Appendix I.1

Fifteen Mile Stream Historical Tailings and Waste Rock Management Plan, Stantec Consulting Ltd.

Fifteen Mile Stream Historical Tailings & Waste Rock Management Plan

September 25, 2019

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1.0 INTRODUCTION

At the request of Atlantic Mining NS (AMNS) Corp, a Historical Tailings and Waste Rock Management Plan has been developed to address historical tailings and waste rock identified at the Fifteen Mile Stream (FMS) site as part of the mine re-development. This also includes the sediments potentially impacted from the tailings and waste rock associated with historical mining activities.

1.1 PROJECT OVERVIEW

The Fifteen Mile Stream Gold Project (hereafter referred to as the "Project") is located in Trafalgar, NS, and is a proposed open pit mine located in a historical gold mining district located 57 km northeast of the currently operating Touquoy mine. As a result, historical tailings and waste rock (HTWR) are known to be present on site due to the existence of at least one historical stamp mill and various mine related infrastructure as well as mine workings. Recent Environmental Site Assessment (ESA) studies conducted at the site revealed that proposed site infrastructure related to the mine re-development are located within HTWR areas.

1.2 GOALS AND PURPOSE OF THE PLAN

The purpose of this plan is to provide a methodology for managing HTWR at the Project site through the life of operations and throughout reclamation. To achieve this purpose, this management plan has been developed with the following goals:

1. Define procedures for the identification, and if required, delineation and assessment of HTWR prior to Project development.
2. Provide a methodology for the selection of HTWR management and disposal technologies as required.
3. Define responsibilities for the notification and reporting for issues related to HTWR management.
4. Provide a summary of the current understanding of HTWR within the Project footprint.
5. Provide a summary of proposed management and mitigation for known areas of HTWR that may be disturbed by potential Project activities.
6. Provide recommendations for further assessment of background conditions of the Site to support the understanding and proposed management strategies applicable to future HTWR management activities.

These goals lay out the basis for achieving the purpose of this plan in a safe, cost effective manner. The historical tailings delineation and remediation work conducted as part of the Touquoy Project has been reviewed and methods as well as lessons learned incorporated into the preparation of this management plan. The documents reviewed in this context are presented in Section 7.0, References.

2.0 IDENTIFICATION OF HISTORICAL TAILINGS AND WASTE ROCK

Due to the nature of historical mining within the Project area, the extent of HTWR has been poorly documented prior to the development of the site. This is a result of the age of the deposition of these HTWR (approximately 100 years old) and is inherent to the nature of tailings deposition by stamp mills themselves, dependent on unknown piping layouts and local topography; the location of trenching work; and placement of historical tailings and waste rock piles. The historical mill tailings appear to be concentrated in the flood plain around and in Seloam Brook identified in the Phase I and II ESA investigations conducted by Stantec (Stantec 2018a; Stantec 2019). This section outlines the current understanding of HTWR distribution at the Project site and provides a methodology for future identification of areas suspected to contain HTWR prior to development.

2.1 HISTORICAL TAILINGS AND WASTE ROCK DISTRIBUTION ON SITE

2.1.1 Known Historical Tailings and Waste Rock Investigations

This section gives a summary of known studies and investigations that quantify the presence of HTWR, and stamp mills, and where possible delineates the extent of known tailings. Several previous reports and studies have been conducted for FMS, including:

- *Jacques Whitford (now Stantec), 1989. Design Brief for Flood Protection Levee and Effluent Retention Structure at Fifteen Mile Stream Gold Property, Halifax County, Nova Scotia. February 1989.*
- *Hudgtec Consulting Limited, 2008. NI 43-101 Technical Report and Resource Estimate on the Fifteen Mile Stream Gold Property, Halifax County, Nova Scotia. Prepared for 6179053 Canada Inc., Acadian Mining Corporation, Annapolis Gold Corporation. May 27, 2008.*
- *Acadian Mining Corporation, 2012. NI 43-101 Technical Report on Updated Mineral Resource Estimate – Fifteen Mile Stream Property, Halifax County, Nova Scotia, Canada. August 29, 2012.*
- *Stantec Consulting Ltd., 2018. Final – Phase I Environmental Site Assessment, Fifteen Mile Stream.*
- *Stantec Consulting Ltd., 2019. Limited Phase II Environmental Site Assessment - Fifteen Mile Stream.*

More recently, to build upon the continued work to delineate the HTWR at the Project site, AMNS commissioned a Phase I Environmental Site Assessment (ESA) to identify environmental considerations (Stantec, 2018a), which was followed by a Phase II ESA (Stantec, 2019). Further details of those investigations and analytical results are provided in those reports, which are available upon request, with findings summarized in this report.

