability to manage resources and the territory satisfactorily if wildlife or users avoid the area or a large part of the trapline, for example. The Agency will also seek to assess the extent to which the project may affect the ability of the territory's users to use the resources and to depend on them, including the means, diversity, quantity and availability of resources and habitat, in areas of cultural significance. To complete this analysis, the Agency will seek to assess the extent to which the project undermines the sense of well-being, remoteness, loneliness, intimacy and security of the camps in the territory. With the information presented in the current impact assessment, it is difficult for the Agency to comment on the level of severity of the impacts to rights under these elements.

The promoter must:

A) Indicate, on Map 8-4 of the impact study, the camps used by the participant (s) in the Cree Income Security Program in the study area of the human environment and assess the capacity of the they must continue to rely on resources during the different phases of the project and propose mitigation measures , where appropriate.

ANSWER

All camps on map 8-4 may be used by a participant of the Cree Income Security Program. CEC does not consider that additional measures are necessary since the mitigation measures and

mechanisms put in place in the context of the Impact and Benefit Agreement will already be in place.

B) Justify why his Traditional Land Use Program does not include the trapline master of the R19 land of Nemaska and comment on the advisability of adding the latter to this monitoring.

ANSWER

CEC agrees to include the R19 tallyman, he will be added to the monitoring program.

C) Enhance the Traditional Land Use Monitoring Program by considering Cree Income Security Program, the amount of moose and caribou migrant and forest harvested harvested, appreciation of relocation of camps and the perceived effects of the project's tallymen on their governance role and wildlife management capacity. In the case where the promoter concludes that a bonus is not necessary, justify.

ANSWER

Traditional use of the territory is confidential. CEC does not consider that additional measures are necessary as there will be in place mitigation measures and mechanisms put in place in the context of the impacts and benefits agreement.

D) Evaluate the possible effects of the project on the governance capacity of the tallymen of the RE1 (Eastmain), R16 and R19 (Nemaska) and R10 (Waskaganish) sites by incorporating the point of view of the latter after consultation.

ANSWER

According to the consultations, the trapline masters are of the opinion that they will be able to continue their traditional activities on their traplines. They all agree that ongoing communication with CEC management will be essential in order to be able to adjust during the course of the process if impacts or issues are felt.

124. CURRENT USE OF ABORIGINAL PEOPLE - POTENTIAL CUMULATIVE EFFECTS ON COMMUNITIES CRIES

In section 10.7.6.4 of the Environmental Impact Statement (EIS), the proponent states that "Based on the assessment of the impact of the Rose mining project in operation, it was determined that it would have an impact negative residual of low importance on Cree land use. For Cree users, the loss of tranquility around the project could result in the avoidance of some popular areas or the disruption of traditional activities. It should be noted that a permanent worker camp will be present at the mine site, about 4 km from the pit, on RE1 trapline. It will have 280 employees during the operating period. "

On page 10-54 of the EIS, the proponent states that "The completion of the Whabouchi mining project will modify the current use of the land and resources, particularly within the R20 trapline, which is frequented by many members of the community from Nemaska. The Rose Mine Project, located 40 km northwest of the Whabouchi mining project, partially affects the same users, particularly those who have had to adapt their land use to the creation of the Eastmain 1 reservoir in 2006 and to its modification (Eastmain-1-A powerhouse) as of 2009. These users of Nemaska and Eastmain are therefore particularly affected by the changes on their traplines, more than those of Waskaganish whose trapline is located near the Rose Mining Project, but away from the Eastmain 1 Reservoir and the Whabouchi Mining Project. The territory is still vast and can allow the displacement of harvesting activities (hunting, fishing, trapping). However, it is necessary for the Crees to invest time and resources for research and adaptation to new harvesting sites. "

On page 10-55 of the EIS, the proponent states that: "For the moment, the cumulative effect on land and resource use is limited to a fairly small area. It will be particularly felt by the families who use the trapline on which the project is located (RE1), as well as by the families who use the trapline south of it (R19) and who hold different camps on along the Nemiscau -Eastmain road . The cumulative effect of this head CV event could increase the production of various potential mining projects in the sector, despite the inclusion of Cree users in different compensation plans and mitigation measures planned. Noise, light, dust, increased traffic, loss of wildlife habitat and activities traditional associated with it affect have a growing number of users to each new project on the territory, especially as the number users should continue to grow. "Then, the developer concluded t that the project" will have a potential for cumulative effects on the current use of lands and resources by Crees tried s medium intensity, punctual extent and duration. Thus, the cumulative effect is considered not important. "

In section 10.8 of the EIS, the proponent concludes that its analysis does not result in the implementation of additional mitigation measures given that "the cumulative effects analysis for the six valued components suggests that The project will result in non-significant cumulative effects on the Eastmain and Nemaska co-op communities. "

Based on the information provided by the proponent, the Agency is not able to understand how the proponent has concluded that the cumulative effects are not significant.

The promoter also stipulates the page 8-60 of the EIS that "compensation or relocation to camps bordering the road Nemiscau -Eastmain-1 (other camps as the land RE1)" is part of mitigation measures to limit the effects of the project on traditional land use. During its consultation with the Eastmain community, the community expressed to the Agency a concern about potential cumulative effects on its users in the area, particularly because of the Bay lithium mine project. - James (Galaxy Lithium Canada Inc.), also in federal environmental assessment at the present time, which would also be located on traplines in the Eastmain community (RE2, RE1, VC33 and VC 35). In Tables 10-17 and 10-18 of the EIS, the Baie - James lithium mine project is not listed in other mining projects in operation or to be included in the cumulative effects assessment for use traditional territory.

The proponent should consider the mitigation measures resulting from its consultations with Cree communities in the fall of 2018, including the restoration or improvement of a moose kill area or a hunting pond goose, as well as the establishment of a program for young Crees.

As part of its assessment of the impacts of the project on the aboriginal and treaty rights of the Cree communities, the Agency will seek to assess:

- *to what extent the Cree communities have confidence in the mitigation measures suggested by the proponent. This assessment can be done with regard to the level of community participation in the development of these measures;*
- *whether the mitigation measures put in place minimize or sufficiently offset the potential cumulative effects of the Project on the use of the land for traditional purposes;*
- *to what extent the project compromises or impedes the transmission of Cree knowledge related to traditional land use by restricting access to culturally valued land and places;*
- *if the project results in an inequity of impacts within the same Cree community, by identifying the resilience capacity of the affected groups, to know if the project will affect in a sustainable way or not subgroups already vulnerable by other projects or development activity.*

With the information presented in the current impact study, the Agency is not in a position to comment on the level of severity of the impacts to rights under these elements.

The promoter must:

A) Justify the levels of intensity and extent determined for Cree cumulative effects analysis on current use of lands and resources and, if appropriate, re-evaluate the conclusion.

ANSWER

Due to the size of the territory, the actions that may affect the current use of land and resources by the Cree are sparse (at least tens of kilometers apart) and affect various communities or tallymen and their families. Although the projects mentioned in Chapter 10 of the EIS will change the way in which the activities will take place in the territory, they will not prevent the continuation of activities on the territory.

Impacts felt due to the establishment of a mining or hydroelectric project, or other infrastructure, and increased use of roads may alter some traditional activities. However, recent projects are accompanied by mitigation measures to address the anticipated impacts of noise, light, dust and traffic. Thus, considering the mitigation measures, and offset projects and agreements with the Crees, the intensity of the effects on current use of lands and resources is considered moderate (the effect results in the loss or modification of certain characteristics of the affected component or its use without compromising its integrity).

The impacts and benefits agreement, signed in July 2019, included mitigation measures and programs that have been negotiated by the Eastmain community and the Cree Nation Government to ensure that these measures address the concerns. In addition, committees will be established, as per the agreement, which will be responsible for monitoring and communication between CEC and the communities to ensure that mitigation measures are working well and to make adjustments as needed.

Because of the remoteness of the various projects, over the vast Cree territory, the extent is considered punctual as specified in the methodology presented in the EIS:

“The extent of the effect is punctual if an effect on a component is felt in a small space within or near the restricted study area of the project, or by a few individuals.”

The cumulative effect on the current use of lands and resources by the Crees thus remains insignificant.

B) Clarify whether members using R20 trapline have already moved their traditional activities to R19 and / or R16 lands due to the Whabouchi mining project and propose mitigation measures to minimize the cumulative effects of the project on the use land and resources for traditional purposes, particularly considering the tallyman on the Nemaska R20

ANSWER

CEC has been working with a member of the environmental department of Nemaska in order to schedule a consultation with the tallyman from Nemaska R20 tallyman. Following several attempts, CEC is still in the process of organizing a meeting with the tallyman. Further attempts will be made to schedule a meeting when CEC is in Nemaska in January 2020.

C) Complete the assessment of cumulative effects of the project on the current use of lands and resources for end s traditional considering the master trapping field R20. This is proving to be an important source of information since it is currently experiencing changes related to a smaller mining project than the Rose Mine project in the same area.

ANSWER

CEC has been working with a member of the environmental department of Nemaska in order to schedule a consultation with the tallyman from Nemaska R20 tallyman. Following several attempts, CEC is still in the process of organizing a meeting with the tallyman. Further attempts will be made to schedule a meeting when CEC is in Nemaska in January 2020.

D) Revise the assessment of the effects cumulative on using traditional of the territory of the Eastmain community by adding the proposed lithium mine Baie - James in future mining projects and reassess the mitigation measures to be square.

ANSWER

The updated table is below.

Table 10-3 Projects, actions and events that may affect CVs

Projects, actions and events	Past	Present	Future	Fish and fish habitat	Species of birds at risk	Migratory birds	Woodland Caribou	Chiroptera	Eastmain and Nemaska Cree Communities
Infrastructures and services									
Construction of the complex of the Eastmain 1 and of the Eastmain 1-A- Sarcelle-Rupert Presence of workers ' camps	X			→ Loss and modification of habitats	→ Loss and alteration of habitat → Increasing the inconvenience → Increase of emissions of pollutants weather and the noise	→ Loss and alteration of habitat → Increasing the inconvenience → Increase of emissions of pollutants weather and the noise	→ Habitat loss, disruption and fragmentation Increase the inconvenience anthropogenic →	→ Loss and modification of habitats → Increase of disturbance	→ Increase of the pressure of harvesting wildlife → Change of use of land and the resources → Loss of territory → Social tensions
Operation of the complex of the Eastmain-1 (2007) and of the Eastmain 1-A-Sarcelle-Rupert (2012) (bays and reservoirs) Presence of the encampments of workers	X	X	X	→ Loss and modification habitat	→ Loss and modification of habitats → Increase the inconvenience	→ Loss and modification of habitats → Increase of disturbance	→ Habitat loss, disruption and fragmentation	→ Loss and modification of habitats	→ Change of use of land and the resources. → Modification of the use of community sites → Loss of territory Social tensions → Concerns for the health
Airports in Nemiscau and Opinaca	X	X	X		→ Loss and modification of habitats Increase the inconvenience → Increase of emissions of pollutants weather and the noise	→ Loss and alteration of habitat → Increasing the inconvenience → Increase of emissions of pollutants weather and the noise	→ Habitat loss, disruption and fragmentation Increase the inconvenience anthropogenic →	→ Loss and modification of habitats → Increase of disturbance	→ Opening the territory increase of the pressure of harvesting wildlife → Change of use of land and the resources
Route of the James Bay road of North Road Nemiscau -Eastmain-1 road Muskeg-Eastmain-1 and roads secondary	X	X	X	→ Changing habitats → Alteration of the quality of water → Increase of the pressure of fishing	→ Loss and modification of habitats Increase the inconvenience → Increase of emissions of pollutants weather and the noise	→ Loss and alteration of habitat → Increasing the inconvenience → Increase of emissions of pollutants weather and the noise	→ Habitat loss, disruption and fragmentation Increase the inconvenience anthropogenic →	→ Loss and alteration of habitat → Creation of corridors for movement potential	→ Opening of the territory → Increase of access to substances illegal → Decrease the feeling of safety increase of the pressure of harvesting wildlife → Modification of the use of territory and of resources
Lines of transportation energy electrical Nemaska, Eastmain, Nemaska-La Grande-2 and Nemaska, Waskaganish	X			→ Habitat modification	→ Loss and modification of habitats Increase the inconvenience →	→ Loss and modification of habitats → Increase of disturbance	→ Habitat loss, disruption and fragmentation Increase the inconvenience anthropogenic →	→ Loss and alteration of habitat → Creation of corridors for movement potential	→ Change of use of land and the resources → Concerns for the health
Moving a line to 315 kV and building a position (related to the Rose Mining Project)			X	→ Habitat modification	→ Loss and modification of habitats Increase the inconvenience →	→ Loss and modification of habitats → Increase of disturbance	→ Habitat loss, disruption and fragmentation Increase the inconvenience anthropogenic →	→ Loss and modification of habitats	→ Change of use of land and the resources
Exploitation of natural resources									
Forestry activities	X	X	X	→ Alteration of the quality of water	→ Loss and modification of habitats → Increase the inconvenience	→ Loss and modification of habitats → Increase of disturbance	→ Habitat loss, disruption and fragmentation Increase the inconvenience anthropogenic →	→ Loss and alteration of habitat Increasing the inconvenience → Creation of corridors for movement potential →	→ Opening the territory → Increase of the pressure of harvesting wildlife → Change of use of land and the resources
Mineral exploration activities	X	X	X	→ Alteration of the quality of water	→ Loss and modification of habitats Increase the inconvenience →	→ Loss and modification of habitats → Increase of disturbance	→ Loss, disturbance of habitats Increase the → inconvenience anthropogenic	→ Loss and alteration of habitat → Increasing the inconvenience Creation of corridors for → movement potential	→ Opening of the territory → Modification of the use of the territory and of resources
Mine Eleanor and extension of the road which is accessed	X	X	X	→ Loss and modification habitat → Alteration of the quality of water	→ Loss and modification of habitats → Increase the inconvenience	→ Loss and modification of habitats → Increase of disturbance	→ Loss, disturbance of habitats Increase the → inconvenience anthropogenic		→ Opening of the territory → Social tensions → Decrease the feeling of safety Increase → of the pressure of harvesting wildlife → Modification of the use of territory and of resources

