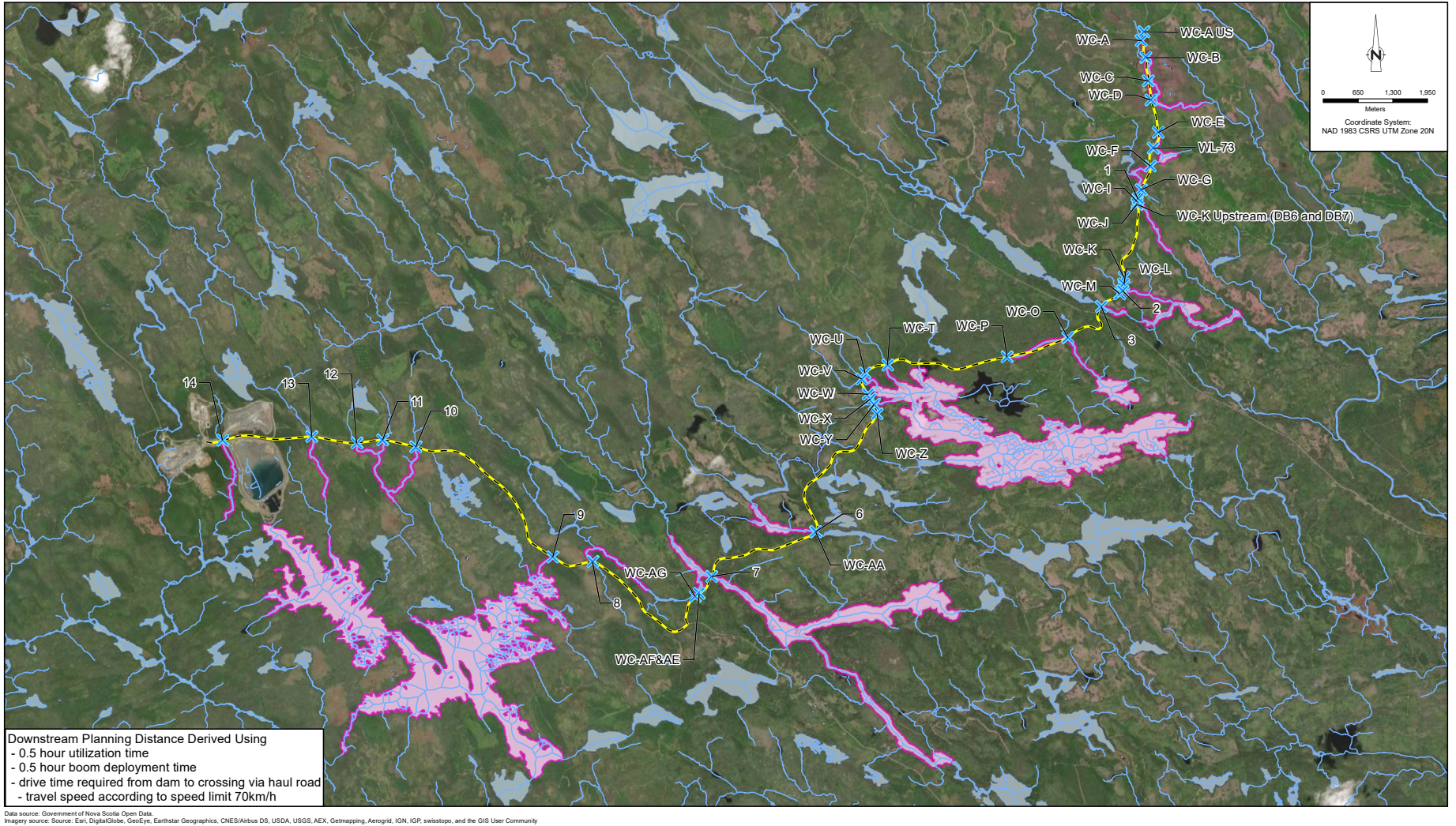

Data source: Government of Nova Scotia Open Data.
Imagery source: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

- Haul Road
- Down Stream Planning Distances
- Water Crossing Locations
- Nova Scotia Watecourse

ATLANTIC MINING NOVA SCOTIA
BEAVER DAM MINE

088664
Sep 27, 2021

WATER CROSSING DOWN STREAM PLANNING DISTANCES

FIGURE CEAA2-47-1

GIS File: Q:\GIS\PROJECTS\88000s\88664\Layouts\20210825_DownstreamPlanning\088664_20210825_DownstreamPlanning_GIS002.mxd

ATTACHMENT CEAA 2-47-A:

SPILL ABATEMENT EQUIPMENT RECOMMENDATIONS, MEMO – AUGUST 23, 2021

455 Phillip Street, Unit 100A
Waterloo, Ontario N2L 3X2
Canada
www.ghd.com

Our ref: 088664-71

August 23, 2021

Ms. Danielle Finlayson-Bourque
Permitting Superintendent
Atlantic Mining NS Corp

Spill abatement equipment recommendations

Dear Ms. Finlayson-Bourque,

Atlantic Mining NS Inc., (AMNS) a wholly owned subsidiary of St. Barbara Limited, retained GHD Limited (GHD) to make recommendations for spill kits to prepare for possible fuel and operating fluid spills originating from transportation vehicles and fuel storage tanks associated with the Beaver Dam Mine project located in Marinette, Nova Scotia (Facility/Site).

1. Background information

The purpose of the assessment is to identify spill kit contents that can be used by AMNS responders to complete initial containment and confinement of spills from diesel storage tanks at the Site and transportation vehicles moving ore to the AMNS Touquoy Mine for processing.

1.1 Fuel storage

GHD understands that fuel will be stored at the Site in three double-walled above-ground storage tanks, the largest containing a maximum volume of 50,000 litres with no additional containment. Spills originating from these tanks will migrate to surface water ditches and travel to a primary holding pond, and then migrate to a secondary holding pond that has an engineered isolation valve on its outfall. The spill kit recommendations include general fuel handling personal protective equipment (PPE) and spill abatement equipment sufficient to contain minor spills during loading and unloading operations. In addition, the recommended spill kit includes equipment to contain a worst-case scenario discharge from the largest tank, planning for containment within the ditches along the migration pathway with considerations for standing water, rain/snow events, and physical damage to the tank.