2.1.2 Summary of Historical Operations

Stantec completed a Phase I ESA at Fifteen Mile Stream (FMS) in 2018. A summary of the findings included a review of historical operations and site conditions as follows:

- Stantec conducted an historical overview and LIDAR analysis to produce a Digital Elevation Model (DEM) of the Project site. The DEM was used to approximately delineate potential HTWR storage areas.
- Between 1865 and 1940s there were various surface excavations, mine shafts of various depths, and stamp mill(s) or crushers utilized for the extraction of gold from the quartzite ore.
- The nearby outflows from Seloam Lake to the northeast were historically modified with diversions, dams, and flumes to provide wash water and power for the gold mining operations. Extensive tailings and WR were observed in and along the existing Seloam Brook.
- The 1947 aerial photographs show the dams along Seloam Lake are no longer in operation with the lake level appearing lower and exposed ground around the perimeter, and at Seloam Brook. Flooding which appears to have occurred, based on Department of Natural Resources (DNR) records, would account for the possible wide distribution of the tailings.
- Based on the information reviewed there were at least four mine operations in the area of Fifteen Mile Stream; the largest was Egerton Workings located in the area of the currently proposed pit. Several other mines and pits extended westward approximately 1 km along what is now the gravel access road to the current development.
- Between the 1940s and the 1980s, the area of the Site was allowed to become overgrown with trees.
- During a site visit completed on November 13, 2018, the foundations of a suspected stamp mill and other mine related features were located.

2.1.3 Determination of Suspected Tailings and Waste Rock Areas

Stantec completed a Phase II ESA at FMS in 2018, which included intrusive test pits and surface water sampling to determine tailings and WR distribution and potential impacts across the Project site. Figure 1 (Appendix A) displays test pit locations, surface water sample locations and highlighted areas of identified tailings and WR. Further details of the investigation and analytical results can be found in the Phase II ESA report completed by Stantec in 2019. A summary of the findings for the identified tailings and WR during the Limited Phase II investigation are as follows:

- Based on the amount of ore crushed it was estimated that there were 51,000 tonnes of tailings produced at Fifteen Mile Stream between the 1860s and 1940s. Test pits conducted during the Phase II ESA extended to depths ranging from 0.21 to 0.57 metres below ground surface.
- Work completed by Jacques Whitford (now Stantec) as part of a geotechnical project in the late 1980s identified WR and tailings on the site along Seloam Brook to a depth of 1.5 to 2 metres.
- Estimated bedrock depths range from approximately 2 to 3 metres below grade,
- The tailings material found was well sorted, firm, and ranged from a light grey to a brown. Typically, deposited tailings material was stratified, and few clasts/cobbles were present.
- Areas of possible tailings and WR were generally located to the north and northwest of the field identified WR storage area along Seloam Brook. It should be noted that at the time of site assessment, test pits could not be excavated in the northern portion of the proposed open pit along Seloam Brook due to high water levels.
- A WR storage area was observed in the southwestern portion of the proposed open pit that covers an approximate area of 12,500 m² and consists of several large piles of WR.
- WR was also identified along several trenches located to the south and east of the proposed open pit (historical mine workings), and along the access road to the west of the proposed open pit.
- Analytical results from the Limited Phase II ESA revealed concentrations of arsenic in soil exceeding the applicable Nova Scotia Environment (NSE) Tier 1 Environmental Quality Standards (EQS) for an Industrial Site in multiple test pit locations. The highest concentrations of arsenic, lead, and mercury

were found to be localized to the southwestern portion of the proposed open pit, in the area of identified WR storage and probable tailings storage (Appendix A – Figures 2, 3, 4, respectively).

- Concentrations of aluminum, arsenic, cadmium, chromium, and iron exceeding the applicable NSE Tier 1 EQS were identified in one or more surface water samples analyzed. The highest concentration of arsenic was detected in the surface water sample collected immediately north of the WR storage area (Appendix A - Figure 5). The detected metals concentrations did not exceed the applicable Metal and Diamond Mining Effluent Regulations (MDMER) Authorized Limits, where such guidelines exist. Complete analytical results, figures and methodologies are included in Stantec's Limited Phase II ESA and can be provided by request.

2.2 METHODOLOGY FOR DELINEATION AND CHARACTERIZATION OF HISTORICAL TAILINGS AND WASTE ROCK

HTWR identification have specific considerations to the Project site and background characteristics that should be accounted for when delineating and assessing HTWR. The following is a general methodology for identifying HTWR including visual and material sampling and chemical analysis techniques. It should be noted that HTWR delineation can be highly site specific, and as such professional judgement is a key component of any impact delineation exercise.

A review of available guidance from NSE and academic sources was undertaken with regards to the identification of tailings and is summarized herein:

- Tailings are a sand-like material, generally with no rocks mixed in;
- The color of them can vary between light brown and dark grey;
- Tailings often look like a 'fine sand beach' but inland without the water.

The bullets above are consistent with observations of historical tailings in the Touquoy Gold District (Stantec, 2018b), Cochrane Hill Gold District (Mosher, 2004), and the Montague and Goldenville Gold Districts (Parsons et al., 2015).