Projects, actions and events	Past	Present	Future	Fish and fish habitat	Species of birds at risk	Migratory birds	Woodland Caribou	Chiroptera	Eastmain and Nemaska Cree Communities
Project mining Whabouchi of Nemaska Lithium (in development)			X	→ Loss and modification of habitats → Alteration of the quality of water	→ Loss and modification of habitats → Increase of disturbance	→ Loss and modification of habitat → Increase of disturbance	→ Loss, habitat disturbance →Increase the inconvenience anthropogenic	→ Loss and modification of habitats → Increase of disturbance	→ Increase of the pressure of wildlife harvest → Change of use of land and the resources → Social tensions
Galaxy Bay's James Bay Mining Project (in development)			X	→Loss and modification of habitats → Alteration of the quality of water	→ Loss and modification of habitats → Increase of disturbance	→ Loss and modification of habitats → Increase of disturbance	→ Loss, habitat disturbance →Increase the inconvenience anthropogenic	→ Loss and modification of habitats → Increase of disturbance	→ Increase of the pressure of wildlife harvest → Change of use of land and the resources → Social tensions
Use of the territory (non- native)									
Outfitters (Evans Lake)	X	X	X	→ Increase of the pressure of fishing	→ Increase the inconvenience	→ Increase the inconvenience			→Increase of the pressure of sampling wildlife → Decrease the feeling of security
Hunting sports and regulations applicable to the area 22 (hunting and fishing)	X	X	X		→ Increase the inconvenience	→ Increase the inconvenience	→ Reduction of the pressure of hunting sports (Prohibition of the hunting at caribou forest, and since 2017, the caribou migratory). → Slaughter accidental of caribou forest (when the hunting at caribou migratory was permitted until 2016)	→ Increase the inconvenience	→ Disruption potential of activities of hunting, of trapping and of fishing → Decrease the feeling of security
Allocation of leases shelter summary for the hunting and the fishing sport by the MNR (since 1982)	X			→ Increase of the pressure of fishing	→ Increase the inconvenience	→ Increase the inconvenience	→ Loss, disturbance and fragmentation of habitats → Increase the inconvenience anthropogenic		→ Disruption potential of activities of hunting, of trapping and of fishing → Decrease the feeling of security
Territory wildlife or having a protection									
Reserves wildlife, areas protected and reserves of biodiversity	X	X	X	→ Protection of habitat	→ Protection of species and of their habitats	→ Protection of species and of their habitats	→ Protection of habitat	→ Habitat conservation	→ Backing the way of life cry and supports the biodiversity
Reserve of Park National Assinica		X	X	→ Protection of species and of their habitats	→ Protection of species and of their habitats	→ Protection of species and of their habitats	→ Protection of habitat		→ Preservation of sites of natural and cultural interest for the Crees
Plan for recovery of the caribou Forest 2005 - 2012 and up to date of this Plan (2012-2022)	X						→ Objective of ensuring the protection of the species and of its habitat		
Assigning a status particular to the terms of the *Act on the species in peril* and to the *Act on the species endangered or vulnerable*	X	x			→ Protection of species and of their habitat		→Protection of caribou forest and of its habitat	→ Protection of the four species of bats in status especially potentially present	
Weh Company - Sees Indohoun (since 2002)	X	X	X						→ Regulation of the activities of non-indigenous in order to preserve the heritage Wildlife and Fisheries for the generations future
Agreement of the Peace of the Braves, Conventions Nadoshtin and Boumhounan, and agreement on the governance in the territory of Eeyou Istchee James Bay	X	X	X				→ Maintenance activities of harvest to the fine food social or of subsistence		→Promotes the decision in support of the Crees of their development and a more wide participation of the latter in the development of resources
Natural and other disturbances									
Fire in forest	X		X		→ Loss, modification and creation of habitat s → Changing temporary of the quality of the air (smoke)	→ Loss, modification and creation of habitat s → Changing temporary of the quality of the air (smoke)	→ Loss, disturbance and fragmentation of habitats	→ Loss and modification of habitats	→ Disruption of activities of harvesting wildlife and flora. → Change of use of land and the resources → Temporary loss of territory
Syndrome of the muzzle white (" SMB ")	X	X	X					→ Mortality important in the population hibernating	

E) Assess cumulative effects on the use of RE1, R16 and R19 traplines for traditional purposes by incorporating the views and knowledge of the Eastmain and Nemaska tallymen and present to the Agency identified by them, as appropriate.

ANSWER

The tallymen raise the following cumulative impacts as concerns:

- Increased traffic on the road threatens user safety
- The presence of the workers' camp attracts predators, such as the fox, who hunts more frequently on traplines nearby. This impact trapping on the site.
- Vehicles passing between the workers 'camp and the mining site frighten animals as users hunt near the road

The mitigation measures that will be put in place will be:

- Mitigation measures for the safety of users on the road are developed in section G) of this question.
- The proper management of waste on the site and installing door for large mammals will lower the amount of predator s who will be attracted to the mine site and the workers' camp.

F) Evaluate the cumulative effects of increased road traffic on the traditional use of RE1 (Eastmain) and R19 (Nemaska) traplines.

ANSWER

The increase in road traffic could have an impact on access to traplines, especially during hunting periods. Additional traffic may also encourage animals to change their behavior to avoid the area. In addition, the risk of collision with animals could increase.

G) Indicate how it intends to ensure, in a possible synergy with other promoters present in the region, that appropriate mitigation measures will be put in place if cumulative effects are perceived by the users of the area.

ANSWER

CEC is open to working with other proponents in the region and relevant government entities to put in place mitigation measures addressing cumulative effects in the region. CEC is already in communication with the MFFP and the SDBJ to ensure that the necessary measures (frequent signaling for speed limits, road maintenance, snow removal, etc.) are taken to ensure the safety of users on the roads.

125. CURRENT USE OF ABORIGINAL PEOPLE - SECURITY OF TERRITORIAL USERS

In the minutes of the meetings held between the Nemaska tallymen and the proponent in the fall of 2018, the R19 tallyman indicated he was concerned for the safety of the users of the territory and asked if a fence or prohibited area access will be visible to prevent people from harvesting resources too close to the mine. During its consultations, the Agency learned that members of Nemaska sometimes hunt in the RE1 field, because of its proximity to the community. The communities of Eastmain, Nemaska and Waskaganish are important sources of information.

The proponent must propose measures to ensure the safety of users of the territory around the mine's infrastructure. Justify if no measure is planned.

ANSWER

There will be an controlled entry reachable by the access road and the industrial zone will be clearly marked with signs.

126. CURRENT USE OF ABORIGINAL PEOPLE - CONSULTATION OF TRAPPING MASTER OF LAND R08

The Waskaganish community informed the Agency that the R08 Tallyman could be affected by the effects of the project. However, in all the documents received to date as part of the environmental impact study, there is no mention of the R08 tallyman.

The proponent must indicate whether the tonnage trainee of the Waskaganish R08 tarmac was arrested as part of the project, if he / she has expressed an interest in being consulted and if he / she has commented on the project, if applicable. If not, consult the latter in order to know his concerns, if any.

ANSWER

The R08 Tallyman wanted to be consulted about another mining project near his lot. It is rather the master of the trapping field R10 which wished to be consulted about the Rose Project. CEC has already met this tallyman.

127. CURRENT USE OF ABORIGINAL PEOPLE - PROPOSED MITIGATION MEASURES RELATED TO THE EFFECTS OF CLOSING THE MINE

On page 8-61 of the Environmental Impact Statement (EIS), the proponent identifies mitigation measures related to the effects of the closure of the mine on current uses of lands and resources for environmental purposes. Cree communities: "As far as possible, leave mine facilities on site, at the request of the trapline master of the RE1 field".

On page 8-75 of the EIS, the proponent identifies the following mitigation measure to mitigate the effects of the closure of the mine on the well-being and community health of the Cree communities: "Participation of Cree representatives in the development of the mine site restoration plan . "

On page 8-97 of the EIS, the proponent details the modification of the visual aspect of the landscape of the site by indicating in particular «the natural flooding of the pit and the restoration, including the revegetation and reforestation of the sites. decommissioning at the end of the works, will reduce the industrial aspect of the landscape. The Agency notes that a restoration scenario already seems to have been identified by the developer.

In section 8.6.7.1 of the EIS, the proponent proposes to vegetate the portion of the dumps that will exceed the treetops and the coniferous tree planting on the west side of the Nemicau-Eastmain-1 road along the most close to the pit (near the camp) to limit the views towards the dumps. The proponent does not specify when it will implement these specific mitigation measures.

As part of its assessment of the impacts of the project on the aboriginal and treaty rights of the Cree communities, the Agency will seek to assess the extent to which the project compromises or impairs the ability of future Cree generations to utilize the land and enjoy of its natural heritage. With the information presented in the current impact assessment, it is difficult for the Agency to comment on the level of severity of the impacts to rights under these elements.

The promoter must:

A) Consult the RE1 land trapper and his family about the mine restoration plan and the type of vegetation to be favored for the reforestation and revegetation of the dumps, in order to encourage the resumption of traditional activities on the territory of mine by future generations.

ANSWER

As stipulated in the Impact and Benefit Agreement, the RE1 tallyman will be consulted regarding the restoration.

B) Analyze the suggestions of these users and justify the options chosen.

ANSWER

Other than the direct involvement of the RE1 tallyman in the planning of the restoration plan, CEC took into consideration the demands and concerns of the community members in developing the rehabilitation and restoration plan for the mine site. The following suggestions will be retained during the execution of the restoration plan:

- The re-vegetation will be done with willows as much as possible
- Roads allowing access to the site will be left in place
- Members will be involved and informed about environmental monitoring.

C) Specify in which year (s) of the project it is planned to revegetate the dumps and if a progressive revegetation is possible.

ANSWER

Progressive revegetation will be favored. This will be done around year 5, when the first landing will be available for revegetation.

D) State whether the tallymen Nemaska and Waskaganish will be informed about the facilities of the mine, which will remain on site at the request of tallyman ground RE1. If not, justify the reason why they would not be informed.

ANSWER

The agreement impacts and benefits (section 8.10.5.) states that the RE1 tallyman will be informed about the facilities and it will be at his discretion to share information with other tallymen.

128. CURRENT USE BY INDIGENOUS PEOPLE - LOSS OF PRACTICAL PLACES OF TRADITIONAL ACTIVITIES AND DISPLACEMENT OF CRIS CAMPS

On page 8-56 of the Environmental Impact Statement, the proponent indicates that the project will result in the relocation of a Cree camp to a site suitable for RE1 members and the loss of a source of drinking water which was used by these camp users.

The proponent must evaluate the effects of the Cree camp relocation and the loss of a drinking water source used by camp users and identify mitigation measures that will be implemented.

ANSWER

Another camp is already at kilometer 51 and tallyman confirms that he will be using this camp instead. It was agreed that CEC would provide materials for another camp to be built at the location of his choice.

129. CURRENT USE OF ABORIGINAL PEOPLE - OIE AND MOOSE HUNTING

On page 8-56 of the Environmental Impact Statement (EIS), the proponent states: "The activities of Cree users in the territory included in the study area could be temporarily disrupted by construction activities. of the mine and the movement of workers, machinery and related to the supply of the site along the road Nemiscau -Eastmain-1. As presented in Section 8.3.4.1, moose and waterfowl hunting activities are practiced, particularly with family, on holidays established in the Cree communities in the spring, in the case of waterfowl hunting. fall, in the case of moose hunting. The construction period will overlap these two seasons. The proponent also undertakes to put in place measures to limit the disturbances caused by the activities of the mine during these periods.

However, moose and waterfowl hunting, in particular, could be affected by the remoteness or temporary avoidance of the area by these species. Users will have to adapt their practices to these new conditions.

In addition, the tranquility of the site, particularly the Cree camps located on the periphery of the mine site, could be affected by the construction of the mine.