1.2 Truck fuel and operating fluids

GHD understands ore is being transported in C-Train dump trucks from the Site along an engineered haul road and public infrastructure to the AMNS Touquoy Mine for processing. The total distance of the transportation route is thirty-two-kilometres. The trucks are configured with a dual fuel tank system installed on opposite sides of the power unit, holding an approximate maximum volume of 1,100 litres. The truck configuration allows for equalization between fuel tanks and therefore the recommended spill kit is based on a total loss of both tanks during a motor vehicle accident.

Detailed recommendations on spill kit contents can be found in Table 1 and 2 in section 2.

2. Spill kit recommendations

2.1 Mine site spill kit

Table 1 Mine site spill kit

#	Description	Number of units	Units	Associated tactic
1	Plug'n Dyke sealant	1	1-lb jar	Seal leaking fuel tank
2	Wooden wedges (various sizes)	1	Kit	Containment (tank leak)
3	Oil only 2' x 2' absorbent pads	200	Pads (2 bails)	Absorbing small spills
4	Oil only 2" x 3' socks	8	Socks	Containment (road surface)
5	Oil only 6" x 8' floating boom	8	Booms (2 bails)	Containment (ditches)
6	Sand bags 26" x 14" (empty)	100	Bags (1 bundle)	Containment (dams and underflow weirs)
7	Geotextile fabric 6' x 50'	1	Roll	Containment (underflow weirs)
8	Sewer conduit 6" x 6'	6	Conduit	Containment (underflow weirs)
9	Sand (dry, no salt) tarped or covered	4-6	Yards	Containment (dams and underflow weirs)
10	2" x 2" x 3' wooden stakes	12	Stakes	Secure boom
11	6 ml polypropylene drum liners	20	Drum liners	Waste packaging
12	Waste labels	20	Labels	Waste packaging
13	Polypropylene gloves	8	Pair	PPE
14	Round mouth shovel (4-5' shaft)	2	Shovel	Building berms and dikes
15	Sledgehammer	1	6-lb	Containment (secure wooden stakes)
16	Claw hammer	1	16-oz	Containment (secure wooden wedges)
17	Utility knife (with blades)	1	Knife	Containment (Cutting Geotextile)
18	Skid mounted or rolling tote	2	Totes	Spill kit container
19	Security inspection tags (rip tags)	10	Tags	Inspection
20	Access to yellow iron (one of the following lists of equipment; loader, backhoe, excavator, skid steer)	1	Yellow iron	Containment (dams and underflow weirs)

2.2 Truck spill kit

Table 2 Truck spill kit

#	Description	Number of units	Units	Associated tactic
1	Pop-up containment pool (1100 litre)	1	Pool	Containment (under a leaking tank)
2	Plug'n Dyke sealant	1	1-lb Jar	Seal leaking fuel tank
3	Wooden wedges (sized for fuel and hydraulic lines)	Ukn	Ukn	Containment (fuel and hydraulic lines)
4	Pipe clamps (sized for fuel and hydraulic lines)	Ukn	Ukn	Containment (secure wooden plugs)
5	Oil only 2' x 2' absorbent pads	50	Pads (1/4 bail)	Absorbing small spills
6	Oil only 2" x 3' socks	4	Socks	Containment (road surface)
7	Oil only 6" x 8' floating boom	2	Booms	Containment (creek or culvert outfall)
8	2" x 2" x 3' wooden stakes	4	Stakes	Secure boom
9	6 ml polypropylene drum liners	4	Drum liners	Waste packaging
10	Waste labels	4	Labels	Waste packaging
11	Polypropylene gloves	4	Pair	PPE
12	Round mouth shovel (3' shaft with handle)	1	Shovel	Building berms and dikes
13	Sledgehammer	1	3-lb	Containment (secure wooden takes and plugs)
14	Vice grips	1	Unit	Containment (crimp leaking fuel line)
15	Truck-mounted salvage drum	1	Drum	Spill kit container and waste package
16	Truck mount	1	Mount	Spill kit mount
17	Security inspection tags (rip tags)	10	Tags	Inspection

3. Additional recommendations

This list of additional recommendations may have already been considered or addressed and is not based on deficiencies or known gaps:

– Installation of isolation valves on the fuel equalization line(s) between the fuel tanks on the dump truck power units if they are not already installed.
– Truck spill kits may be installed on each truck (preferred) or strategically positioned on response vehicles or at the Beaver Dam Mine and Touquoy Mine sites.
– Site fuel tank spill kits and dry sand should be covered and protected from the elements to ensure abatement materials are available if an event was to occur.

– Installation of numbered security tabs similar to fire extinguisher tabs should be placed on spill kit openings for easy inspection, monitoring of use, and as a trigger to inventory and re-order supplies.
– AMNS Inc. staff that have responsibility for the use or maintenance of the spill kits should be trained on their contents and the associated tactics for implementation.
– The truck spill kits do not consider downstream containment of fuel if migration was to extend from an accident Site down a surface water crossing with the road. This evaluation will be completed separately.

If there are any questions about the recommendations or you need assistance in the procurement of materials or the implementation of training, please do not hesitate to contact us.

Regards,

Mark Jasper
Technical Director

+1 905 346-3845
mark.jasper@ghd.com

Copy to: Andrew Betts (GHD)

Round 2 Information Request Number:	CEAA-2-48
Regulatory Agency/Indigenous Community:	CEAA, Indigenous Groups
Topic/Discipline:	Current Use
EIS Guideline Reference:	6.1.4 Indigenous Peoples
Revised EIS (February 28, 2019) Reference:	Sections 4.3.2, 5.0, 6.3.4

Context and Rationale

The EIS Guidelines (Sections 4.3.2, 5.0, 6.3.4) require the proponent to include measures to mitigate the effects of changes to the environment caused by the Project on current use of lands for traditional purposes and Aboriginal potential or established rights. The EIS must clearly describe how the proponent intends to implement those mitigation measures.

In the revised EIS, Figure 6.14-1 shows that current Mi'kmaq land and resource uses overlap with the Project LAA, including in the vicinity of the mine site. The EIS does not describe how the proponent intends to implement measures to mitigate potential impacts to the Mi'kmaq's ability to continue to access preferred current land and use sites (such as preferred harvest areas) and to exercise their harvesting right. Rather, the proponent states it will "Engage in in-depth access management planning … with Millbrook to ensure continued access to preferred harvest and occupancy areas, **where possible**."

The Proponent is Required to …

Provide specific mitigation measures and describe how the proponent intends to implement those measures to mitigate potential effects on the experience and the current use of land and resources for traditional purposes and on the ability of the Mi'kmaq to continue to exercise their harvesting rights.