Visual delineation methods, while useful, need to be combined with sampling and chemical analysis. Using visual observation methods alone is not necessarily indicative of elevated metals concentrations as noted during Stantec's investigation and Limited Phase II ESA report. Within Nova Scotia, gold deposits tend to occur in areas with high incidences of arsenopyrite. Historical milling operations have used mercury in processing, as it was a common technology applied at that time. A general understanding of background concentrations of arsenic, mercury and lead is essential in quantifying tailings and WR.

Site specific approaches need to be applied when undertaking tailings and WR impact investigations. A combination of physical visual identification (where possible) and chemical analysis methods are used for delineating the tailings/WR and their associated impacts.

Physical identification is the primary method to initially ascertain whether an area contains historical tailings. Due to the primary method of processing used historically (stamp mills), there are physical characteristics common to tailings deposited in the late 19th/early 20th century. Physical samples are compared to the following general physical criteria:

- Fine grained sand-like, well sorted material, generally less than 1mm in size. Few or no large cobbles (or clasts) present.
- Highly bedded deposition, with visually identified depositional layers. Some areas may not display this layering depending on how the stamp mill and tailings deposition occurred.
- Color ranging from light grey, through to a brownish red. The characteristics of the local ore body should be considered in this evaluation.

In conjunction with the physical identification of tailings and WR, chemical characterization is also required. Metals and acid generating potential are to be considered when dealing with HTWR. Not all tailings and/or WR are identified to have negative effects on the receiving environment. To determine the potential for adverse downstream impact, a series of geochemical tests are conducted including static analyses (acid base accounting (ABA) tests) and short-term leach tests to assess the potential for acid rock drainage and metals mobilization from historical tailings. The following analysis should be conducted to help determine the potential impact of tailings and/or WR on the receiving environment:

- Total metals analysis
- Acid base accounting (ABA)
- Shake flask extraction tests

Background samples should be collected near the area of suspected tailings deposition. However, there are several considerations that should be observed when selecting a background location, including:

- Selecting a location that overlays the same host rock as the area of potential tailings deposition.
- Background samples should be collected in undisturbed areas that have not been recently worked or show signs of historical activities.
- Collection of samples at a similar depth to the tailings impact delineation samples, to account for historical weathering and the potential for arsenic transport.

When background samples have been collected and analyzed for chemical characteristics, an appropriate value for background parameters of interest should be selected, reflecting risk exposures (human health and ecological) that exist already on the site and in the area, regardless of whether there are tailings or WR. For example, there can be naturally elevated arsenic in soils that overlie or are adjacent to an ore deposit that is enriched in arsenic.

2.3 REPORTING

The results of studies, whether externally commissioned or internally completed shall be provided to the Site Environmental Department for their review. Information regarding the known location, chemical makeup and extent of tailings and WR on the Project site shall be integrated into this plan as part of this Plan's ongoing adaptive management and updating process. Where appropriate or required, reporting should be directed to NSE for their review as well.

3.0 SELECTION OF REMEDIAL OPTIONS FOR HISTORICAL TAILINGS AND WASTE ROCK

Studies completed to date have shown that HTWR have been deposited by a variety of mining endeavors throughout the history of the Project site. The chemistry of HTWR can be variable, due to the primitive nature of the processing at the time and the effects of natural attenuation. The following section outlines the available remedial options for HTWR at the Project site. It should be noted that any permanent or temporary placement of HTWR material outside of an approved tailings management facility (TMF) will likely require the approval of NSE. Options for permanent disposal methods and locations within the TMF are expected to be included in conditions of the Industrial Approval for the site.

3.1 AVAILABLE REMEDIAL OPTIONS

3.1.1 Re-Processing

The re-processing of HTWR may be an option, depending on the variability of the tailings/WR and milling capacity. During the reprocessing of old tailings and WR material, the metal(s) of interest are extracted using modern mill technology, and the residual material processed and deposited within the TMF. No special engineered containment would be required within the TMF and the residual material would be mixed in with the tailings originating from the ore processing. The material would be permanently encapsulated within the TMF.

While this option can be attractive due to the possibility of enhanced revenue generation (assuming gold is present in the HTWR), in practice the re-processing of tailings and WR can be difficult. Mill processes are tuned to the expected chemistry of the material being processed. Appropriate metallurgical and other testing would be implemented as required to proceed with this option. Tailings of the age expected to be found on the Project site commonly contain organic materials and other substances that can be detrimental to an efficient re-processing of tailings. Also, if mercury is present in the HTWR a mercury abatement strategy may be required during reprocessing.

3.1.2 Short Term Storage

Short term storage options for tailings disposal will be required during the initial stages of site construction prior to TMF or Process Plant construction. The type of storage facility required would be based on analytical test results and comparison of the results to applicable provincial or site based regulatory criteria. Considerations for temporary short-term storage on-site are as follows:

1. Site specific locations should be reviewed such as new WR storage facilities (WRSF) where material could be deposited at designated locations. WRSFs will typically include water management structures such as ditches and ponds that contain and manage mine contact water.
2. Physical characteristics of proposed site locations (i.e., away from potential flooding, or within similar background conditions).
3. Apply appropriate measures for the construction and maintenance of containment areas.