Lastly, the usual mitigation measures applied in the construction phase to reduce noise, dust, vibrations, traffic and light pollution will limit the negative effects. "

On page 8-50 of the EIS, the proponent mentions that "There are also two moments during the year when the Crees and their families honor their traditions and get together to practice hunting activities. Goose Break is a goose-hunting holiday that takes place in the spring (late April, early May) and lasts two weeks. On this occasion, the schools of the Cree School Board are closed, as are most offices of Cree businesses and organizations. In the fall, communities also go moose hunting for the Moose Break which also lasts two weeks.

In section 8.3.6.1 of the EIS, the proponent proposes the following mitigation measures phase of construction, operation, maintenance and closure:

- *Measures to limit disturbances during spring waterfowl hunting and fall moose hunting seasons;*
- *Inform Cree users of the territory of the calendar of the activities of construction, operation and maintenance and closure of the mine.*

The promoter must:

A) Detail the "Measures to Limit Disturbances During Spring Waterfowl Hunting and Moose Hunting in the Fall", including which measures will be involved in their implementation, when and where and what should be the expected result. The proponent must detail these measures by considering the opinions gathered during the consultations, in particular those of the tallymen concerned.

ANSWER

Operations will be adapted during Goose Break and Moose Break by implementing the following mitigation measures:

- Limit the amount of blasting
- Limit the transport of waste rock on the dumps
- Limit traffic on the road

B) Evaluate the possibility of suspending extraction activities during goose hunting and adapt the schedule of operations according to these periods of intensive use of the territory, considering

in particular the opinion of the tallymen concerned by the project. If applicable, specify the changes that will be made to the activities and schedule of operations. If not, justify the reasoning.

ANSWER

Depending on the operations, CEC will evaluate this option and will be able to discuss it with the committees in place.

C) Assess whether it is possible to suspend, limit or concentrate activities transport ore concentrate, transportation related to the supply of the mine, and transportation connected to x hazardous materials and household waste during the four weeks of goose and moose hunting or to establish a special traffic management plan during these periods. If applicable, specify the changes that will be made to the transportation activities and the schedule of operations. If not, justify the reasoning.

ANSWER

Depending on the operations, CEC will evaluate this option and will be able to discuss it with the committees in place.

130. CURRENT USE OF ABORIGINAL PEOPLE - CHANGE OF MAMMALIAN BEHAVIORS

In section 8.3.4.2, the Environmental Impact Assessment (EIS) states that the traditional use of Eastmain, Nemaska and Waskaganish traplines includes the hunting of the following species: moose, bear, woodland caribou and beaver. The EIS (Section 7.5) states that the other main major mammal species in the study area are migratory caribou, wolves and foxes.

The community of Eastmain has indicated to the Agency that they are concerned about the possible behavioral changes of large mammals due to the presence of the mine and the labor camp. She also expressed concern about the possible behavioral change of the black bear around the workers' camp and the issues that may arise with respect to the safety of the people.

The Waskaganish community also told the Agency to understand which animals would be most affected by the project.

The promoter must:

A) To present, for each of the large mammal species hunted on the traplines, the behavioral changes listed in the literature or in reports from similar projects, related to the presence of a mining project (changes in behavior towards humans, movements and migrations, for food and reproduction for example). The promoter must popularize this information in a summary table that can be intended for the Cree public (with photos and words translated into Cree if possible).

ANSWER

Species	Observed behaviors
Moose	The presence of a mining project has no impact on moose behavior, which are rather rare in the project study area.
Bear	Bears are attracted to the mine site by the presence of residual materials. It is therefore necessary that the waste containers are fenced in and have bear-proof covers. There will also cages for capturing. On other mining projects, the bears were captured and relocated using cages installed on the site. Several bears were also killed on and near the territory by Cree hunters.
Woodland and Migratory Caribou	Caribou (forest and migrant) are rare in the study area of the project. It should be noted that on another mining project, an injured caribou was shot by a Cree hunter.
Beaver	No changes in beaver behavior were observed.
Wolf	The wolf is attracted to the mine site by the presence of residual materials on the site and other prey that are also attracted. It is therefore necessary that the waste containers are fenced in. There will also cages for capturing. On other mining projects, a wolf was captured and relocated using a cage installed on the site. A wolf was shot for safety reasons. A cage had been installed to capture him in vain.
Fox	The fox is attracted to the mine site by the presence of residual materials on the site. It is therefore necessary that the waste containers are fenced in. There will also cages for capturing. On other mining projects, a red fox was found dead, drowned in the pool of clarified waters of the waste rock pile .

Following approval by the agency, this information can be translated into Cree.

B) Propose specific mitigation measures for the management of bears and wolves near the mine infrastructure and the workers' camp with regard to the safety of the people and if not, justify the absence of measures.

ANSWER

The following mitigation measures will be put in place to ensure the safety of people near the mine and the workers' camp:

- Cages will be put in place to capture and relocate bears and wolves that will approach the site.
- An electonic scarer will be installed near the waste containers.
- The waste containers will be fenced in.
- Waste containers will have bear-proof lids.
- It is strictly forbidden to feed the animals and reminders on this will be frequent.

C) Document the Cree knowledge of the Nemaska community regarding the behavioral changes of large mammals observed since the beginning of the Whabouchi mining project to complete the information.

ANSWER

CEC has been working with a member of the environmental department of Nemaska in order to schedule a consultation with the tallyman from Nemaska R20 tallyman. Following several attempts,

CEC is still in the process of organizing a meeting with the tallyman. Further attempts will be made to schedule a meeting when CEC is in Nemaska in January 2020.

D) Following the collection of this information, propose additional mitigation measures to reduce the effects of the project on terrestrial mammals.

ANSWER

CEC has been working with a member of the environmental department of Nemaska in order to schedule a consultation with the tallyman from Nemaska R20 tallyman. Following several attempts, CEC is still in the process of organizing a meeting with the tallyman. Further attempts will be made to schedule a meeting when CEC is in Nemaska in January 2020.

131. CURRENT USE OF INDIGENOUS PEOPLE - VALORIZED AREAS FOR ORIGINAL AND OIE HUNTING

Pages 8-52 to 8-55 of the Environmental Impact Statement (EIA) indicate that all traplines potentially affected by the project (RE1, R16, R19 and R10) include areas valued for Moose hunting. In the case of RE1 trapline, the proposed mine infrastructure will directly result in the loss of a valued area for moose hunting. In the case of the Nemaska trapline R19, the territory's users have camps on either side of the Nemiscau- Eastmain-1 and Route du Nord roads to access a moose hunting area.

The EIS states that there will be relocation of one of the Cree camps located on RE1. The developer proposes to page 8-60 of the EIS, the "compensation or relocation to camps bordering the road Nemiscau -Eastmain-1 (other camps as the land RE1)." The Agency understands that these are Nemaska trapline camps R19, but when reading the EIS, it is not possible to know if users of Nemaska (R19) have actually requested their camps are relocated and if so, where.

In Table 13-16 of the EIS, the proponent proposes the following mitigation measure:
"Measures to facilitate the movement of activities affected by the project (moose hunting grounds, snowmobile trails, fishing grounds). "

On page 8-56 of the EIS, the proponent anticipates that goose and moose hunting on RE1 could be disrupted by the construction activities of the mine.

On page 7-129 of the EIS, the proponent states that: "The density of moose in hunting area 22, which includes the study area of the natural environment, is one of the lowest in Canada. Quebec. [...] In addition, the Cree Trappers Association lists averaged 32.6 moose harvested annually between 2012 and 2016 in the community of Eastmain (Association of trap p ageurs Cris, 2017). The low density of moose in the boreal region of Quebec is largely due to low productivity habitat. It is in winter that poor food availability and poor quality are the most critical. The typical moose winter habitat is almost always composed of mixed stands where the arrangement of conifers and broadleaves provides shelter near feeding areas. "

In the reports of meetings held in the fall of 2018 with the trapping masters of the communities of Nemaska and Waskaganish, they expressed concern about the effects of the project on the moose and on the continuity of hunting, whereas the project entails the loss of an area of choice for moose hunting.

The promoter must:

A) Clarify whether Cree camps on the Nemaska(R19) trapline, primarily used for moose hunting, will be relocated and if users have been previously consulted on this (provide a summary of discussions with users contacted) or when they will be.

ANSWER

No camp on the Nemaska trapline (R19) will be relocated due to the Rose Project.

B) Define and clarify how the following mitigation measure will be implemented: " measures to facilitate the movement of activities affected by the project (moose hunting grounds, snowmobile trails, fishing grounds)", and specifically, how will the proponent "move the project-affected activities", including moose hunting grounds from RE1, R16, R19 and R10 traplines, what are the chances of success of such an operation and if the tallymen will be consulted in this context.

ANSWER

Only one camp on trapline RE1 requires relocation. The tallyman confirms another camp already exists at kilometer 51and he plans to use this one instead. It was agreed that CEC would provide materials for another camp at the location of their choice. The moose hunting areas from other traplines (R16, R19 and R10) do not require relocation.

C) Propose additional mitigation measures to minimize or offset effects on moose hunting, a species valued in the area. If not, justify the absence of measures.

ANSWER

Mitigation measures are already proposed. In addition, through the monitoring committees, ongoing communication will be maintained with the tallymen and, if necessary, additional measures will be put in place taking into account traditional knowledge.

D) Clarify whether there is a plan to "move" the RE1 site goose pond during the relocation of the camp adjacent to it to create another goose hunting area for these users. If applicable, provide details regarding this relocation (eg, geographic location, assessment of environmental effects associated with the development of the new pond).

ANSWER

The camp at km 51, mentioned above, is already near a goose pond and so there will be no need to create another goose pond.

132. CURRENT USE OF ABORIGINAL PEOPLE - TRADITIONAL USE OF CARIBOU AND CUMULATIVE EFFECTS

According to the guidelines (10.1.3), the proponent must document "the effects of any changes that the project may have on the environment, with respect to Aboriginal peoples, on health and socio-economic conditions, heritage material assets and cultural heritage, current use of lands and resources for traditional purposes ... ". In addition, Aboriginal groups and First Nations are identified as sources of information to consult to document the Environmental Impact Statement (EIS) for species at risk and species of conservation concern.

On page 7-172 of the EIS, the proponent indicates that the operating phase, increased noise and human presence at the mine site will be more intense and continuous e s on a daily period. This source of disturbance will cause a disturbance of the fauna present in the area. These factors will limit the use of the peripheral zone of the mine.

The proponent states that the scientific literature makes a link between noise and animal avoidance (caribou) as an adaptation measure. He added that "the available information indicates that some forest-dwelling caribou would have frequented the southern portion of the study area in spring only,

at a distance of more than 8 km from the center of the proposed mine. Concerning the migratory caribou, it mainly frequented the northern portion of the study area, more than 25 km from the center of the proposed mine, and this only in winter. Overall, the noise level that will be generated by the activities of the mine will, in the worst-case scenario, mostly masked by the residual noise and will certainly not exceed the 5 km zone of influence considered for the mine woodland caribou ".

The proponent then documents the known effects of noise on caribou. On page 7-173 of the EIS, he adds that "it is during the period of operation that the activities of the mine will generate an increase in traffic, particularly for the transportation of employees (290 workers), the supply of the mine [...] and the shipment of processed products. The main access road used will be the Nemiscau -Eastmain-1 road.
About 580 vehicles [...] could access the site each week. Considering the outward and return journeys, this represents a traffic equivalent to about 1,160 passages on the Nemiscau- Eastmain-1 road, ie an average of 166 passages per day. The proponent goes on to say that caribou avoid high-traffic roads and that this avoidance reduces the risk of collision. On page 7-133 of the EIS, he mentions that "the noise caused by the project should be around the threshold for this mammalian faunal group. There will be no effect on the periphery of the project.

On page 7-145 of the EIS, the proponent indicates that legal and illegal hunting have contributed er the decline of woodland caribou. On page 10-18, the proponent refers to the prohibition of sport hunting for woodland caribou and migratory birds by non-natives. On page 7-155, he states that the Paix des Braves provides that the Cree communities can continue to harvest caribou on the territory. In section 10.7.1.4 on cumulative effects, he adds that "however, subsistence hunting by Cree communities remains permissible and involves the possible harvesting of woodland caribou".

In the reports of meetings held in the fall of 2018 with the tallymen of the communities of Nemaska and Waskaganish, it is indicated that the latter (lands R16 and R10 respectively) hunt caribou on their traplines. These account s reports also mention a concern of both communities on caribou populations and moose frequenting traplines R10, R16 and R19, caribou are a species at risk of significant importance for Cree communities. The proponent, however, has not documented this element further and does not provide a complete picture of caribou use for traditional purposes. Only Map 8-4 shows a valued caribou hunting area for R16. The EIS does not provide information on the number of animals harvested, by how many users, or at what time of the year this hunt takes place. According to the information provided, it is not possible to know if this hunting and the harvest rate have varied over time and if this will be affected by the project.

In many areas of the EIS, the proponent appears to rely solely on the fact that telemetry surveys indicate low caribou use. The communities of Waskaganish and Nemaska have confirmed that they are hunting this species near the proposed mine site. The information is fragmentary and does not allow to know the past, present and future use of the caribou (forester and migrant). In addition, the Cree knowledge related to this species at risk, which could have enriched the analysis, is absent.