Where access to preferred areas by the Mi'kmaq cannot be maintained, provide information on specific mitigation, including measures to minimize disruption within the project area and to ensure that traditional practices can continue in other areas of similar value during Project operations

Response

The Updated 2021 EIS (AMNS 2021) has described interactions with, and effects to, the Mi'kmaq of Nova Scotia for each Valued Component (VC). The updated EIS has further identified specific mitigation measures for each VC to reduce potential effects on the experience and traditional practice for the Mi'kmaq of Nova Scotia within the local assessment area surrounding the Beaver Dam Mine Site and Haul Road. These interactions, mitigation measures and effects are summarized in Table CEAA 2-48-1.

Table CEAA 2-48-1: Project Interactions and Summaries for each Valued Component and Potential Effect to Mi'kmaq of Nova Scotia

Valued Component	Summary of Key Mitigation Measures relating to Mi'kmaq of Nova Scotia (refer to individual VC sections for details)	Summary of Residual Effect	Potential Interaction with, and Effect to the Mi'kmaq of Nova Scotia (health and socio-economic conditions, current use, physical and cultural heritage)	Consideration in HHRA
Noise	• The pit entrance/exit has been relocated to the west side of the pit, farther from the northeast property boundary. • No more than four drills will operate concurrently during any day, evening, or nighttime hour. • Increase the height of the safety berm along the north boundary of the pit. • Operating hours for trucking on the Haul Road will be restricted to the day and evening periods only (7AM to 11PM) • Noise-reduction as criteria in equipment selection • Site design to reduce need for reversing and vehicle reversing alarms • use of large haul vehicles to minimize trips	Beaver Dam Mine Site will be in compliance with the nighttime Pit and Quarry Guidelines (55 dBa). The Haul Road will operate from 7am-11pm and will be in compliance with the evening Pit and Quarry Guidelines (60 dBa). Predicted blasting noise will meet the Nova Scotia Pit and Quarry Guidelines (NSEL 1999) criteria of 128 dBA at approximately 100+ m from the blast location.	Noise levels are predicted to meet the Pit and Quarry Guidelines (NSEL 1999) at the proposed property boundary at the Beaver Dam Mine Site and Haul Road and thus, there is limited noise exposure to the Mi'kmaq of Nova Scotia outside of the Project property boundaries. Elevated noise above background concentrations near the Beaver Dam Mine Site and Haul Road may affect wildlife patterns and as a result, affect traditional hunting practices by the Mi'kmaq of Nova Scotia within 400 m (S, W, E) to 1,100 m (N) of the Beaver Dam Mine Site and approximately 360 m on either side of the Haul Road, based on the most conservative guideline (nighttime value of 45 dBA) identified for potential broad wildlife effects (Environmental Code of Practice for Metals Mines EC 2012c). Elevated noise is not expected to affect plant gathering or fishing activities or other recreational/commercial uses of the area directly surrounding the Project. Summary effects of noise on fauna are described below.	No
Air	• Apply dust suppressants, when and where practicable, to target 80% effectiveness • Speed reduction • The crushed ore stockpile at the Touquoy Mine Site will be covered to minimize wind and rain erosion • In the event that the monitoring program identifies the need for additional dust mitigation measures for the Haul Road, options exist for further reduction in particulates including: • an enhanced dust suppression application schedule; • use of other suppressants that are biodegradable; • road re-surfacing or treatments to reduce silt content; and • paving portions of the Haul Road.	Maximum predicted concentrations of parameters (i.e., TSP, PM_{10}, and $PM_{2.5}$) meet the assessment criteria for ambient air quality standards (Government of Nova Scotia 2005 and CCME 2020) at the proposed Beaver Dam Mine Site and the Haul Road property boundaries. At the Haul Road property boundaries, these assessment criteria are met with applied mitigation of 80% chemical dust suppressants.	Elevated particulate levels above background concentrations outside of the Beaver Dam Mine Site and Haul Road property boundaries could be present on vegetation and berries and as a result, affect traditional gathering and food consumption practices and human health by the Mi'kmaq of Nova Scotia.	Yes
Light	• Use of only downward-facing lights on site infrastructure and Mine Site roads • Install motion-sensing lights, where practicable • Only use direct and focused light when needed for worker safety • All floodlights will employ full horizontal cutoff, as appropriate • Lighting not in use will be turned off, whenever practicable • Site perimeter lighting will be directed to minimize light offsite light trespass	Direct line of sight is possible up to 5 km from the Beaver Dam Mine Site property boundary where topography favors light propagation. Light intrusion into the forested habitat along the Haul Road up to 279 m from the Haul Road property boundary.	Increased light levels above background levels near the Beaver Dam Mine Site could affect wildlife patterns and as a result, affect traditional hunting practices by the Mi'kmaq of Nova Scotia. While effects of light on wildlife are documented, it is still an emerging area of research. This is discussed in Fauna section of the revised EIS (AMNS 2021). Increased light levels are not expected to affect plant gathering or fishing activities or other recreational/commercial uses of the area directly surrounding the Project. There is no pathway for effect to human health from light.	No

Table CEAA 2-48-1: Project Interactions and Summaries for each Valued Component and Potential Effect to Mi'kmaq of Nova Scotia (continued)