If tailings and/or WR are tested and are confirmed to be below applicable provincial or site-based criteria, the tailings and WR material could be used as site overburden and/or for construction purposes.

3.1.3 Long Term Storage

It is currently proposed that a TMF will be constructed at FMS as part of the mining operation. Placement of material within this facility with the regular tailings stream may be an appropriate remedial option if the HTWR from the Project site are chemically and physically consistent with the current design of the TMF.

For tailings and WR material to be placed within the TMF, it must meet the following two criteria:

1. The HTWR are chemically similar to the design tailings criteria for the TMF.
2. A geochemical study has shown that no adverse chemical reactions will occur between the HTWR and the geochemical conditions within the TMF.

If HTWR material are not appropriate for direct disposal within the TMF, cell encapsulation within the facility will be an option. Cell encapsulation involves the design and construction of a capped cell, either impermeable or semi-impermeable, within the footprint of the TMF at the Project site. The design goal of the cell is to increase the level of containment provided by the TMF, and limit the infiltration of water into the tailings and WR, and out into the environment. There are other potential technologies available including dry-stacking, or remedial technologies that would also require appropriate testing to ensure selected methods are cost effective and environmentally protective.

3.1.4 Off-Site Disposal

Off-site disposal is an option, in particular for historical tailings for material for which no other suitable remedial measures are feasible, which could be the case for high levels of mercury if found in historical tailings. There are currently no facilities located in Nova Scotia or New Brunswick that can receive solid materials that contain high levels of mercury. The nearest facilities are located at Quebec and have limits on the levels of arsenic and mercury for material acceptance. For FMS, the available analytical mercury results for historical tailings indicate that such high levels of mercury will not likely be encountered.

3.2 REMEDIAL OPTION SELECTION

The following section outlines some of the general considerations when selecting a preferred remedial option for HTWR, should remedial options be pursued at the Project site. The guiding principles for the selection of a remedial option are:

1. The risk of adverse environmental impacts is minimized and improved from existing conditions.
2. The risk to human health is minimized and improved from existing conditions.
3. The remedial option is technically feasible and cost effective.
4. The remedial option selected is permanent to the degree practicable and minimizes future liability to AMNS and the Province.
5. Any HTWR disturbed by AMNS operations must be remediated.
6. Requirements of the Nova Scotia Industrial Approval for the site are met.

4.0 PROCEDURES FOR THE REMEDIATION OF HISTORICAL TAILINGS AND WASTE ROCK

4.1 TAILINGS AND WASTE ROCK EXCAVATION

HTWR within the project disturbance footprint will be excavated to delineated extents or to bedrock via excavator, with a trained environmental professional directing the removal of material. The material identification methodology described in Section 2.2 will be used to identify tailings and WR during excavation, with special emphasis placed on ensuring the vertical extent of the tailings and WR are identified. Systematic exploratory trenching of a portion of the suspected areas of tailings and WR is an effective method of visually and analytically identifying the vertical and horizonal extent of the HTWR (AECOM, 2019; Stantec, 2018c).

Tailings and WR will be placed directly in trucks for transport. The volume of material transported by trucks should be recorded, and photos should be taken both during excavation and material placement for record keeping purposes.

Soil samples will be collected along the final horizontal and vertical extents of the excavation for confirmatory sampling (where the excavation has not been extended to bedrock). Sufficient samples should be taken to be representative of the soil remaining in place. Where arsenic, lead, or mercury contaminated soil is excavated in conjunction with HTWR, confirmatory sampling will be completed by a trained environmental professional (AMNS, 2018). If impacted soil or HTWR conditions have been identified which are not compatible with the design of the TMF, these materials should be segregated so that they can be dealt with appropriately.

The vertical (if not extended down to bedrock) and horizontal extents of the excavation should be surveyed once excavation activities are complete.

4.2 WATER MANAGEMENT

Due to the nature of historical tailings deposition, tailings material is typically found close to the existing ground surface, often saturated in water, and on or along the Seloam Brook as observed during investigations at the Site. Therefore, any water associated with the HTWR that are to be excavated must be controlled at the Site and during potential movement or remedial activities, as it has the potential for the mobilization and transport of contaminants. Regional undisturbed surface drainage appears to be to the west following Seloam Brook toward Fifteen Mile Stream. To minimize potential contaminant transport, prior to the start of construction, a section of Seloam Brook that overlies the proposed pit footprint is planned to be diverted, which will re-route the upstream water north and then west through a diversion channel. The diversion channel will allow for the HTWR to be excavated in relatively dry conditions. In addition, it is understood that post-diversion, residually impacted waters may still remain within the saturated HTWR as well as additional water from groundwater seepage. Potentially impacted effluent coming from these features will be collected and stored in engineered containment and settling

ponds, and treated passively or with a modular water treatment facility, if required to meet the applicable water quality criteria prior to discharge to the receiving environment.

Regional undisturbed surface drainage is to the west following Seloam Brook toward Fifteen Mile Stream. Anticipated shallow groundwater flow is also to the west but may, in limited areas, also be influenced by the presence of underground mine workings.