Finally, no monitoring and monitoring program has been proposed by the proponent for caribou (forest and migratory), since it considers that the effects of the project on this component are small and not significant.

As part of its assessment of the impacts of the project on the aboriginal and treaty rights of the Cree communities, the Agency will seek to assess the extent to which the project may affect the ability of the territory's users to use the resources and to depend on the means, diversity, quantity and availability of resources and habitat in areas of cultural significance.

The Agency will also pay attention to the possible inequity of impacts on the ability of future Cree generations to harvest caribou. With the information presented in the current impact study, the Agency is not in a position to comment on the level of severity of the impacts to rights under these elements.

The promoter must:

A) Provide a portrait of past, current and projected caribou (forester and migratory) use on traplines (Eastmain: RE1, Nemaska: R16 and R19, Waskaganish: R10). To do this, indicate the approximate annual harvest rates over the last several decades and use the time limits recommended by Cree users of the territory to do so.

ANSWER

The traditional use of the territory is confidential, as such CEC does not have access.

B) Document the Cree knowledge regarding the caribou (forestry and migratory) attendance of the sector in relation to the recent development of the territory. The proponent must solicit the Cree knowledge and experience of the Nemaska community to determine if the community has ever observed behavioral changes (eg, avoidance) of caribou influencing the harvest related to the Whabouchi Mining Project.

ANSWER

CEC has been working with a member of the environmental department of Nemaska in order to schedule a consultation with the tallyman from Nemaska R20 tallyman. Following several attempts, CEC is still in the process of organizing a meeting with the tallyman. Further attempts will be made to schedule a meeting when CEC is in Nemaska in January 2020..

C) To review the program of monitoring of the use of the territory to the fine traditional (see issue 123) based on information obtained on the annual harvest rate of migratory caribou and forest.

ANSWER

As mentioned, traditional land use is confidential. CEC does not consider that additional measures are necessary since mitigation measures and mechanisms put in place in the context of the Impacts and Benefits Agreement will already be in place.

D) Clarify how the concerns expressed by the communities of Nemaska and Waskaganish with respect to caribou in the minutes of meetings held in the fall of 2018 will be considered in the determination of mitigation measures for this species.

ANSWER

One of the main concerns is the impact of increased traffic on caribou, and precisely the risk of collision with caribou. CEC will put in place a communication system to report to employees and subcontractors any observations or evidence of caribou presence on roads leading to the mine site to prevent collisions.

Summary from the EIA:

Deterioration of habitat (loss, degradation or fragmentation). Disturbances caused by noise. Risk of collision.	Common measures: None. Special measures: Establish a communication system to report to employees and subcontractors any observations or evidence of caribou presence on roads leading to the mine site; Develop a training module for employees and subcontractors to make them aware of the precariousness of caribou populations and to develop their ability to distinguish possible signs of presence; Develop and implement an action plan for the presence of caribou near the mine; - Inform employees of the presence of caribou near the mine's infrastructures or access roads, to increase their level of vigilance and limit the risk of disturbance or collision; - Intensify the transport schedule in the daily period and reduce it during the night period due to the higher risk of collision; - Temporarily suspend some of the activities of the mine if it presents a high level of risk for caribou in the area.
Deterioration of habitat (loss, degradation or fragmentation). Disturbances caused by noise and light. Risk of collision.	
Gradual decrease in disturbances (noise, light, etc.) Gradual restoration of forest cover in remediated sites (revegetation work) (positive impact). Gradual decrease in risk of collision.	Common measures: None. Special measure: During restoration work, use resinous species to avoid the colonization phenomenon of hardwood species (cribbing phenomenon).

In its response, the proponent should consider the definition of "common use" as described in the following Agency document: Technical Guidance for Assessing Current Use of Lands and Resources for Traditional Purposes in Canada under the Canadian Environmental Assessment Act (2012) . Common usage includes those uses by Aboriginal peoples that are actively occurring at the time of the environmental assessment and uses that are likely to occur in the reasonably close future provided they provide continuity with traditional practices, traditions or customs. The proponent must also consider uses that may have ceased due to external factors, if they can reasonably be expected to resume once the conditions are changed.

133. CURRENT USE OF ABORIGINAL PEOPLE - PRESSURE ON RESOURCES FOR HUNTING AND FISHING

In section 8.3.6.1 of the Environmental Impact Statement (EIS), the proponent identifies the following mitigation measure for the three phases of the project in order to limit the pressure on wildlife harvested by the Crees: "Prohibition of hunting weapons at the mine site and at the workers' camp."

He states on page 8-57 of the EIS that "the non-native workers in the mine will be made aware of the traditional activities of the Cree users of the territory and the role of the tallymen as land and resource managers". He added that all hunting weapons will be banned at the mine site and at the workers' camp.

On page 4-10 of the EIS, the proponent states that "the presence of several non-native workers at the mine also makes it desirable for the tallymen of lands RE1, R16 and R19, that some control be exercised over the activities hunting and fishing workers in particular by setting up a control structure as Weh- S é es Indohoun, developed as part of Hydro-Québec projects (especially in the construction of hydroelectric projects of the Eastmain-1 and Eastmain-1-A - Sarcelle - Rupert) and managed since 2015 by the Weh-Sees Indohoun Subcommittee created by the Joint Hunting, Fishing and Trapping Committee. "

In the reports of meetings held with the tallymen of Waskaganish and Nemaska in the fall of 2018, users in the Nemaska territory reported that thefts and vandalism were observed on the Cree camps in connection with recent developments.

On page 10-47 of the EIS, the proponent mentions that "no increased fishing pressure is expected since fishing activities will be strictly prohibited".

In section 14.1.3, the proponent specifies the procedure it plans to put in place to manage the complaints of the population.

During its consultations with the communities of Eastmain and Nemaska, the Agency noted that they were concerned about the massive influx of non-native workers and the effects of these on their experience on the territory.

The promoter must:

A) Assess the desirability of creating, jointly with the tallymen of lands RE1, R10, R16 and R19, a protocol or a specific mechanism for resolving conflicts in case of problems related to the reconciliation of uses of the territory and resources by mine workers. This protocol or mechanism could also be used to report flights or other problems observed by Cree users in the territory. This protocol or mechanism could be assigned to one of the committees created under the project.

ANSWER

CEC undertakes to create a protocol or mechanism addressing conflict resolution in the event of problems related to the reconciliation of land uses and resources by mine workers, which will include the possibility of reporting thefts or other problems observed by the users of the territory. This protocol will be assigned to the Implementation committee, created under the impacts and benefits agreement.

B) State whether the complaints of Cree land users may be referred directly to the agent of connection that could be given following directly or if one of the monitoring committees created under the project will be mandated to specifically respond to complaints Cree users of the territory.

ANSWER

The Implementation Committee will be ideally placed to handle complaints from Cree users of the territory as this committee will consist of three members selected by CEC, including a member of the mine site management team, a member of the management team, and a member of the corporate management team and three members selected by the Cree parties, including two members chosen by Eastmain and one member selected by the Grand Council of the Crees (Eeyou Istchee) / Cree Nation Government and therefore representative of all parties concerned.

C) Evaluate, in synergy with other companies or promoters active or in the process of becoming so in the territory (Nemaska Lithium and Galaxy Lithium, for example), the possibility to ask the competent Cree and provincial authorities about the opportunity to put up a new special area for hunting and fishing, as was done with the special area Weh Sées Indohoun at Hydro-Québec projects, where a similar number of foreign-born workers were solicited on the same territory.

ANSWER

CEC is open to discussions on a special hunting and fishing area, however, it is essential to take into account that CEC does not have the authority to put such a measure in place and will rely on governments in this regard.

D) Specify by what concrete means it will prohibit the fishing of its employees and demonstrate the effectiveness of such a measure.

ANSWER

Employees will be required to sign an agreement on these prohibitions as a clause in their contract. When this directive is not followed, the employee may be subject to disciplinary action.

E) Clarify if it plans to prohibit hunting and trapping by its employees, and by what means. If not, justify.

ANSWER

Hunting and trapping are prohibited for employees, this will be ensured by the prohibition of possession firearms and other weapons.

F) Evaluate the possibility of prohibiting the equipment of fishing and of trapping on the site of the mine and the camp of the workers.

ANSWER

As mentioned in section E) of this question, firearms will be prohibited. Similarly, other fishing and hunting equipment will be prohibited at the mine site and the worker camp.

134. CURRENT USE OF ABORIGINAL PEOPLE - ROAD TRANSPORT EFFECTS AND PROPOSED MITIGATION MEASURES

The proponent assesses the effects of road traffic on Cree users of traplines RE1 (Eastmain) and R19 (Nemaska), mainly with regard to the effects on the safety of road users, the risk of road accidents and the associated nuisances to the road. In two different sections of the Environmental Impact Statement (EIS), the proponent proposes these mitigation measures:

- *Sensitization of workers and carriers to the need to respect road safety rules and if necessary, take measures with the competent authorities to ensure the safety of road users Eastmain-1 (EM1) (page 9-37 of EIA);*
- If *possible, divide heavy traffic over the whole day and week to avoid intensive periods of this type of traffic (pp 8-75 of the EIA).*

On page 8-77 of the EIS, the proponent describes a follow-up program in the Community Welfare and Human Health section stating that "regarding the effects of the increase in heavy traffic on the EM1 road, the follow-up proposed is based on meetings with the tallymen of lands RE1 and R19 as well as organizations from the communities of Eastmain and Nemaska. These meetings aim to gather data and information on the following topics on the EM1 road: the level of traffic, the traffic conditions and the feeling of security. "

On page 7-136 of the EIS, the developer says it has planned mitigation measures phase of construction and operation: "In terms of effects related to disturbance and risk of collision, the mitigation measures L1 to L4, M1 to M3, M6, M9, M10, T1 to T9 will be applied. "

On page 5-22 of the EIS, the proponent describes the mitigation measure T1 for the construction and operation phases, which reads as follows: "Vehicle traffic will have to travel at a reduced speed in order to limit noise, vibration and dust emissions as well as for safety reasons . "

In the reports of the meetings held with the tallymen of Waskaganish and Nemaska in the fall of 2018, the users of the Nemaska territory claim to anticipate an increase in road traffic during the summer and during goose hunting and moose and propose various mitigation measures related to road traffic, including:

- *The use of radios ("CB" type) in all trucks to allow road users to communicate with each other;*
- *Reduced speed of vehicles;*
- *Installation of signs to identify snowmobile crossing areas or Cree camp entrances on both sides of EM1 and Route du Nord roads;*
- *Making truck drivers aware of courtesy and letting other road users overtake trucks.*

Users also seem concerned about access to the territory and their camps. In fact, some have expressed concern that road users associated with the mine will not necessarily stop for the user to hunt their moose. Some are also concerned about the increased risk of collisions between vehicles and moose, considering the high presence of these between km 15 and 40 on the EM1 (harvest rate) road.

In its analysis of the impacts of the project on the aboriginal and treaty rights of the Cree communities, the Agency will assess whether access to the territory is altered or compromised and to what extent the project could affect the quality of the experience in this territory . The Agency will pay particular attention to the conditions of access to the territory of the nine families of Nemaska (R19) using the camps accessible on both sides of the EM1 road, especially during periods of high traffic (for example during periods goose and moose hunting).

During the Agency's consultation with the Cree communities, the community of Nemaska expressed concern about the increase in noise and vibrations that could force families to change their hunting territory. The community of Eastmain, for its part, expressed concern about the effects of the project on increasing road traffic on the James Bay Highway.

The promoter must:

A) Consult the tallymen of Eastmain, Nemaska and Waskaganish to inquire about the traveling habits of the users of the territory during the goose and moose hunting periods, for example the time of day when they usually leave the camp or the village for hunting and evaluate whether it is possible to modify their transportation activities (ore, supplies, hazardous materials, etc.) to limit the effects during these periods of hunting. In the event that transportation activities can be changed, explain the actions / changes that will be made. If not, explain the reasons for this impossibility.

ANSWER

The RE1 tallyman does not hunt in this area during goose and moose hunting and therefore does not use the routes in question. The tallyman of R10 accesses his land by the James Bay road. The tallymen of R16 and R19 access their land by the Nemaska, Eastmain-1 road. They use these roads regularly throughout the year. The mitigation measures already proposed will be sufficient to ensure that the traplines can be reached during hunting periods.

B) Identify measures that will be implemented during the week referred to hunt for geese in the spring (two weeks) and to moose in the fall (two weeks), which would mitigate the effects of road transport on the activities of the users of the territory.

ANSWER

Operations will be adapted during Goose Break and Moose Break to limit traffic on the road.

C) Clarify and justify if mitigation measure T1 "Vehicle traffic will need to be at reduced speed to limit noise, vibration and dust emissions as well as for safety reasons" refers only to the movement of trucks on the site of the project or if it concerns also the movement of trucks on

the road Nemiscau -Eastmain-1 North Road and clarify what it means by "reduced speed" and if a formal speed limit can be identified in this end.

ANSWER

This mitigation measure also targets the movement of trucks on the roads. The speed limit on Eastmain 1 Road and the Route du Nord between Albanel substation and the James Bay Highway is 70 km/h. The company and supplier vehicles must respect the speed limit under penalty of expulsion. Road signs will be added to remind the speed limit at an appropriate frequency.