Valued Component	Summary of Key Mitigation Measures relating to Mi'kmaq of Nova Scotia (refer to individual VC sections for details)	Summary of Residual Effect	Potential Interaction with, and Effect to the Mi'kmaq of Nova Scotia (health and socio-economic conditions, current use, physical and cultural heritage)	Consideration in HHRA
Geology, Soils and Sediment	• Segregate and manage waste rock with the potential for acid generation	There is a potential for acid rock drainage based on 70 static tests and 5 humidity cell tests of mine rock materials Based on a number of conservative assumptions, the results indicate that there is very low potential for acidic conditions to occur during operations. During closure phase, there is potential for acidic conditions to occur (i.e., 50% of PAG is predicted to be acidic within 10 years); however, through mitigations (e.g., engineered cover and water management) these conditions can be mitigated. Monitoring will be undertaken during operations and closure to validate the geochemical source terms and impact predictions. If necessary additional mitigations will be applied.	Acidic conditions in predicted surface water quality from the Project could affect fishing practices in Cameron Flowage (Killag River) (receiving environment for mine discharge). This potential pathway for exposure is considered in the Surface Water VC. Mine rock will be tested during construction and operations as described in Metal Leaching/Acid Rock Drainage Plan (Appendix E.5). Material considered to have the potential for acid rock drainage will be stored in a designated area (i.e., PAG stockpile) located adjacent to the pit. Although water quality models indicate that there is a very low potential for acid conditions to occur during operations diversion ditches will be constructed around the PAG Stockpile so that water can be directed to the North Settling Pond for treatment, as necessary, prior to discharge. At closure, an engineered cover will be placed over the PAG to reduce infiltration of water into the pile. The area will be covered with soil and revegetated. Water from the PAG stockpile will be directed towards the pit. Monitoring will be undertaken throughout construction and operations to confirm impact predictions (i.e. geochemical characterization and water quality) and to adaptively manage PAG mitigations prior to closure. Monitoring will continue during active and post closure.	No* * Human exposure to soils outside the proposed property boundaries, which could be potentially influenced by atmospheric deposition from mining activities is described in the air VC and is included in the HHRA (dust deposition onto soils)
	• fulsome discussion of proposed mitigation and management measures are presented Surface Water (Section 6.7.9), Wetlands (Section 6.8.8), and Fish and Fish Habitat (Section 6.9.8).	Historical tailings present at Beaver Dam Mine Site will be fully delineated, tested and managed during construction. Disposal of historic tailings will be off-site at the Touquoy tailings management facility.	The applied monitoring and mitigation will limit potential impacts to Mi'kmaq human health, harvesting/gathering practices and/or recreation and other cultural pursuits. Release of sediment and contaminants associated with historical tailings could also affect downstream water quality in surface water systems (Cameron Flowage (Killag River), Mud Lake, Crusher Lake, Tent Lake watershed). An assessment was undertaken in 2019 and 2020 (Appendix E.6, E.7, and E.8 of AMNS 2021) to identify historical tailings within the Beaver Dam Mine Site. AMNS is committed to managing historic tailings encountered during construction and operations. Historic tailings will be stored in a designated area until it can either be shipped off-site to the Touquoy Tailings Management Facility (TMS) or in the exhausted pit. Water originating from historic tailings will be directed to the North Settling Pond for treatment prior to release to the environment. Water treatment is designed to meet water quality objectives. and compliance as described in Surface Water VC. Human exposure to historic tailings will be limited because they are either going to be removed and managed/disposed of, to enable mining to occur, or left in their current stable condition (Appendix E.9). Furthermore, there will be no access for general public in the active mining area.	
	• Implement Erosion and Sediment Control Plan • Secure overburden stockpiles using a combination of mulching, hydroseeding, and slope stabilization • Limit exposed soil	There is the potential for release of sediment from the road surface to be released to water bodies, especially at stream crossings.	Lessons learned from Touquoy sediment release incidents will be incorporated into the engineered designs of roads near water bodies and during road maintenance and snow clearing activities. These lessons include careful control of road height and drainage gradients near water bodies, as well as specialized sediment control measures near stream crossings that incorporate filter cloth into the road base design and application of specialized surface stabilizers on the road surface near water bodies. In addition, specialized ditching, check dams and sumps will be utilized as required. A monitoring plan for sediment in water bodies near the road will be implemented during and after construction to ensure control measures are and continue to be effective.	

Table CEAA 2-48-1: Project Interactions and Summaries for each Valued Component and Potential Effect to Mi'kmaq of Nova Scotia (continued)

Valued Component	Summary of Key Mitigation Measures relating to Mi'kmaq of Nova Scotia (refer to individual VC sections for details)	Summary of Residual Effect	Potential Interaction with, and Effect to the Mi'kmaq of Nova Scotia (health and socio-economic conditions, current use, physical and cultural heritage)	Consideration in HHRA
Groundwater	• Conduct pre-construction well survey at Beaver Lake IR 17 • Implement a groundwater interceptor trench on the west side of the PAG stockpile, if necessary	Maximum radius of influence (groundwater drawdown) is predicted at a maximum of 1,000 m (to the south) from the pit during operations, and less that this during closure, when the pit is re-filling with water. The nearest potable well is 5 km south of the Beaver Dam Mine Site (drilled well Beaver Lake IR 17). Groundwater seepage has been predicted through modelling efforts and these seepage rates have been included in operational and closure surface water modelling efforts to understand potential effect of groundwater seepage on surrounding surface water features.	At the end of mine operations, there is no significant impact to the reasonable use of groundwater at the Beaver Dam Mine Site property boundary. No impacts to groundwater quality and quantity are predicted approaching the regional assessment area, or at key receptors including Beaver Lake IR 17 or the nearest domestic well located along Hwy 224. Groundwater seepage was considered as part of the surface water quality modelling efforts. Due to the distance of Mi'kmaq communities and residences, and proposed surface water treatment, if required, during Closure Phase of the Project, predicted groundwater changes and groundwater seepage are not expected to affect the traditional practices or residences of the Mi'kmaq of Nova Scotia.	No
Surface Water	• Ensure pit water meets applicable regulatory quality criteria for discharge – otherwise treat water prior to discharge • Construct drainage ditches and ponds to maintain natural flow directions when practical • Control release of settling ponds to mimic natural hydrograph, where practicable	During construction, water will be directed to the North Settling Pond and treated (i.e., modular effluent treatment plant), as necessary, for elevated metals, originating from historic tailings, as well as sediments. Water will be monitored and tested prior to discharge to confirm it meets discharge criteria. The modular effluent treatment plant will remain as contingency during operations. During operations, mine contact water will be directed to the North Settling Pond where it will be tested and, if necessary, treated before release. Water from the topsoil and organic stockpiles will be directed to the East and South Settling Ponds where it will be treated for TSS before release. There is contingency to direct water from the East Settling Pond to the North Settling Pond if additional water treatment is necessary. Water quality modelling predicts elevated nitrite originating from the WRSA will require treatment in aeration ponds before release. Water quality monitoring will be undertaken a compliance points to confirm impact predictions and inform adaptive management as necessary. Water at the 100 m mixing zone in the Cameron Flowage/Killag River will be monitored to ensure meets water quality objectives. At closure, an engineered cover will be installed to encapsulate the PAG stockpile and reduce infiltration. Water from the site include the PAG stockpile will be directed to the pit to facilitate refilling. Water quality modeling predicts elevated levels of zinc and cobalt for the upper case only (i.e., most conservative case) for two months. Water will be treated at closure, as necessary, to ensure it meets discharge criteria. Geochemical characterization of waste rock and water quality monitoring will be undertaken throughout construction and operations to confirm impact predictions and inform adaptive management.	Due to the distance of Mi'kmaq communities and residences, and proposed surface water treatment, as/if required, during operations and during Closure Phase of the Project, surface water quality and quantity predictions are not expected to affect the traditional practices or residences of the Mi'kmaq of Nova Scotia outside of the Beaver Dam Mine Site property boundary during operations and closure phases of the Project. No known locations where Mi'kmaq residents draw directly from lakes or rivers for potable purposes (permanent or seasonal/temporary) have been identified, through direct engagement with Mi'kmaq communities or through the TLRUS and MEKS, in close proximity to the Beaver Dam Mine Site. In the absence of such locations being identified to the Proponent, no evaluation of surface potable water sources was considered in the HHRA. However, evaluation of the predicted concentrations at the North Settling Pond and East Pond discharge (Cameron Flowage) have been compared to Canadian Drinking Water Guidelines within the HHRA. These locations are considered the worst-case scenario and these predictions demonstrate there is no concern associated with occasional consumption of surface water surrounding the Beaver Dam Mine Site. The potential for adverse health effects from recreational water use (i.e. swimming) in Cameron Flowage/Killag River have been considered in the HHRA. Swimming in the Moose River has been excluded from HHRA consideration due to low water levels in this river.	Yes
Wetlands	• Maintain pre-construction hydrological flows through wetland habitats and partially altered wetlands, wherever practicable • Complete detailed design of Haul Road and micro-siting of Beaver Dam Mine Site infrastructure to avoid or minimize impacts to wetlands • Implement construction methods that reduce the potential to drain or flood surrounding wetlands • Compensate for permanent loss of wetland function through implementation of the Preliminary Wetland Compensation Plan	Of the 236 wetlands identified within the FMS Study Area, 128 (54%) will be avoided by Project design. A total of 108 wetlands are proposed for alteration, 74 of which will require only partial alteration. Indirect wetland impacts are expected from changes to local catchment areas and groundwater drawdown (open pit dewatering). Wetland compensation will be required to off-set the loss of wetland habitat from the Project. A preliminary Wetland Compensation Plan is attached as Appendix H.3.	Loss of wetland habitat is limited to the area directly surrounding the pit and associated infrastructure development for the proposed mine. Management of historical tailings will improve wetland quality in the local area and improve water quality, and overall watershed health. Wetland restoration opportunities will be identified in consultation with the Mi'kmaq of Nova Scotia with the goal to identify projects that would benefit the Mi'kmaq and local watersheds where wetland restoration would benefit traditional Mi'kmaq practices.	No