A water management plan and further confirmatory delineation and groundwater assessment of these locations should be investigated and included as part of removal, placement or remediation of tailings prior to development of infrastructure and design of open pit operations at the site.

4.3 TAILINGS AND WASTE ROCK TRANSPORT AND PLACEMENT

If tailings and WR are to be transported, they should be deposited directly into available trucks via excavator for transport to selected areas for remediation. If the material is dry and dust generation is a concern during transport, the material in the trucks will be covered.

If the material is excessively wet, the material will be dewatered prior to placement in the truck boxes. Alternatively, truck boxes can be sealed to minimize discharge of water from the trucks during transport. Existing access roads will be used to the extent possible; new temporary roads may be constructed to facilitate remediation if required.

If material is to be transported off site, the material should be assessed to see if it falls under the Transportation of Dangerous Goods Regulation. If the material does meet the requirements under the regulation, appropriate permits shall be obtained prior to transportation.

4.4 MONITORING AND REMEDIAL VERIFICATION

All confirmatory samples should be sent to an accredited laboratory and tested for, at minimum, total metals in soil. These samples should be compared to the Tier 1 EQS for an industrial site, and any site specific (i.e., background) criteria developed. If the confirmatory samples exceed the relevant soil quality guidelines, additional assessment should be completed to ensure the remedial objectives are met.

Installation of groundwater wells will be required in areas of HTWR and sampled prior to removal of the bulk of the HTWR material. Groundwater wells will be monitored in order to assess whether source removal and/or dewatering of the open pit mine have an impact on downgradient groundwater quality.

4.5 REPORTING

4.5.1 Internal

The following information should be reported internally, and where appropriate, integrated into this Plan, as well as provided to the Site Environmental Department for record keeping and planning purposes, when or if remedial activities occur:

- Confirmatory sampling results and laboratory certificates.

- The surveyed delineated extents of the HTWR excavation.
- Photos of the excavation, placement and transport of the material.
- Groundwater sampling results and water levels, both preliminary and ongoing results.
- Volumes of removed material, and placement location if an on-site remedial option is chosen.
- Any contractor disposal certificates if an off-site remediation method is chosen.
- Any reprocessed tailings quality results, if re-processing is selected as a remedial option.

4.5.2 External

The external reporting requirements to NSE will be outlined in the future Industrial Approval and approved HTWR Management Plans. The types of information to be provided could include:

- Confirmatory sampling results and laboratory certificates.
- Surveyed delineated extents of the excavation.
- Groundwater sampling results and water levels, both preliminary and ongoing results.
- Volumes of removed material, and placement locations (on and off-site)
- Contractors' disposal certificates if an off-site remediation method is chosen.
- Reprocessed tailings quality results, if re-processing is selected as a remedial option.
- Design of the containment cell, if selected as a remedial option.

5.0 CLOSURE

The FMS Gold Project is still in the early stages of development and as such, tailings and WR identification and delineation are on-going. This Management Plan describes the understanding, proposed procedures and methodologies on how HTWR material at the Project site may be managed, assessed, delineated, and remediated. As further information becomes available, the plan may be amended and improved to include these items.

6.0 LIMITATIONS

This report documents work that was performed in accordance with generally accepted professional standards at the time and location in which the services were provided. No other representations, warranties or guarantees are made concerning the accuracy or completeness of the data or conclusions contained within this report, including no assurance that this work has uncovered all potential liabilities associated with the identified property.

All information received from the client or third parties in the preparation of this report has been assumed by Stantec to be correct. Stantec assumes no responsibility for any deficiency or inaccuracy in information received from others.

Conclusions made within this report consist of Stantec's professional opinion as of the time of the writing of this report, and are based solely on the scope of work described in the report, the limited data available and the results of the work. They are not a certification of the property's environmental condition. This report should not be construed as legal advice.

Limitations
September 25, 2019

This report has been prepared for the exclusive use of the client identified herein and any use by any third party is prohibited. Stantec assumes no responsibility for losses, damages, liabilities or claims, howsoever arising, from third party use of this report.

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Appendix A FIGURES

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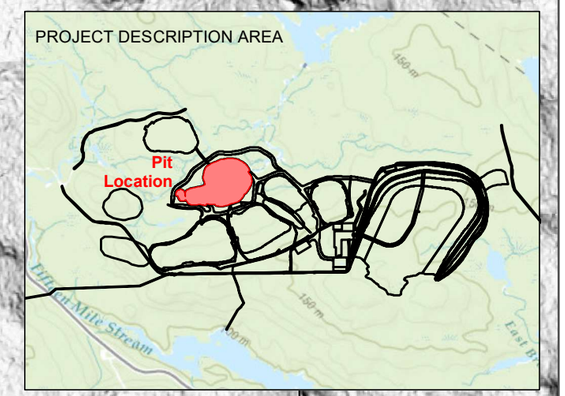
FMSW5