D) Evaluate the possibility of adding to the Community Well-being and Human Health Monitoring Program the monitoring of the effects of the increase in heavy traffic on the Nemiscau-Eastmain-1 road on the quality of the camps and access to the territory during annual moose and moose hunting trips. In the event that this addition to the Community Wellness and Human Health Monitoring Program is done, provide details of this component to the Program. If not, explain the reasons for this impossibility.

ANSWER

CEC is committed to add monitoring the effects of the increase in heavy traffic on the Nemiscau-Eastmain-1 road on the quality of experience to the camps and land access by means of the Implementation committee. Since this component is subjective in nature, the only way to judge the effects will be through communication with the users of the territory.

E) Evaluate the effects on traditional activities of the Eastmain and Waskaganish communities on the James Bay Highway from the project or the various transportation activities associated with the mine.

ANSWER

The main impact of the project on the James Bay Road will be increased traffic. The potential effects of this increase in traffic will be mainly related to large mammals and the hunting of them. These effects are:

- Difficulty in accessing traplines, especially during hunting season
- Increased risk of collision between users of traplines and other road users (trucks, employees, etc.)
- Avoidance of the area by animals
- Increased risk of collisions with animals

ABORIGINAL HEALTH AND WELFARE

135. ABORIGINAL HEALTH AND WELFARE - CONTAMINANTS CONCERNING HUMAN HEALTH

In the supplemental information document (p.16), the proponent presents contaminant sources, but does not identify them, and notes that "potential contamination may be the result of accumulation over a long period of time ((eg accumulation of dust on the plants as part of the operation) or be the result of an incident / accident (eg a spill of reagent).

The proponent must provide a complete list of all contaminants of potential concern and present them by source (eg dust, mine effluent).

ANSWER

The list can be found in the report in Appendix CEEA-136.

136. ABORIGINAL HEALTH AND WELFARE - RISKS OF TRADITIONAL FOOD CONTAMINATION AND TOXICOLOGICAL RISK ASSESSMENT

In section 8.4.5.1 of the Environmental Impact Statement (EIS), the proponent states: "For many members of the communities of Eastmain and Nemaska, the sensitivity to the environmental risks raised by this project is high. Concern is raised about the possible contamination of lakes and streams surrounding the mine and its effect on resources (fish, wildlife, plants or other natural resources) used for traditional purposes, and its impact on health human. Also, some people are worried about these potential effects on future generations. In the supplementary information document (p.16), he adds:

"[...] the dust raised by the routing of ore trucks can be deposited on plants consumed as traditional foods. Contact water with tailings (sterile rock or concentrate tailings) could also impact surface water bodies and contaminate aquatic species consumed by native people. "

Despite these concerns, the proponent has not assessed whether the activities of the mine are likely to contaminate traditional food (short, medium, long term). In order to justify the non - necessity of carrying out a toxicological risk assessment in relation to the potential contamination of traditional food, the proponent states: "... the site where the mining infrastructures will be located is sporadically frequented. In addition, no exceedance of particles above the criteria issued by the authorities is expected. As a result, the risk of contamination of foods taken from the wild is very low, especially since the collection of traditional foods in this sector is only sporadic. No effects are expected on human health compared to the consumption of traditional food near the mine. "(P.8-69 of the EIA).

The potential health risks associated with high levels of chemicals in traditional foods are generally addressed in an environmental impact statement through an assessment of the human health risks associated with the consumption of traditional foods. This evaluation allows:

- *to estimate the exposure of people related to the consumption of traditional foods and to establish if there are potential risks associated with this exposure;*
- *to verify whether the ingestion of contaminants in food may be a significant route of exposure, particularly where they are likely to bioaccumulate or biomagnify in the food chain, or where consumption of traditional foods is a major of the diet of an exposed person.*
- *strengthen the conclusions of an environmental assessment and emphasize the need and importance of implementing mitigation measures to reduce or eliminate potential risks to human health.*

As part of this project, such an assessment would:

1) *Respond to public concerns about potential contamination of traditional food. These concerns can sometimes be sufficient to trigger the need for a risk assessment.*
2) *Assist the proponent in communicating the risks to the population so that communities do not unnecessarily avoid traditional food.*
3) *Determine whether a small increase in concentrations of contaminants in the environment could lead to an unacceptable risk, and even if the discharge standards for contaminants in water, air, etc. would be respected by the promoter.*
4) *Identify key contaminants that may need to be specifically monitored (eg, such contaminants in such types of traditional foods) to protect health and to verify whether mitigation measures are in place are effective.*
5) *Check if an accumulation of contaminants emitted by the project over a period of time could contaminate traditional food.*

ANSWER

The complete report can be found in Appendix CEEA-136.

137. ABORIGINAL HEALTH AND WELFARE - THE EFFECTS OF ROAD TRANSPORTATION ON AIR QUALITY AND NOISE

Many Cree camps would be on the roads that would be borrowed, including trucks carrying the ore (pp.8-53).

The effect of off-site transportation appears to be a major concern for some Crees (p.4-9). The developer notes that the level of the human environment, the main constraint identified e is increased traffic "(p.20 further information).

However, the proponent does not seem to have evaluated the potential effects of the project on air quality and noise related to transportation outside the mine site, only the increased risk of accidents on the road network seems to have made subject of an assessment. Based on this assessment, the proponent concluded that there will be no significant impact on land use: "Concerning the additional traffic related to the project on the Nemiscau- Eastmain-1 road, CEC will raise the awareness of workers and transporters. the need to respect the safety rules and, if necessary, take measures with the competent authorities to ensure the safety of users of the Némiscau - Eastmain-1 road. Thus, there will be no significant effect on the current use of lands and resources for traditional purposes. "(P.8-45)

In addition to the increased risk of accidents, off-site transportation related to the construction and operation of the mine is likely to have an impact on air quality and noise.

The promoter must :

A) Evaluate the potential effects (noise and air quality) associated with increased traffic on the road network at an appropriate distance from the project (off-site and during construction and operation) to the health of the roadway indigenous peoples.

ANSWER

A circulation study submitted to the MELCC (answers to the first series of questions) shows current and anticipated traffic for the Rose Lithium-Tantalum project. The main conclusions are presented below.

In the construction phase

For the critical scenario, ten trucks per day to transport materials to the mine (materials required for mine construction) and two trucks per day to transport materials outside the mine site (domestic and hazardous materials). As these trucks have to enter and leave the site daily, it will be a total of about 24 trucks a day. In the medium-day scenario, there are 12 trucks a day, 5 in and one out, all in both directions.

In the production phase

During production, according to the critical scenario, the mining complex will generate 12 trucks per day per direction to transport materials to the site (materials required for the operation of the mine) and 22 trucks per day per direction to transport residual materials (materials produced by the mine). Considering that these trucks will have to enter and leave the site daily, a total of 68 trucks will be generated per day by the mining complex for both directions. In the medium scenario, there are 44 trucks a day (total of two directions).

During the production period, according to the critical scenario, 64 trucks per day will be added to Route 109 (James Bay Highway) and four to Northern Highway (total of both directions). In the medium-day scenario, there are 42 trucks per additional day on Route 109 (James Bay Road) and two on the North Road (total of both directions).

The road along which the CEC project will be carried out is gravel. On the way to the workers' camp (25 km north of the mine) there is a Cree camp, while to the south are seven Cree camps. There are therefore possible disadvantages associated with the project CEC when trucks pass (sound environment and air quality) when the camps will be used.

B) In the event that effects are anticipated, propose additional mitigation measures for these aspects in order to protect the human health of the users of the territory (eg speed limits, limitation / prohibition of the use of engine braking, limitation transportation at certain times of the year, etc.).

ANSWER

The speed limit on Eastmain Road 1 and the North Road between Albanel substation and the James Bay Highway is 70 km/h. The company and suppliers' vehicles must respect the speed limit under penalty of expulsion. Road signs will be added to remind the speed limit at an appropriate frequency.

In addition, CEC will put in place a system for receiving and resolving complaints that will include traffic-related complaints.

C) Detail the measures currently referred to ("taking action with the competent authorities to ensure the safety of users ").

ANSWER

The actions in question refer to the involvement of the Sûreté du Québec and/or Nemaska and Eastmain police services to apprehend drivers who do not respect the speed limits or who drive dangerously.

138. ABORIGINAL HEALTH AND WELFARE - EFFECTS OF ROAD TRANSPORTATION AND PROPOSED MITIGATION MEASURES

In the traffic study presented in the MELCC response document (Appendix QC-13), the proponent presents the daily circulation data for Route du Nord and Route 109 (James Bay Highway). However, it does not present data for the Eastmain 1 (EM1) road, which does not make it possible to determine the increase in road traffic caused by the project on this road.

The proponent must determine the increase in road traffic caused by the project on Eastmain Road 1. Provide, as required, current traffic data, pre-project.

ANSWER

According to the study's consultant, there is no current traffic data on the Némiscau - Eastmain 1 (RN1) section. Impacts cannot be qualified if the current situation is not known. However, traffic in the area must be very low at this time so that the capacity reserve is very large and the addition of project-related vehicles should not generate any transportation issues.

139. ABORIGINAL HEALTH AND WELFARE - MITIGATION MEASUREMENT

In section 8.4.6.1 of the Environmental Impact Statement, the proponent identifies as a mitigation measure the measure "Support to the organizations and stakeholders of the Cree communities concerned, in particular the Commission for Health and Social Services of the Bay -James (CSSSJB), social issues related to alcohol and drug use, indebtedness, and financial planning and family relations."

The promoter must:

A) Specify to which Cree community (ies) it refers in the mitigation measure "Support to organizations and stakeholders of the Cree communities concerned, in particular the CSSSJB, by social issues related to the use alcohol and drugs, indebtedness, and financial planning and family relationships. "

ANSWER

The proponent refers to Eastmain, Nemaska, and Waskaganish.

B) Clarify the nature of the support provided to organizations and stakeholders and how it will be provided.

ANSWER

Several programs are discussed in the Impact and Benefit Agreement (Section 7). Here are some examples:

- A multifunctional area will allow Cree employees to participate in activities offered in the context of culture, traditional health and well-being, social programs, and to hold support group meetings.
- The community of Eastmain will establish and deliver social programs (including activities to promote healthy living and prevention of alcohol and drug abuse) designed to assist Cree employees in the community of Eastmain and their families. Critical Elements Corporation will work with the Eastmain community to deliver these programs.
- In the first year of production and up to the last year of operation, the "Social and cultural Fund " will be implemented and CEC will deposit 75 000 $ each year to provide financial support for the programs mentioned above.

ABORIGINAL SOCIOECONOMIC CONDITIONS

140. INDIGENOUS SOCIOECONOMIC CONDITIONS - SOCIO-ECONOMIC EFFECTS OF THE CRIS PROJECT

In section 10.1.3 of the Guidelines, the Agency requests the proponent to document the effects of environmental changes on Aboriginal peoples, including Aboriginal peoples, on health and socio-economic conditions, etc.

On page 8-34 of the Environmental Impact Statement (EIA), it states that "overall, the unemployment rate for the Cree population was 14.7% (in 2011)". The promoter also documents that more men than Cree women are unemployed and that unemployment was still in 2011 at about 9% in the community of Eastmain and 3% in the community of Nemaska.

On page 8-39 of the EIS, the proponent mentions the demographic increase in the population of the Eeyou-Istchee James Bay territory, which is expected to increase by 30% from 2016 to 2036.

It also indicates that some of the 280 new jobs created during the exploitation phase "could be filled" by members of the Cree communities.

The account's minutes of meetings held in the fall of 2018 with the Waskaganish community mentioned that the establishment of a daycare available on Cree workers would promote the use of Cree women and moreover, those single parent.

As part of its assessment of the project's impacts on Aboriginal and treaty rights, Cree communities, the Agency will seek to assess the fairness of the positive and negative impacts of the project within the various subgroups of the Aboriginal population. With the information presented in the current impact study, the Agency is not in a position to comment on the level of severity of the impacts to rights under these elements.

The promoter must:

A) Specify the number of jobs reserved for members of each of the Cree communities and if it is anticipated that some of the jobs will be reserved for Cree women.

ANSWER

The proponent is committed to hiring as many Cree employees, both women and men, as possible. Through the Impact and Benefit Agreement, CEC is committed to hiring its employees and awarding contracts to Cree individuals and businesses as a priority.

B) Propose mitigation measures to promote the employment of Cree women in traditionally male areas, which are often the best paid and if not, justify the absence of measures. The proponent should consult the Cree Women's Association of Eeyou Istchee, which has expertise in the matter, or specify if it has already consulted this association.

ANSWER

During the implementation of training programs and the promotion of these, CEC intends to work with organizations like "Chapeau les filles", the Women in Mining Association, and the Association of Cree Women of the Eeyou Istchee to promote employment opportunities for women in traditionally male areas.

C) Propose mitigation measures to promote the work-family balance of the families of Cree employees with dependent children or seniors and, if not, justify the absence of measures to mitigation.

ANSWER

CEC is committed to implement support programs in communities that could contribute to the work-family balance, such as training programs for social workers and childcare workers.