Table CEAA 2-48-1: Project Interactions and Summaries for each Valued Component and Potential Effect to Mi'kmaq of Nova Scotia (continued)

Valued Component	Summary of Key Mitigation Measures relating to Mi'kmaq of Nova Scotia (refer to individual VC sections for details)	Summary of Residual Effect	Potential Interaction with, and Effect to the Mi'kmaq of Nova Scotia (health and socio-economic conditions, current use, physical and cultural heritage)	Consideration in HHRA
Fish and Fish Habitat	• Complete fish rescue within all fish bearing streams to be impacted by the Project, prior to commencement of mine development, with DFO approval if required • Install groundwater pumps to supplement baseflow in Cameron Flowage, if necessary • Implement a groundwater interceptor trench on the west side of the PAG stockpile, if necessary • Use an emulsion-type explosive that will minimize nitrogen release to surface water and groundwater • Adhere to applicable timing windows, as directed by DFO, for construction where infilling has been approved in wetlands and watercourses where fish habitat is present • Complete offsetting for HADD including for permanent loss of fish habitat through fish habitat restoration activities, subject to DFO approval, as required under the Fisheries Act	Spawning habitat for species known or expected is limited in the Beaver Dam Mine Site and Haul Road. Development of the Beaver Dam pit and associated mine infrastructure will require the alteration of Wetland 59 (open water marsh habitat with fish and fish habitat) and several smaller tributaries. Indirect impacts to fish and fish habitat have also been described. A draft Fish Habitat Offset Plan (Appendix J.3) has been developed to compensate for loss of fish habitat required for Project development. Site infrastructure has been micro-sited for fish habitat avoidance wherever practicable. A Fisheries Authorization will be required for the Project, and a draft Fish Habitat Offset Plan for fish habitat offsetting is included in the EIS	The development of the pit will manage the containment/disposal of historical tailings. Areas where Mi'kmaq fishing activities are known or expected to take place surrounding the Beaver Dam Mine Site and Haul Road will not be affected by Project development. Access will be maintained to fishing locations throughout the LAA through a constructed bypass access road for Mi'kmaq and local people who want continued access to fish in the LAA. Evaluation of the potential exposure pathway of uptake of metals from surface water into fish and subsequent consumption by humans was considered in the HHRA.	Yes
Flora and Habitat	• Intact forest stands and wetlands will be avoided wherever practicable during detailed Project planning and design in favor of previously disturbed areas (e.g., stands disturbed by timber harvesting, roads, or other development). • Topsoil will be salvaged and stored for use in site restoration where possible. Upland and wetland soils should be stockpiled separately. • Monitor dust conditions and implement dust suppression mitigation (refer to air mitigation) when normal precipitation levels are not enough to suppress fugitive dust. In addition to water suppression, provincially approvable chemical dust suppressants will be used along the Haul Road. • Haul trucks will be equipped with spill kits and instructed on their use and spill prevention and appropriate site personnel will be trained in spill isolation, containment, and recovery. • Alternatives to traditional hydroseeding methods will be reviewed to advance vegetation re-establishment and reclamation methods. Consideration will be given to native species with Indigenous significance.	Ecosites are predominantly poor to medium nutrient regimes with acidic soils and dominated by mixedwood and conifer forest stands. Historical mining and impacts from timber harvesting have historically affected the habitat and flora communities with the Beaver Dam Mine Site and Haul Road. A total of 295 species of vascular plants were observed. Of these, six a SOCI. No SAR vascular plant species were observed. Twenty-three species of lichens were observed within the Beaver Dam Mine Project Area. One of these, eight are SOCI and three are SAR.	A total of 14 occurrences of lichen and/or vascular plant SAR and SOCI will are expected to be directly impacted by the Project. The loss of these individual plants and lichens is not expected to have a significant impact on the Mi'kmaq of Nova Scotia and their traditional practices. New habitat loss to support Project development is minimized by active historical timber harvesting activities in this area and historical mining activities. Reclamation will involve revegetation of the disturbed areas with an approved mix of native seeds and potentially shrubs/seedlings. This Reclamation Plan will be developed in consultation with Mi'kmaq of Nova Scotia.	No

Table CEAA 2-48-1: Project Interactions and Summaries for each Valued Component and Potential Effect to Mi'kmaq of Nova Scotia (continued)