FMTP1
FMTP2
FMTP12
FMTP13
FMTP11
FMTP10
FMSW2
FMTP21
FMSW3
FMTP3
FMTP4
FMTP5
FMSW4
FMTP19
FMTP6
FMTP9
FMTP7
FMTP8
FMTP16
FMTP15
FMTP14
FMTP20
FMTP18
FMTP17

Sampling Location
- Surface Water
- Test Pit
- Watercourse
- Watercourse (Intermittent)
- Roads Driveable
- Field Identified Probable Tailings Storage Locations
- Historical Mine Workings and Associated Waste Rock Piles (Trenches/Test Pits)
- Waste Rock Storage Area (Various Piles)
- Proposed Pit Outline

0 50 100 150 200
Metres

121619250-Phase2-003 NAD 1983 CSRS UTM Zone 20N



Sources: Client, Government of Nova Scotia and Canada

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Disclaimer: This map is for illustrative purposes to support this Stantec project; questions can be directed to the issuing agency.

Test Pit and Surface Water Sampling Locations
Atlantic Mining NS - Fifteen Mile Stream Project

Stantec

ATLANTIC MINING NS

Figure 1

V:\1214\active\121414898\03_data\gis_cad\gis\mapping\mxd\2018_phase2\121619250-Phase2-001_FMS_As.mxd mhuskinsshupe

FMTP1 - 1700 mg/kg
FMTP2 - 160 mg/kg
FMTP12 - 470 mg/kg
FMTP3 - 38000 mg/kg
FMTP13 - 46 mg/kg
FMTP11 - 23 mg/kg
FMTP10 - 1200 mg/kg
FMTP21 - 2200 mg/kg
FMTP4 - 1000 mg/kg
FMTP5 - 1100 mg/kg
FMTP19 - 7900 mg/kg
FMTP9 - 1100 mg/kg
FMTP6 - 1500 mg/kg
FMTP7 - 390 mg/kg
FMTP8 - 15 mg/kg
FMTP15 - 190 mg/kg
FMTP14 - 140 mg/kg
FMTP20 - 2000 mg/kg
FMTP18 - 280 mg/kg
FMTP17 - 130 mg/kg

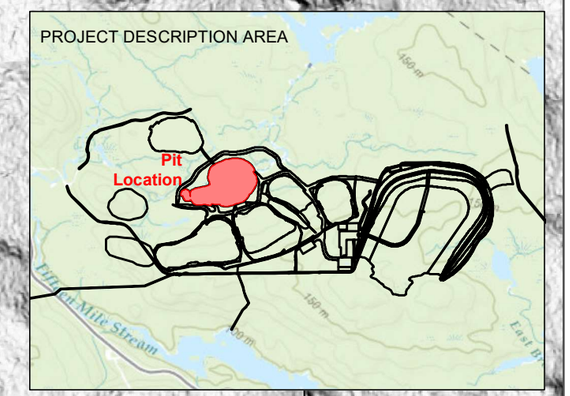
N

Arsenic (mg/kg)

- Concentration Below NSE Tier 1 EQS
- Concentration Exceeds NSE Tier 1 EQS
- Watercourse
- Watercourse (Intermittent)
- Roads Driveable
- Field Identified Probable Tailings Storage Locations
- Historical Mine Workings and Associated Waste Rock Piles (Trenches/Test Pits)
- Waste Rock Storage Area (Various Piles)
- Proposed Pit Location

0 50 100 150 200
Metres

121619250-Memo-001 NAD 1983 CSRS UTM Zone 20N



Sources: Client, Government of Nova Scotia and Canada

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Disclaimer: This map is for illustrative purposes to support this Stantec project; questions can be directed to the issuing agency.