D) Evaluate the positive and negative effects of the project within the different subgroups of the Aboriginal population of the Cree communities of Eastmain, Nemaska and Waskaganish (including women, youth and seniors) and propose measures to appropriate attenuation. If not, justify the absence of measures. Evaluate the feasibility of follow-up with these subgroups as part of the Community Well-being and Human Health Monitoring Program (section 8.4.8 of the EIS). In the event that this addition to the Community Wellness and Human Health Monitoring Program is done, provide details of this component to the Program. If not, explain the reasons for this impossibility.

ANSWER

CEC has already consulted with these groups as part of capacity study conducted in 2013 and will continue to include them in the consultation process. The mitigation measures mentioned above will also aim to ensure the safety and protection of Cree women, girls and LGBTQ persons.

141. INDIGENOUS SOCIOECONOMIC CONDITIONS - FOLLOW-UP

In Section 10.1.3 of the Guidelines, the Agency requests the proponent to document the effects of environmental changes on Aboriginal peoples, on health and socio-economic conditions, etc.

On page 8-43 of the Environmental Impact Statement (EIS), the proponent suggests a program to monitor socio-economic conditions (training, employment and economy) based on desk research and meetings with organizations such as training programs, the number of jobs at the mine, the socio-economic profile of workers, the value of contracts obtained by Cree companies, data on the labor force, etc.

The reports of this follow-up will be presented to the exchange and consultation committee six times during the life of the mine as well as following the closure of the mine.

When reading the EIS, this measure only provides for follow-up with Eastmain and Nemaska.

The promoter must:

A) Assess the possibility of adding Waskaganish to the socio-economic monitoring program as this Cree community is very populous and may be providing services or employees to the sponsor. In the event that this addition to the socio-economic monitoring program is done, provide details of this component to the program. If not, explain the reasons for this impossibility.

ANSWER

CEC is committed to include the community of Waskaganish in the socio-economic monitoring program. The details of this component will be identical to other communities.

B) Identify Cree companies that have already been targeted to provide services to the mine and present them according to the activities and phases of the project, if any.

ANSWER

A compensation project for fish habitat losses has been prepared. This involves the construction of a sturgeon spawning ground in the Eastmain River downstream of the Hydro-Québec dams. It is pending until the authorization of the Rose Lithium-Tantalum project by the COMEV before it can be completed. Companies from the communities of Eastmain, Wemindji, and Waskaganish have been invited to submit a proposal. The final choice of the contractor will be made once COMEV has authorized the construction of the mine.

Discussions took place with members of the Cree community of Eastmain to provide and manage a camp of workers for the construction and operation of the mine. We are waiting for a proposal.

CEC signed an Impact and Benefit Agreement with the Eastmain Cree Nation, the Grand Council of the Cree (Eeyou Istchee) and the Cree Nation Government on July 8, 2019. The terms and conditions for employment opportunities and providing goods and services favoring members of the community of Eastmain and the Cree Nation are stipulated.

ARCHAEOLOGICAL HERITAGE

142. ARCHAEOLOGICAL HERITAGE - ARCHAEOLOGICAL POTENTIAL ZONES

When reading Section 8.5.4 of the Environmental Impact Statement (EIS), the knowledge of the Cree communities does not appear to have been documented or taken into account in the methodology used to develop the study of archaeological potential.

On page 8-80 of the EIS, the proponent indicates that a dozen archaeological sites are currently known for the study area, some are now flooded by the Eastmain 1 reservoir. A total of 21 Archaeological potential has been identified in the study area (see map 8-4) These places correspond to the spaces most likely to contain vestiges that are witnesses of human presence, from prehistory to the twentieth century. It is recommended to carry out an archaeological inventory of the areas likely to be affected by the project ".

In Section 3.4.2 of the Guidelines, "Subsection 19 (3) of CEEA 2012 states that community knowledge and Aboriginal Traditional Knowledge (ATK) may be considered in the environmental assessment of a community. project. In the context of these guidelines, Aboriginal community knowledge and traditional knowledge refers to the knowledge acquired and accumulated by a community or Aboriginal community that has lived in close contact with nature for many generations. The proponent must incorporate in [the EIS] the knowledge of the communities and Aboriginal traditional knowledge that it has access to or acquired during Aboriginal participation activities ... ".

The promoter must:

A) Document the knowledge of the Cree communities, for example by consulting the elders and / or the users of the territory, and / or experts in archeology of the Government of the Cree Nation in order to validate and / or improve the areas of archaeological potential that must be inventoried before construction works. This information could be compiled in a document presented as an appendix to the current archaeological potential study.

ANSWER

The archaeological potential study was conducted by Arkéos Inc., an expert company in archaeological research. The Arkéos report is presented in Appendix CEEA-142-A. The methodology is clearly explained in section 2. The author consulted the report of Nove Environnement inc. 2004 for the territorial use component (see the list of works consulted on page 37 of the Arkéos report). The Nove report was prepared as part of the Eastmain 1-A power station and the Rupert River diversion. It is entitled " Eastmain-1-A power station and Rupert diversion - Use of land by cries - Hunting, fishing and trapping activity ". The Nove report is presented in Appendix CEEA-142-B. It elaborates on the methodology used, including the one for consultation with the Crees. Appendix A of Nove report provides interview grids and the participation process and Appendix B lists the persons met . Many community members from Eastmain, Waskaganish, Nemaska, Mistissini and Wemindji were consulted. It should be noted that the area of the territory occupied by the project is located only in trapline RE01. The tallyman of the zone RE1 met by Nove is the same tallyman as today.

B) Propose mitigation measures as a result of these consultations.

ANSWER

No additional mitigation measures are required.

C) Indicate how he intends to notify the RE1 tallyman and the Culture and Language Department of the Cree Nation Government in the event of an artifact discovery.

ANSWER

Timeline and alternatives:

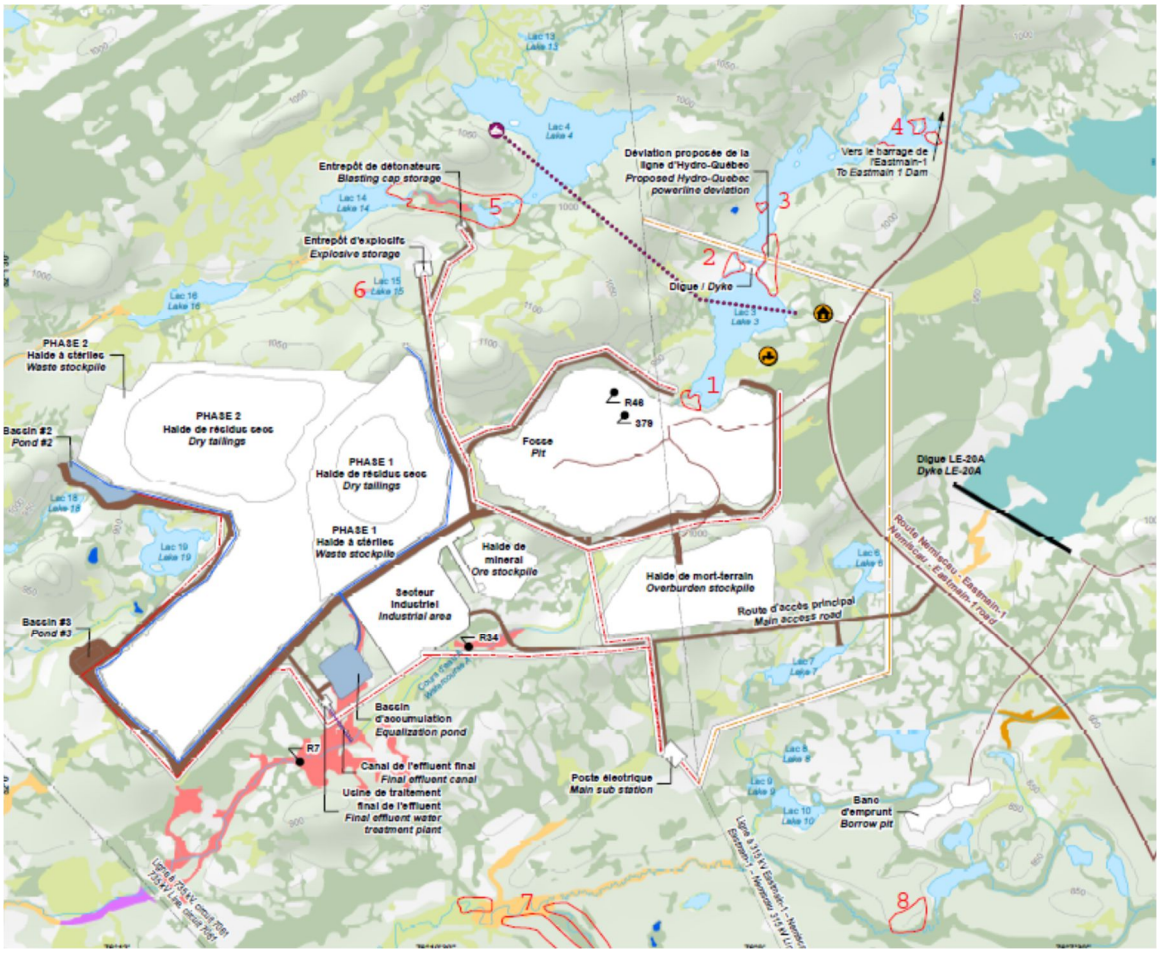
The map below shows the location of the areas near the project with archaeological potential. Only Zones 1, 2, and 5 could be impacted by the project. Other areas are outside the project activity areas. Zones 1, 2, 3, 4, 5, and 6 will be inventoried. Zones 7 and 8 will not be inventoried because they are accessible only by helicopter and are outside the project area.

It is planned to carry out an inventory of the archaeological potential in spring 2020 before the start of construction. The fieldwork will be completed in June 2020 and will take about two weeks.

Zones 2 and 5 could be impacted during the construction phase while zone 1 could only be impacted during the operation phase. Zone 2 will be potentially impacted by the construction of the diversion of the power line. Should this site be retained, a pylon of the power line could be moved.

The southern portion of Zone 5 could be impacted by the construction of a pit drawdown pond and a discharge point at Lake 4 and the construction of the explosives storage area. Should this site be retained, the pond and the discharge point and/or explosives storage area could be relocated near their intended locations.

Zone 1 could be impacted by the excavation of the north wall of the pit. Should this site be retained, the pit operating sequence could easily be changed and all the archaeological excavations should be carried out in the construction phase and the first four years of operation.



Methodology:

The inventory of the archaeological potential will be carried out by an anthropological research expertise company with extensive experience in the James Bay region. This company will take care of obtaining the necessary authorizations.

Before the start of the work, the tallyman will be informed of the archaeological potential inventory program, and he and his family will be invited to participate in the excavations. Other members of the Eastmain community may also participate with the agreement of the tallyman.

Archaeologists will first make a visual inspection of the surface of the areas of interest. Then, surveys will be taken on a grid of about 10m x 10m or in places deemed suitable by archaeologists on the ground. The holes will consist of an excavation of an area of 60 cm x 60 cm to a depth of 25 cm to 50 cm in the organic soil. An activity report will be produced approximately two weeks after the completion of the work. A final report will be written and sent to the Cree Department of Culture and the Cree Nation Government.

Management of discoveries:

In case of discovery of artifacts, the expert company will immediately inform the Ministry of Culture of Quebec by phone and submit a Notice of Discovery, as prescribed by law. Likewise, CEC will inform the tallyman and the government of the nation verbally and a copy of the Notice of Discovery will be sent to them.

The importance of the discovery will be evaluated by archeology consultants based on the value of movable and immovable remains from a local, regional and national perspective. Heritage protection will always be privileged, in this sense, whenever possible, the construction project will be modified to avoid disturbing archaeological sites discovered. If the project cannot be changed and that a discovery is seen as threatened, it is planned to carry out an archaeological dig and to implement the necessary means that the collected data analysis is subsequently performed as well as dissemination of the results. If the material culture found is of interest, the collection can be presented to the Cree Nation through an exhibition. Exploitation of the discoveries will be done through a scientific publication ("Archaeological" magazine) and the implementation of a traveling museum exhibition with the Cree Nation.

Conservation of collections:

The archaeological collection will be cleaned and inventoried by the consultant. If objects require special conservation treatment, a request for help will be made to the Center de conservation du Québec. It may subsequently be handed over to the Aanischaaukamikw Cree Cultural Institute in Oujé-Bougoumou, after agreement with the Ministry of Culture and Communications.

RECOMMENDATION:

The proponent could, among other things, encourage the participation of the Crees who wish to participate in archaeological surveys or be trained to do so if required, or to attend the inventories as an observer (s).

ABORIGINAL COMPONENT (OTHER)

143. INDIGENOUS COMPONENT (OTHER) - COMMITTEES TO BE SET UP

In Section 4.5 of the Environmental Impact Statement (EIS), the proponent proposes the creation of a "Liaison / Implementation Committee" to, among other things, "ensure clear communications between the proponent (CEC) and the various stakeholders of Eastmain "and" to ensure the establishment of a long-term relationship "by establishing a" framework through which communication and cooperation can take place ". This committee would also make it possible "to plan the Crees' cooperation and involvement with CEC in environmental monitoring during all phases of the project". In section 4.5.1 of the EIS, the proponent states that in accordance with the Québec Mining Act, it will form a "follow-up committee" composed of (according to the Act) "a representative of an aboriginal community. Consulted by the government on the project ".