Valued Component	Summary of Key Mitigation Measures relating to Mi'kmaq of Nova Scotia (refer to individual VC sections for details)	Summary of Residual Effect	Potential Interaction with, and Effect to the Mi'kmaq of Nova Scotia (health and socio-economic conditions, current use, physical and cultural heritage)	Consideration in HHRA
Fauna	• Intact forest stands and wetlands will be avoided wherever practicable during detailed Project planning and design in favor of previously disturbed areas (e.g., stands disturbed by timber harvesting, roads, or other development). Micro-site Haul Road and mine infrastructure to avoid major fauna habitat. • Habitat fragmentation will be reduced by limiting the area of new roads, favoring upgrading of existing roads where possible instead. • Site infrastructure will be fenced in, where practical, to reduce interactions between Project infrastructure and wildlife. • A speed limit of 40 km/hr within the Beaver Dam Mine Site and 70 km/hr along the Haul Road (or not exceeding posted speed limits) will be implemented to reduce likelihood of collisions with fauna. • Haul Road will be operational from 7 am to 11pm daily • Consider limiting use of lights that emit more blue shortwave light (e.g., LEDs, metal halides) which have greater impacts to wildlife at night, where practicable and considering operational safety.	A common assemblage of fauna was observed within the Beaver Dam Mine Site and Haul Road. The Beaver Dam Mine Site and Haul Road were evaluated for bat hibernacula potential through both desktop and field evaluations. No evidence of bat usage or suitable hibernacula habitat were observed. Three set of mainland moose (ACCDC S1; NSESA E) tracks were observed incidentally and during targeted moose surveys within, or in proximity to, the Beaver Dam Mine Site. Snapping turtle (SAR) uses portions of the Beaver Dam Mine Site, with documented turtle sightings adjacent to Wetland 59 and along roadsides near the Touquoy Mine Site, including the Haul Road. The Project will result in a loss of habitat for Fauna, increased habitat fragmentation, and potential sensory disturbance (noise and light) to wildlife in close proximity to the Beaver Dam Mine Site and Haul Road property boundaries.	Project activities are likely to result in localized avoidance of the Beaver Dam Mine Site and Haul Road and directly surrounding areas by some species. This potential avoidance would be due to changes in ambient noise levels and light levels in close proximity to the property boundaries, direct habitat loss, potential indirect habitat loss, and increased fragmentation. This potential change in wildlife patterns may affect the traditional practices of the Mi'kmaq of Nova Scotia in close proximity to the Beaver Dam Mine Site and Haul Road. This disturbance is limited spatially, and temporary in nature, with construction, operation and active reclamation of the Project resulting in up to eight years of potential local disruption to wildlife patterns. Evaluation of the potential exposure pathway of uptake of metals from soil or vegetation, uptake of metals in game species, and subsequent consumption by humans was considered in the HHRA.	Yes
Avifauna	• Avoid construction on native vegetation during the regional breeding season for migratory avifauna where practicable (beginning of April to end of August for migratory avifauna; ECCC 2015). Where this is not practicable, an avifauna nest mitigation plan will be developed • If a raptor nest is found within the forested areas to be cleared, a buffer zone appropriate to the species (as determined in consultation with NSL&F) would be placed around the nest • Discourage ground-nesting or burrow-nesting species (such as common nighthawk and bank swallows), by limiting large piles or patches of bare soil during the breeding season, wherever practicable	Abundance and diversity of avian species observed was moderate to high based on observer experience in the geographic area. A common species assemblage of forest birds was observed, along with many priority species. Nine SAR and 23 SOCI avifauna species were observed in the Beaver Dam Mine Site and Haul Road. The Project will result in a loss of habitat for Fauna, increased habitat fragmentation, and potential sensory disturbance (noise and light) to avifauna in close proximity to the Beaver Dam Mine Site and Haul Road property boundaries.	Project activities are likely to result in localized avoidance of the Beaver Dam Mine Site and Haul Road and directly surrounding areas by some bird species. This potential avoidance would be due to changes in ambient noise levels, light levels, direct and indirect habitat loss and increased fragmentation. This potential change in bird usage patterns may affect the traditional practices of the Mi'kmaq of Nova Scotia in close proximity to the Beaver Dam Mine Site and Haul Road. This disturbance is temporary in nature, with construction, operation and active reclamation of the Mine resulting in up to eight years of potential local disruption to bird usage patterns.	No

Table CEAA 2-48-1: Project Interactions and Summaries for each Valued Component and Potential Effect to Mi'kmaq of Nova Scotia (continued)

Valued Component	Summary of Key Mitigation Measures relating to Mi'kmaq of Nova Scotia (refer to individual VC sections for details)	Summary of Residual Effect	Potential Interaction with, and Effect to the Mi'kmaq of Nova Scotia (health and socio-economic conditions, current use, physical and cultural heritage)	Consideration in HHRA
Species at Risk	• Potential indirect impacts to Atlantic salmon to be monitored as part of Aquatic Effects Monitoring Plan (AEMP) • A map of all priority vascular and non-vascular flora will be provided to site personnel during site orientation, and the locations of all priority flora species that will be avoided during Project construction will be clearly flagged in the field. • AMNS will transplant priority vascular species, where deemed reasonable and appropriate in consultation with regulators, that are located within the direct footprint of the Beaver Dam Mine Site infrastructure or Haul Road to nearby areas where suitable habitat is present. • Where avoidance or transplanting is not possible, the Project Team will collect vascular flora SOCI form areas proposed for direct impact for herbarium records or for preservation of seeds in a seed bank through Acadia University. • Wherever avoidance of lichen SAR is not possible, the Project Team will implement the Preliminary Lichen Mitigation and Monitoring Plan (Appendix P.6), developed in consultation with lichen specialists and regulators. • Where avoidance and transplantation is not possible, the Project Team will collect specimens for submission to Frances Anderson or equivalent contact at time of construction (Lichen Specialist, Research Associate, and Nova Scotia Museum). • Impacts to snapping turtles will be reduced by implementing a 30 m buffer on aquatic habitat deemed suitable for snapping turtles, wherever practicable. • Where avoidance of potential turtle hibernation habitat is not possible, construction in these habitats should be limited to the growing season when hibernating turtles are not likely to be impacted (October through April). • AMNS encourages the public to report mainland moose sightings to the province at https://novascotia.ca/natr/wildlife/sustainable/msform.asp. • Implement signage on the Haul Road during operations adjacent to major stream crossings or waterbodies, preferably signage that is installed only seasonally during turtles' active period as drivers are more likely to pay attention to new signs when they are erected prior to nesting season, for example, than if signs remain all year. • Increase dust suppression on roads to improve visibility during nesting season and hatchling emergence. • Assess findings from the Landbird SAR Mitigation and Monitoring Plan and Wildlife Management Plan, and implement adaptive management measure as needed • To avoid nesting activity of the greater yellowlegs, bird deterrents will be implemented within Wetland 64, as this is the only location where probably breading was observed, following best-management-practices used in the mining industry.	Mainland moose (ACCDC S1; NSESA E) tracks were observed surveys within, or in proximity to, the Beaver Dam Mine Site. Snapping turtle (SAR) was observed within the Beaver Dam Mine Site, the Touquoy Mine Site, and the Haul Road. Six SOCI vascular plant species were observed. Three SAR and eight SOCI lichen species were observed. Eight SAR and 17 SOCI avifauna species were observe. Three SOCI fish species were observed. Direct habitat loss is expected as a result of the Project. SOCI vascular plant loss includes one occurrence of southern twayblade. SOCI and SAR lichen loss includes blue felt lichen, salted shell lichen, eastern candlewax lichen, and slender monk's hood lichen.	Mobile species (birds, fish, moose) are expected to occupy adjacent suitable habitat for the eight years that the Project is being developed, operated and completion of active reclamation. The Beaver Dam Mine Site and Haul Road is located in a rural area, with limited development pressures in close proximity to the Beaver Dam Mine Site and Haul Road. This potential change in wildlife patterns, including SAR, may affect the traditional practices of the Mi'kmaq of Nova Scotia in close proximity to the Beaver Dam Mine Site and Haul Road.	No