Arsenic Concentrations in Soil
Atlantic Mining NS - Fifteen Mile Stream Project

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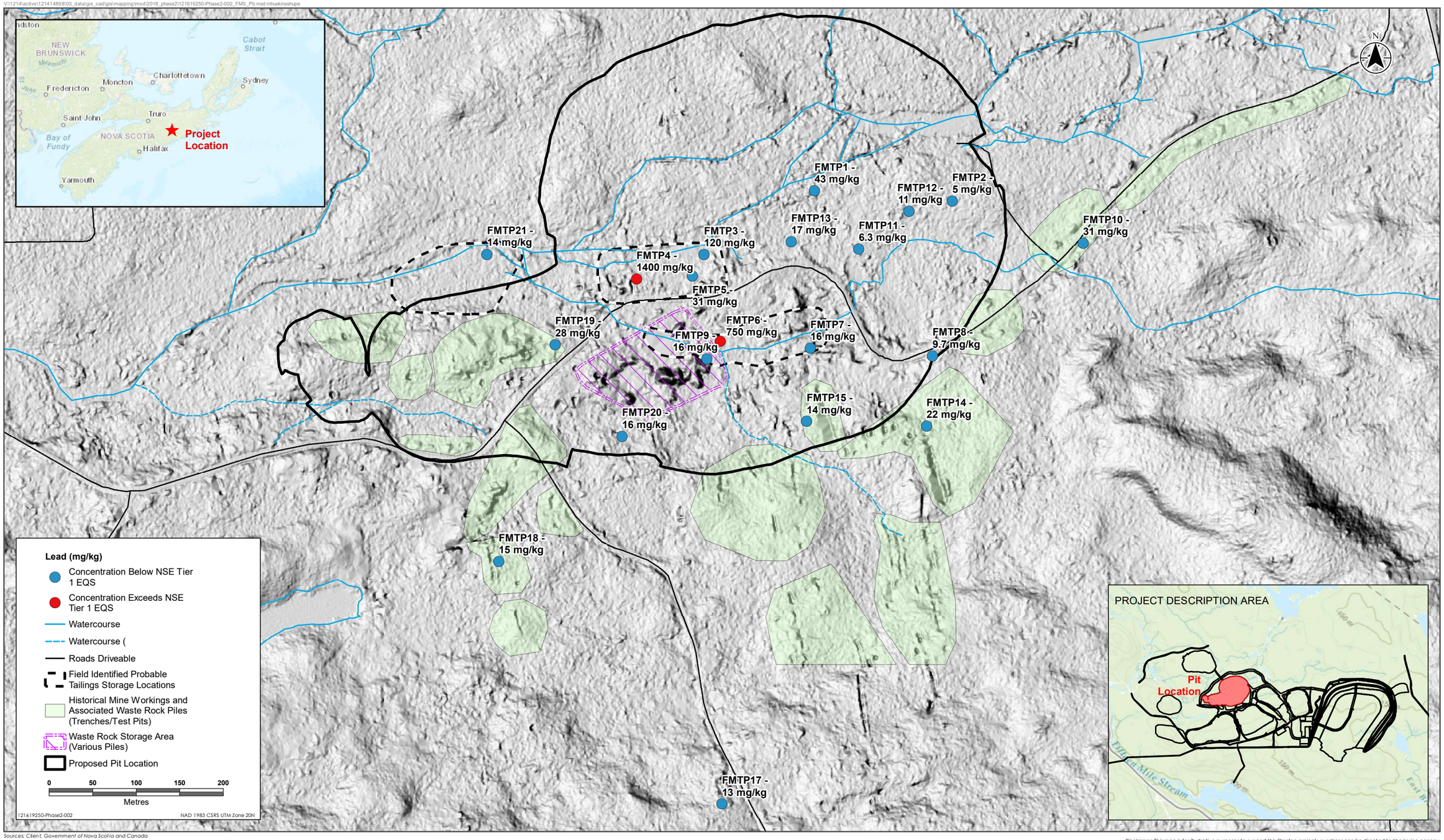
ATLANTIC MINING NS

Figure 2

V:\1214\active\121414898\03_data\gis_cad\gis\mapping\mxd\2016_phase2\121619250-Phase2-002_FMS_Pb.mxd mhuskinsshupe



Sources: Client, Government of Nova Scotia and Canada

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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Lead Concentrations in Soil
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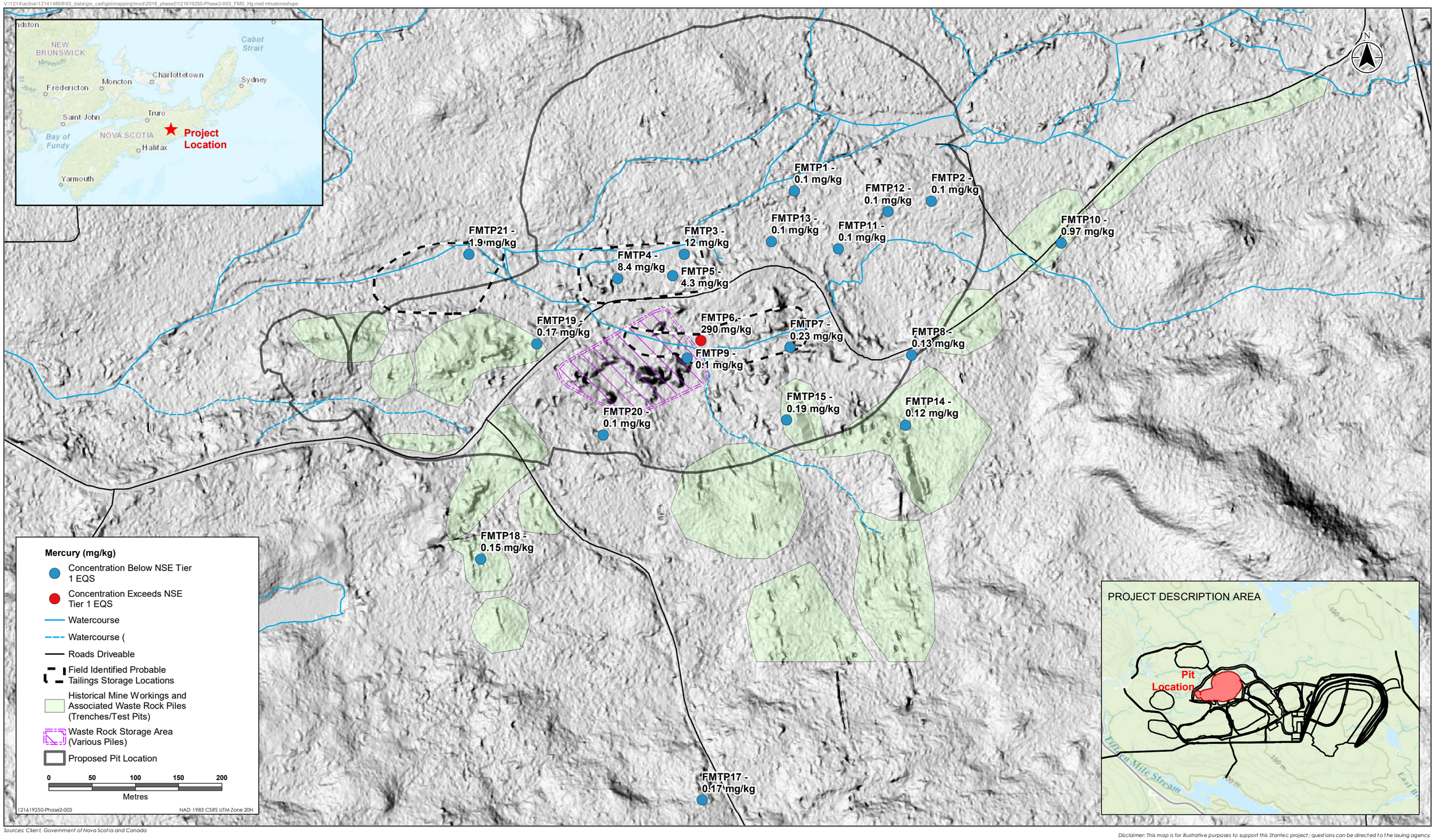
Figure 3