On page 8-69 of the EIS, the proponent states that this committee would consist of "members of the Eastmain and Nemaska communities and the mine personnel" and should, through periodic meetings, discuss and propose solutions to the various situations related to the activities of the mine ". On page 8-75, the proponent states that this committee "could include land users, members of the Eastmain community, mine workers, Eastmain service representatives or the Band Council, etc.". The use of the word "may" appear uncertain and there is no longer any reference to the presence of Nemaska members in this section.

The promoter must:

A) Specify how it plans to promote the active participation of communities of Eastmain, Nemaska and Waskaganish in the Committee for discussion and consultation. Indicate whether it plans to reserve seats for the following actors: tallymen (RE1, R16 and R19, R10) and their families, community members, representatives of environmental and / or administrative services and / or the Council band choice Cree communities.

ANSWER

As stipulated in the Impacts and Benefits Agreement, the Implementation Committee will consist of three members selected by CEC, including a member of the mine site management team, and a member of the company management team and three members selected by the Cree parties, including two members chosen by Eastmain and one member selected by the Grand Council of the Crees (Eeyou Istchee) / Cree Nation Government. It is possible for this committee to create, at their discretion, a subcommittee composed of the actors mentioned above.

B) State whether the committee for discussion and consultation is separate from the Liaison Committee / commissioning work and if the committee of bond / put in work is separate from the committee to follow established under the Act mines.

ANSWER

The Implementation committee and the liaison/implementation committee are indeed the same committee that will be responsible for ensuring the proper implementation of the IBA between CEC, the Eastmain community and the Grand Council of Cree, to serve as the main communication forum between the parties and produce the reports required by the implementation of the future IBA.

This committee will also be responsible for the other functions conferred in the IBA or any other agreement made by the parties involved, as well as the creation of the environment committee which will represent the interests of the Cree parties in all that pertains to the environment.

The monitoring committee, the committee created under the Mining Act, will have the mandate to exchange information, identify issues and concerns, to find common solutions and to inform the public about CEC's activities in the region.
It will be up to the monitoring committee to specify its mandate. For example, its role could be to:

- Act as an intermediary between the population and the groups affected by the project on the one hand and the mining operator on the other.
- Serve as a meeting and exchange place to promote dialogue between the population, interest groups and the mining operator.
- Promote the sharing of local know-how and scientific knowledge between the local community, the operator and the independent experts.
- Evaluate the environmental and social performance of the project in relation to the commitments made by the mining operator as well as the conditions attached to the mining lease and environmental certificate of authorization.
- Optimize the positive impact of projects for the local community.

C) Specify how it will promote the active participation of the political and / or administrative representatives of Nemaska and Waskaganish as well as the R10 (Waskaganish), R16, R19 (Nemaska) tallying masters in the liaison committee-implementation to keep them informed of the project.

ANSWER

Since the members of the Implementation Committee (Liaison/Implementation Committee) will be elected, it is possible, but not guaranteed, that the representatives of Nemaska and Waskaganish be elected. As mentioned in question CEEA-143a, it is possible that the committee creates one or more sub-committees which could include political representatives and/or administration from Nemaska and Waskaganish.

D) Produce a list of all the committees to be created under the project, specifying for each of them: their mandate and duration, the frequency of their meetings, their members and their duration.

ANSWER

Table CEEA-143 – Committees to be created for the project

Committee	Monitoring committee	Implementation Committee
Mandate	• Act as an intermediary between the population and the groups affected by the project, on the one hand, and the mining operator on the other. • Serve as a meeting and exchange place to promote dialogue between the population, interest groups and the mining operator. • Promote the sharing of local know-how and scientific knowledge between the local community, the operator and the independent experts. • Evaluate the environmental and social performance of the project in relation to the commitments made by the mining operator as well as the conditions attached to the mining lease and environmental certificate of authorization. • Optimize the positive impact of projects for the local community.	• Responsible for the proper implementation of the IBA between CEC, the community of Eastmain and the Grand Council of the Cree. • Serve as the main communication forum between the parties. • Produce the reports required by the implementation of the future IBA. • Responsible for other functions conferred in the IBA or any other agreement made by the parties involved. • Creation of the environment committee that will represent the interests of the Cree parties in all that is attractive to the environment.
Duration	From the beginning of the construction of the project until the complete execution of the works planned in the plan of rehabilitation and restoration.	From the effective date to the end of the closing phase.
Frequency of meetings	At least once a year	At least once a quarter
Members	As required by law, the monitoring committee will consist of at least one representative from the municipal sector, one representative from the economic community, one citizen and one representative from an aboriginal community consulted by the government with regards to the project.	Three members chosen by CEC, including a member of the mine site management team, and a member of the management team of the company, as well as three members chosen by the Cree parties, including two members selected by Eastmain and one member selected by the Grand Council of the Crees (Eeyou Istchee) / Cree Nation Government.

144. ABORIGINAL COMPONENT S (OTHERS) - LIAISON OFFICER ROLES

The promoter added that he has process for hiring an agent to link coming from the community of Eastmain who would be responsible for liaising between the developer, "employees and members of the community of Eastmain."

The promoter must:

A) Clarify the role and tasks of the liaison officer for each phase of the project.

ANSWER

The role of the liaison officer is defined in the environmental impact study as: The liaison officer's mandate is to maintain a constant and transparent communication between the mine and the

community. He is also the resource person to contact for any requests for information or questions regarding the project. It also emphasizes the importance of consulting the population and transmitting information before the start of the project so as not to present the population with accomplished facts.

This will remain the role during the life of the mine, including the closure and restoration phase.

B) Clarify if the liaison will play a role in a committee (s)

ANSWER

Yes, the liaison officer will be part of the follow-up committee as well as the Implementation committee.

C) Indicate if the liaison officer masters the Cree dialects of Nemaska and Waskaganish

ANSWER

Yes, he masters these dialects too.

145. INDIGENOUS COMPONENT (OTHER) - COMMUNICATION PLAN

In the minutes of meetings between the Nemaska tallymen and the proponent in the fall of 2018, the R19 tallyman indicated that he was concerned that communications with his community would not be maintained during the life of the project and that these are crucial to ensure that the measures put in place are effective.

On page 4-9 of the Environmental Impact Statement (EIS), the Nemaska R19 Node Tallyman expressed a concern for the safety of users during the operation, stating that he wishes to know the scheduled schedules of blasting and drilling.

On page 8-69 of the EIS, the proponent states that it is planned to file environmental monitoring studies at the environmental services of Eastmain and Nemaska.

With the information available in the EIA, the Agency is unable to identify who will be informed about the schedule of work and environmental monitoring, how and how often. Similarly, it is not possible to know if the liaison officer will play a role in these communications.

In section 8.3.6.1 of the EIS, the proponent proposes two mitigation measures to mitigate the effects on current uses of lands and resources for traditional purposes, including: informing Cree users of the timing of construction, operation and maintenance activities, and inform Cree territorial users and Cree community members of the outcome of environmental monitoring.

In the Agency's consultations with Waskaganish, Waskaganish repeatedly expressed a concern for water quality and environmental monitoring related to the final mining effluent. flowing into the R10 trapline of the community. She is particularly concerned about the effects of mine effluent on fish of field R10 and questions about the quality of water in the result of the closure of the mine. During the Agency's consultations, the community of Nemaska expressed concern over the loss of watercourses and bodies of water and the effects of the final mining effluent.

The promoter must:

A) Specify how it intends to foster a constant dialogue with the population and users of the territory by developing, in conjunction with the trapping masters, lands RE1 (Eastmain), R19 and R16 (Nemaska) and R10 (Waskaganish) and their band councils respective communication plan

adapted to each community and indicating the type of information that will be shared, how and how often.

ANSWER

The Implementation Committee will be responsible for communicating with the tallymen and their respective Band Councils. The type of information shared will relate to annual environmental reports and any other follow-up reports. The Liaison Officer will be responsible for meeting with community members to gather their concerns, comments, and/or questions regarding project impacts and the success of mitigation measures. The complete communication plan will be established before the start of the project.

B) Clarify to which people in which Cree community (s) he refers when he uses the terms "Cree users" in his mitigation measures.

ANSWER

The term “Cree users " refers to the users of trap lands RE1, R10, R16, and R18.

C) Specify whether it plans to submit environmental monitoring studies to Waskaganish Environmental Services.

ANSWER

CEC will submit environmental follow-up reports to the Waskaganish environmental services.

146. INDIGENOUS COMPONENT (OTHERS) - ENVIRONMENTAL CONCERNS RAISED BY ABORIGINAL PEOPLE

According to the guidelines, the Environmental Impact Statement (EIS) must contain a summary table containing "observations of Aboriginal groups and individuals and responses" (p.44).

On page 4-21 of the EIS (Chapter 4 revised), the developer describes the action mitigation he put 're up following consultations. However, most of these are economic in nature and do not specifically address the majority of the Cree public's questions about the effects of the project on the environment.

In the EIS, which discusses the concerns of the Cree public (Table 4-3), and in the reports of meetings held with the tallymen of Nemaska and Waskaganish in the fall of 2018, the proponent presents the various expressed, but he does not specify what he has answered to each of them.

The reports of the meetings held in the fall of 2018 with the tallymen present several suggestions for concrete mitigation measures identified by the users of the territory. However, no mention is made of the proponent's responses to these suggestions for mitigation measures. No justification is given for taking into account or not the mitigation measures proposed by the Cree users of the territory.

As part of its assessment of the project's impacts on Cree communities' Aboriginal and treaty rights, the Agency will seek to assess the level of community confidence in the effectiveness of the proponent's mitigation measures by particular attention to the level of involvement of these in the definition of these measures. With the information presented in the current impact assessment, it is difficult for the Agency to comment on the level of severity of the impacts to rights under these elements.

The promoter must:

A) To present its answers to the concerns expressed by the public cry and mentioned in the EIA, in specifying especially if they have been included or not in the project design and why, or how they are translated into a commitment of the promoter to be mitigation measures, where appropriate.

B) Present a table containing the mitigation measures identified by the tallymen of Nemaska and Waskaganish in the minutes of the meetings in the fall of 2018 and provide the answer given to each of these suggestions, justifying for which reasons they will be considered or not in the project.

ANSWER

The table below outlines the concerns expressed by the Cree public as well as the mitigation measures proposed during the consultations and the commitments that CEC will make accordingly.

Table CEEA-146 - Preoccupations expressed and mitigation measures proposed by the Cree public and CEC commitments

Effects on the environment and land use		
Concern	**Measurement (s) proposed mitigation (s)**	**Consideration in the project or not**
Contamination of the surface and groundwater of the territory through the use of chemical and toxic products		• The necessary measures will be put in place, according to criterion 019, to ensure the proper management of the water, such as the installation of sedimentation ponds, a water treatment plant, etc. • Monitoring of the quality of surface and underground water will be done from the beginning of the project and until the end of monitoring included in the process of rehabilitation of the site.
Effects on the health of people and workers near the mine site	• The emergency plan should be presented to the communities before finalizing it.	• CEC is committed to presenting the emergency plan to community band councils.
Effects on fish, animals and plants near the mine site	• An expanded territory should be used for monitoring the impacts on animals. • Animal impact monitoring should be done over a long enough period of time to determine if the animals are returning to the site following its rehabilitation.	• Monitoring of animals, fish and plants will be implemented during the project and the closure and restoration of the mine site. • The mitigation measures to minimize the impacts of the project on fish, animals, plants and art are numerous (summarized in Table 13-2 and 13-3 of the EIS).
Effects on traditional activities practiced on the territory, which could be disturbed by the transformation of the territory, the displacement of populations animal health or the transformation of the quality of the resources	• A wildlife protection officer program responsible for wildlife monitoring and harvesting activities on Category I and II lands.	• This is unfortunately beyond the scope of what CEC can implement in the territory.
		• During hunting, CEC will, as much as possible, limit the noisiest activities close to the hunting areas previously identified in consultation with the users. • CEC will put in place measures to facilitate the erlocation of activities affected by the project (moose hunting grounds, snowmobile trails, fishing grounds, etc.). • A toxicological risk assessment related to potential contamination of traditional food is available at appendix CEEA-135
Increased risk of accidents on the roads during the mine operating period (due to traffic and road damage)	• The road should be paved é e and maintained the standard of the MTQ. • An emphasis will be put on the right leads e road. • There should be more signs were along the road indicating the speed limit, but also where the camps and through s skidoo. In the vicinity of the camps there should be signs indicating “Do not shoot ". • Radios in vehicles and allow trucks in t to them to communicate. • There should be areas of rest and passing. • A barrier with a guard agent which may issue tickets for speeding is provided.	• CEC is in discussions with the authorities concerned about road maintenance. • The company and suppliers’ vehicles must respect the speed limit under penalty of expulsion. • Road signs will be added to remind the speed limit at an appropriate frequency. • Drivers will have radios and road users will be able to communicate with them. • The addition of resting and overtaking areas may be discussed with the authorities who manage the road. • Although there will be a controlled entry watched by an officer on duty, these are only the police and the Security of Quebec who have the authority to issue tickets.
Cumulative effects of projects that transform the territory and have an impact on the lifestyle and Cree identity		• Other potential activities (mining projects, forestry, tourism, etc.) are at a good distance from each other. Through the various information sessions and the contacts with the inhabitants of the different communities, it was recognized that the mitigation measures and programs put in place are sufficient. Concerns were already taken into account and addressed. (CEEA 98)
Control over hunting and fishing activities of workers	• Workers (including Cree workers) should not be allowed to hunt, as this creates an influx of hunters.	• CEC commits to banning hunting guns at mine site and workers' encampment