Table CEAA 2-48-1: Project Interactions and Summaries for each Valued Component and Potential Effect to Mi'kmaq of Nova Scotia (continued)

Valued Component	Summary of Key Mitigation Measures relating to Mi'kmaq of Nova Scotia (refer to individual VC sections for details)	Summary of Residual Effect	Potential Interaction with, and Effect to the Mi'kmaq of Nova Scotia (health and socio-economic conditions, current use, physical and cultural heritage)	Consideration in HHRA
Physical and Cultural Heritage	• If any development is to occur within 100 metres of Crusher Lake, intensified reconnaissance (i.e., shovel testing) should be conducted to identify any additional features. • If any development is to occur specifically around the historic features identified during the 2014, 2015, 2016, 2018 and 2019 reconnaissance, intensified historical research and archaeological shovel testing should be conducted in advance of disturbance. • Any further changes in the layout of the mine and associated facilities be evaluated as to potential impacts to archaeological resources. • In the event that archaeological resources or human remains are encountered during ground disturbance activities, it is required that all activity stop, and the Coordinator of Special Places, Nova Scotia Communities, Culture, & Heritage Department be contacted.	Thirteen sites/areas with elevated archaeological potential were identified with the Beaver Dam Mine Site. Most sites are associated with historical mining activities and Euro-Canadian archaeological resources. Three sites (Areas 1, 2 and 3) were identified as having elevated potential for historic Mi'kmaw archeological resources based on their proximity to a water source and terrain suitable for settlement/encampment. Three sites will be impacted by the Project.: Site 6 is located in an area identified as "Forge Hill". The features are identified as having moderate to high potential for historic Euro-Canadian archaeological resources related to historical mining activities. Areas 2 and 3 are located along the western shore of Cameron Flowage. Area 2 will be impacted by a topsoil stockpile north of the pit, and Area 3 will be impacted by the pit and an adjacent access road. Additional shovel tests were completed in these areas in Fall 2020. No direct or indirect impacts to Mi'kmaq archaeological features are expected.	Identified archaeological sites that will be affected by the Project are not Mi'kmaq resources. Identified areas of Mi'kmaq elevated potential within the Beaver Dam Mine Site for archaeological resources will be avoided. Identified and known Mi'kmaq archaeological features are outside of the proposed development footprint of the Project and thus will not be affected by Project development. Additional shovel tests were completed in Fall 2020. In the event that archaeological deposits or human remains are encountered during construction/operation activities associated with the Beaver Dam Mine Project, all work in the associated area(s) should be halted and immediate contact made with the Nova Scotia Special Places Program, and with the KMKNO Archaeological Division.	No

Source: AMNS 2021.

The Beaver Dam Mine Site and Haul Road will limit access to Millbrook First Nation and other Mi'kmaq of Nova Scotia for a period of eight years. The proposed property extents of the Beaver Dam Mine Site and Haul Road encompasses a 727-ha area, of which 123 ha is Crown land (IR2 response CEAA-2-49, Figure CEAA 2-49-1). IR2 response CEAA-2-49, Figure CEAA 2-49-1 shows the proposed property boundary of the Beaver Dam Mine Site, and the proposed 30 m property boundary on either side of the centre line of the proposed Haul Road. There will be restricted access to this area for eight years to allow for construction, operation and active reclamation of the Project. Outside of this area of restricted access, mitigation measures are proposed, as described in each VC chapter in the Updated 2021 EIS (AMNS 2021), to allow continued access and quality habitat to the Millbrook First Nation community members and other Mi'kmaq of Nova Scotia communities to lands surrounding the Beaver Dam Mine Project to continue traditional practices on the landscape.

As a key proposed mitigation measure, a multi-use bypass road is planned to support Project development (Figure CEAA 2-48-1A through CEAA 2-48-1F). This multi-use bypass road is designed to allow pick-up truck/vehicle traffic and ATV traffic to transverse the length of the upgraded Haul Road without having to interact directly with the haul trucks (Figure CEAA 2-48-1A). This bypass road will allow access for the Mi'kmaq of Nova Scotia and specifically, Millbrook First Nation community members, to lands and lakes used for traditional purposes to the south and north of the Beaver Dam Haul Road between Highway 224 and the Mooseland Road, to the east and west of the Beaver Dam Haul Road between Highway 224 and the Beaver Dam Mine Site, as well as access to the lands north of the Beaver Dam Mine Site. The TLRUS (MFC 2019 – Under Confidential Cover) describes traditional practices near the Beaver Dam Haul Road including fishing, trapping, collection of specialty wood and medicinal plants, berry gathering, and hunting. This proposed mitigation measure (the construction of a parallel bypass road), will allow continued access to these areas for traditional practices during the eight years when the Project is active.

This bypass road, to support continued traditional practices in the lands surrounding the Project, is described in more detail below and shown in detail on Figures CEAA 2-48-1B through CEAA 2-48-1F.