V:\1214\active\121414898\03_data\gis_cad\gis\mapping\mxd\2018_phase2\121619250-Phase2-003_FMS_Hg.mxd mhuskinsshupe



Sources: Client, Government of Nova Scotia and Canada

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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Mercury Concentrations in Soil
Atlantic Mining NS - Fifteen Mile Stream Project

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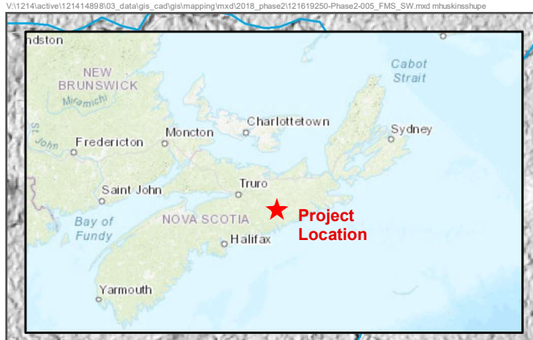
Figure 4

V:\1214\active\121414898\03_data\gis_cad\gis\mapping\mxd\2018_phase2\121619250-Phase2-005_FMS_SW.mxd mhuskinis\hupe



FM SW2:
Aluminum 220 ug/L
Arsenic 18 ug/L
Cadmium 0.014 ug/L
Iron 360 ug/L

FM SW3:
Aluminum 180 ug/L
Cadmium 0.013 ug/L

FM SW4:
Aluminum 270 ug/L
Arsenic 40 ug/L
Cadmium 0.015 ug/L
Iron 590 ug/L

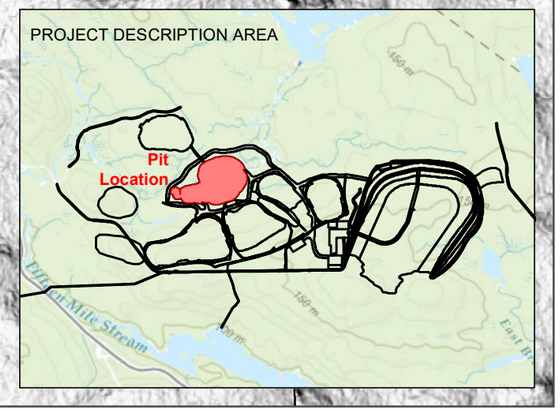
FM SW5:
Aluminum 320 ug/L
Chromium 7.6 ug/L
Iron 460 ug/L

N

Surface Water Sample
Watercourse
Watercourse (
Roads Driveable
Field Identified Probable Tailings Storage Locations
Historical Mine Workings and Associated Waste Rock Piles (Trenches/Test Pits)
Waste Rock Storage Area (Various Piles)
Proposed Pit

0 50 100 150 200
Metres

121619250-Phase2-002 NAD 1983 CSRS UTM Zone 20N



Sources: Client, Government of Nova Scotia and Canada

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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Surface Water Quality Exceeding NS Tier 1 EQS
Atlantic Mining NS - Fifteen Mile Stream Project

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Figure 5