Employment and training		
Concern	**Proposed Mitigation Measure (s)**	**Mitigation measure (s) put in place**
Need to offer training based on jobs available upstream of the project and adapted to the reality of Aboriginal youth (languages and level of education)	• To encourage young people to pursue careers in the mining field, it is proposed to present videos and offer tours of the mine. • These videos should show the life of the mine from beginning to end, including the restoration of the mine site. • The videos could be displayed ed on CHRD website and in communities. • The list of jobs should clearly show for which jobs on-the-job training will be available.	• CEC is in communication with the CHRD and James Bay training centers to ensure that the necessary training will be available. • CEC is committed to putting in place the tools (videos, job list, mine visit) that will help the recruitment process and share these tools with CHRD and the communities.
Guaranteed a minimum number or percentage of Cree employees	• A guaranteed minimum percentage of Cree employees is proposed. • It is proposed that a Cree security agency be retained for the surveillance of roads. • Participation in environmental monitoring provide good s chance s of employment for community members.	• CEC cannot guarantee a minimum number or percentage of Cree employees, however, through the Impact and Benefit Agreement, CEC is committed to hiring employees and awarding contracts to individuals and businesses Cree qualified as a priority.
Family-work balance	• To help employees manage Cris long absences from their families ues to work, it is suggested that their advisor to be made available. • A daycare on the mine site is proposed.	• The scheduled work schedule will be 14 consecutive workdays followed by 14 consecutive days of leave (commonly referred to as 14/14) limiting the worker's time away from home and for the family, the time of absence of one of its members • CEC is committed to setting up community support programs that could contribute to work-life balance, such as training programs for social workers. • It is not safe to have young children near the mine, but measures will be put in place to ensure that childcare is available in the communities.
Retentions Cree employees (working hours and leave at events such s hunting)		• In order to allow Cree workers to participate in these hunts, work schedules will be established before the start of these hunts and vacation days will be allowed. • CEC will ensure that there is always an integration officer with knowledge of the French, English and Cree languages. This professional resource promotes the employability of Cree workers and their retention in the various positions they will hold.
Dissemination of project information		
Concern	**Measurement (s) proposed mitigation (s)**	**Mitigation measure (s) put in place**
Appointment of a liaison officer, engaged in the community, who would allow a direct and permanent link	• It is proposed that a representative from Nemaska be included in the Implementation committee. • A liaison officer is in frequent communication with all affected communities should be hired.	• It will be possible to include a representative from each community in the monitoring committee. For the Implementation committee, the members of the committee are defined in the ERA as being three members chosen by CEC, as well as three members chosen by the Cree parties, including two members chosen by Eastmain and a member chosen by the Grand Council of the Crees (Eeyou Istchee) / Cree Nation Government. • CEC hired a liaison officer with knowledge of the French, English and Cree languages. Coming from the Eastmain Cree Nation, this liaison officer is mandated to maintain constant and transparent communication between the mine and the communities.
The importance of consulting the population and transmitting information upstream of the project		• Consultations were held in communities before the project began. • An age of liaison has been present in the communities since 2017.
The importance of transmitting to the community the results of studies carried out within the framework of the project	There is a lot of interest from community members to participate in environmental monitoring, many of whom have completed a course to this effect. In addition, this would benefit from their traditional knowledge about the environment and the territory.	• Cree participation in environnemental monitoring. • Establishment of an Implementation committee to discuss and establish solutions to the various issues related to the activities of the mine.
Communication on user safety during the mine operating period (blasting schedule, surveys, etc.)		• CEC undertakes to inform the Cree users of the territory of the calendar of activities of construction, operation and maintenance and closure of the mine.

Economic and Social Benefits and Cree Participation		
Concern	**Measurement (s) proposed mitigation (s)**	**Mitigation measure (s) put in place**
Ensure a long-term economic partnership with the community (support for the creation of businesses, or financing projects for social, economic and cultural development)		• Through the Impact and Benefit Agreement, CEC is committed to hiring its employees and awarding contracts to Cree individuals and businesses as a priority.
Re equitable partition of benefits project economics	• It is proposed that a program be put in place to provide financial assistance to the tallyman impacted by the project for projects on their territories (moose hunting area, goose hunting pond, etc.).	• According to the Impact and Benefits Agreement, CEC must hire employees and award contracts according to the following priority: ○ A member of the Eastmain RE1 family ○ An Eastmain Cree ○ A Cree of Nemaska ○ A Cree from another community This will allow more communities to benefit from the economic fall-out.
Conditions and work environment		
Concern	**Measurement (s) proposed mitigation (s)**	**Mitigation measure (s) put in place**
Problem of drug and alcohol use	• Truck drivers should be subject to drug and alcohol testing. • There should be more programs and communications in communities about public safety and more prevention by the police and the band council.	• Support to organizations and stakeholders in Cree communities, including the CCSSSJB, social issues related to alcohol and drug use, debt and financial planning, and family relationships. • Prohibition to consume alcohol at the mining camp.
Relations between Cree and non-native workers in workers' camps (situations of discrimination and racism)	• There should be opportunities for Cree workers to share their culture with non-native workers. • There should be a dedicated place to store and prepare traditional food at the workers' camp.	• CEC is committed to implementing multicultural integration programs, including Cree culture and uses. • Establishment of activities to promote harmonious relations between Cree and non-Cree workers.
Difficulties in managing family income (risk of over-indebtedness, devaluation of education)		• Employee awareness program to practice healthy lifestyle habits.
Drainage of skilled workers from the community to the workers' encampments		• To ensure that communities have the necessary resources, training programs, such as social workers and childcare services, will be offered in communities. This will make available new jobs in communities.
Other		
Concern	**Measurement (s) proposed mitigation (s)**	**Mitigation measure (s) put in place**
	• The police should have more jurisdiction to interview any new people in the community.	• This is not at the discretion of CEC.
	• A program should be put in place to make complaints about stolen objects (on traplines).	• CEC will set up a system for receiving and resolving complaints, but the local police will have to be involved.
	• The overburden should be used ed to fill a cliff near the airport created by another project.	• CEC does not have the authority to do this.
	• The video and presentation will have in t be translated e s Scream and display (suggestion to post on the Facebook page of the Cree Nation).	• CEC is committed to doing the translation.
	• About spawning project, rocks used should be round rather than ' angled to prevent the sturgeon are injured.	• This comment is taken in notes and round rocks will be used.

147. INDIGENOUS COMPONENT (OTHERS) - PARTICIPATION OF CREE COMMUNITIES IN ENVIRONMENTAL MONITORING AND SURVEILLANCE ACTIVITIES

On page 8-60 of the Environmental Impact Statement (EIS), the Proponent proposes the following mitigation measure: "Where possible, employ members of the tallyman's family in the field RE1 for environmental monitoring activities ".

Section 4.2.6.1 of the EIS states that "the cumulative effects of these projects that transform the territory have an impact on the Cree way of life and identity". In the same section, we add that the high youth unemployment rate in the Eastmain and Nemaska Cree communities is a common situation.

During the Agency's public consultation, the non-profit organization, the Society to Overcome Pollution (SVP), produced a submission that included the following recommendation: "The SVP asks [the Agency], as part of the authorization for the Rose Mine project, that it propose an independent monitoring regime adapted to the Cree territory and that the concept of an independent environmental follow-up of this mine be communicated with the Cree community of Nemaska. to gauge their interest in participating in such an initiative. [The Agency] could also evaluate the possibility of setting up a citizen monitoring program for the Rose Mine project. It should be noted that the mine is located on Category III lands [which] are public lands where the Crees have certain rights to hunt, fish and trap. [The Agency] will be able to evaluate the concept of enlisting Cree hunters and trappers and other users in this area to monitor the mine. " The SVP also expressed concern regarding the release and access to the proponent's environmental monitoring reports throughout the life of the project.

In the Agency's consultations with Waskaganish, Waskaganish expressed a concern with water quality and environmental monitoring related to the final mining effluent that flows into the area. R10 field of the community.

The promoter must:

A) Specify how it plans to encourage the participation of the tallymen of the RE1, R16, R19 and R10 lands and / or the environmental services of Eastmain, Nemaska and Waskaganish in carrying out the environmental monitoring activities.

ANSWER

According to the Impact and Benefits Agreement, CEC must hire employees and award contracts according to the following priority:

- A member of the Eastmain RE1 family
- An Eastmain Cree
- A Cree of Nemaska
- A Cree from another community

This will also apply to employees hired for environmental follow-ups.

B) Specify how it plans to make available its environmental monitoring reports (biophysical components) to the Cree and non-native public. The proponent must evaluate the possibility of publishing its monitoring reports on its website and / or depositing them directly with the environmental services of the Cree communities.

ANSWER

CEC will share the results of monitoring programs through the Environment Committee (mentioned in answer 116). Reports will be filed directly with the environmental services of the Cree communities.

RECOMMENDATIONS:

The proponent should evaluate the opportunity to create partnerships with schools in Cree communities to introduce young people to environmental sciences through environmental monitoring of the project.

The proponent should identify a citizen organization (s) that may be interested in participating in the environmental follow-up and evaluate the opportunity to provide them with a role in this framework to build public confidence in the process.

148. INDIGENOUS (OTHER) SCHEDULE - EMERGENCY MEASURES PLAN

In section 11.3 of the Environmental Impact Statement (EIA) concerning the emergency measures plan, the proponent states that "it is necessary to develop self-help agreements with other companies in the province sector as well as the Cree community of Nemaska "given the relative isolation of the mining infrastructure projected on the territory.

In the Agency's consultations with Waskaganish, Waskaganish expressed a concern for water quality at all phases of the project as well as effluent-related environmental monitoring. final mine that flows into the community's R10 field. She also said she doubted the promoter's ability to contain an accident or malfunction related to dikes and eventual rejection not of the Final mine effluent within twelve hours (information that the developer would have given th to the community). It was also concerned about the possible effects of the final mining effluent on the quality of the fish caught in the R10 trapline.

The promoter must:

A) Identify Cree companies or organizations in Nemaska that will participate in the emergency measures plan.

ANSWER

It is possible that the Nemaska firefighters will participate in the emergency measures plan in the event that there is a possibility of gas leakage, explosions, or fire that the intervention brigade cannot control without assistance.

Similarly, when a situation cannot be controlled by the emergency intervention brigade, they might contact the Nemaska police who could ensure the safety of citizens and workers and assist with their evacuation.

However, it is too early in the process and an agreement is not yet reached with these two organizations.

B) Specify how many hours the mutual help services could be set up in the event of an accident or malfunction and whether they have already confirmed their availability.

ANSWER

If an intervention is required, the response time is estimated to be 1 to 2 hours.

C) Clarify if the final emergency plan may, not more than six months before the start of the project, be filed with the band councils of Eastmain, Waskaganish and Nemaska.

ANSWER

CEC is committed to presenting the emergency plan to community band councils.

D) Provide for a communication plan in the event of an accident or spill, particularly with regard to notifying traplines of land RE1, R16, R19 and R10, as well as the environmental services of Eastmain, of Nemaska and Waskaganish. This communication plan should indicate the planned communication approach by type of accident as well as the identification of people to contact.

ANSWER

The communication plan will be part of the final emergency plan that will be presented to communities prior to the start of the project.

149. INDIGENOUS COMPONENT (OTHER) - POSSIBLE RISKS ASSOCIATED WITH THE PROCESS OF PROCESSING ORE INTO CONCENTRATE

During the Agency's consultations with the communities of Waskaganish and Nemaska, they repeatedly expressed concern about the safety risks associated with processing ore into concentrate. These communities indicated that considering that there are few lithium mines and processing plants in operation in Canada, very conservative methods should be favored by the proponent for processing.

The proponent must indicate how it intends to address the concerns of the Cree communities on the safety of the ore concentration process and its possible transformation if the current project changes in the future.

ANSWER

Ongoing communication and transparency on the part of CEC with the communities will address the concerns of Cree communities about the security of the concentration process (and transformation if the project changes). Several of the measures proposed for recruitment could be useful in this context, such as the videos on the mining process and visits to the mine.

It should also be kept in mind that the project is undergoing evaluation by the Canadian Environmental Impact Assessment Agency and the Ministère de la Lutte contre les changements climatiques and that these evaluations also serve to reassure communities about project security. The community-based consultations included in these assessments help to initiate the conversation well in advance of the project's start.