Access from Highway 224 west along the original portion of the Northern Timber haul road will still be available for the Millbrook First Nation and the Mi'kmaq of Nova Scotia. Where the existing Northern Timber haul road joins with the proposed Beaver Dam Haul Road (see Figure CEAA 2-48-1B), there will be a stop sign/crossing location. Haul truck drivers will be trained on locations of crossings/stop signs and will proceed with caution at these crossing locations.

Two crossing locations (with stop signs) are planned where ATV trail Route 320 and ATV trail Route 367 currently join the existing Northern Timber haul road, which is proposed to be upgraded for the Project (Figure CEAA 2-48-1C). The haul trucks will have the right-of-way at these locations. However, truck drivers will slow down to allow crossings when vehicles are visually observed, will be trained on locations of crossings/stop signs, and will proceed with caution at these locations. These two crossing locations will allow community members to exit from the proposed bypass road, cross the Beaver Dam Haul Road, and continue north on ATV trail Route 320 or south on Route 367. These two ATV Routes access lands and lakes to the north and south of the Beaver Dam Haul Road where documented traditional practices occur.

The Beaver Dam Mines Road from Highway 224 to the Beaver Dam Mines Site will be upgraded as part of the proposed Haul Road. Where Route 323 joins with the proposed Haul Road (Figure CEAA 2-48-1D) there will be another stop sign/crossing location. Specifically, this will allow access for Millbrook First Nation and other Mi'kmaq of Nova Scotia communities to the ATV trail Route 323 to the east and west of the Beaver Dam Mines Road. Smaller trails are also present to the west of the Beaver Dam Mines Road and access across the Beaver Dam Haul Road will be possible for ATVs and trucks to reach these trails and areas

west of the Beaver Dam Mines Road to continue their traditional practices. The TLRUS (MFC 2019 – Under Confidential Cover) describes traditional practices in close proximity to the Beaver Dam Haul Road from Highway 224 to the Beaver Dam Mine Site including areas around Kent and Tent Lake, River Lake/West River Sheet Harbour, and areas to the east of the Beaver Dam Mines Road as far east as Lake Mulgrave, including fishing, trapping, collection of specialty wood and medicinal plants, berry gathering, and hunting.

The proposed bypass road will continue around, and to the east of, the Beaver Dam Mine Site to allow access for Millbrook First Nation and other Mi'kmaq of Nova Scotia community members to the north of the mine to join with ATV Route 394, including areas around Como Lake and areas east and west of this lake (Figure CEAA 2-48-1E). This bypass road will allow access to lands and lakes north of the Beaver Dam Mine Site to continue traditional practices. The TLRUS (MFC 2019 – Under Confidential Cover) describes traditional practices north of the Beaver Dam Mine Site around Como Lake and Lake Mulgrave, including fishing, extensive trapping, and hunting.

ATV Route 320 allows access from Highway 224 to the lands to the west of the Beaver Dam Mine Site (Figure CEAA 2-48-1F). To allow Project development, Route 320 will end at the western end of the Beaver Dam Mine Site, where the WRSA is proposed. There is a proposed ATV trail connection to the south of the WRSA to allow access from the western side of the Beaver Dam Mine Site east to the Beaver Dam Mine Road bypass road (Figure CEAA 2-48-1F). AMNS plans to provide permitting and financial support to the local ATV club(s) for this ATV trail. This mitigation measure will allow continued transport from Route 320 west of the Beaver Dam Mine Site to the lands south, east and north of the Beaver Dam Mine Site, to allow Millbrook First Nation and other Mi'kmaq of Nova Scotia community members to continue to access lands around the mine to practice their traditional practices.

On June 2, 2021, AMNS received the Beaver Dam Community Consultation Report (*Community Report*) from Millbrook First Nation (MFN) under confidential cover. AMNS reviewed this report and provided MFN a review and response letter dated June 7, 2021. The purpose of this letter was to respond to the MFN's *Community Report* by updating the AMNS approach, most notably additional mitigation measures and commitments, in an effort to address MFN's concerns. The proposed mitigation measures and commitments made in this letter have been added to the Updated 2021 EIS (AMNS 2021, Section 6.14.8, page 6-825).

Feedback received from MFN relating to proposed mitigations and commitments, are provided herein.

Community Report Findings:

- The proposed AMNS haul road with the addition of a bypass road still hinders harvesting activities and limits harvesting areas. The MFN community does not use the road and trails for recreational use.
- Community members, especially the more senior community members, hunt and gather in close proximity to the haul road itself so the bypass road, while offering access to the broader area, may not address the primary areas where community members hunt and gather.
- The proposed bypass road to allow access to the broader area around the haul road will add to the cumulative total area of land impacted by the Project, which was not preferred by some members of the community.

Based on the conclusions of this Community Report, additional mitigation measures and commitments provided by AMNS are described below:

- It would be beneficial to establish a Community Working Group (CWG) composed of interested members of the MFN community members along with key members from AMNS. An agreed to Terms of Reference for the CWG would be developed. AMNS could meet with the CWG regularly for MFN to present their concerns, AMNS to address concerns and provide updates on the Project as well as determine effectiveness of mitigation and/or if the mitigations require adaptive management. This would provide an opportunity for AMNS to work directly with MFN and to discuss and resolve concerns from the broader community.
- Cultural awareness training. It is recommended that a series of cultural awareness training modules be developed, and training be delivered to AMNS employees. AMNS would like to work with MFN to develop and deliver this training, as soon as possible.
- There may be an opportunity for MFN to discuss water monitoring baseline results with AMNS and the regulator. AMNS would be pleased to discuss water quality data sharing and future water quality monitoring with MFN.
- The proposed bypass roads safeguards both Indigenous and non-Indigenous users of the area and does provide access to areas and additional trails where traditional practices are undertaken as documented by MFN (MFC 2019 – Under Confidential Cover). AMNS proposes that additional discussions with community members be undertaken to gain a better understanding of their concerns, seek guidance on maintenance and operations of bypass roads as well as to identify opportunities to optimize the bypass roads to meet the needs of MFN community members.
- AMNS is proposing to complete the bypass road to also support and safeguard local recreational users.
- AMNS commits to maintaining the smallest possible footprint and based on ongoing engagement will reclaim the bypass roads to the required standard when the Project is completed.
- AMNS commits to seeking guidance from MFN on the maintenance and operations of the bypass including but not limited road safety, access, signage, interactions with AMNS staff and contractors, dispute resolution and wildlife monitoring. This could form part of the CWG Terms of Reference.
- AMNS will develop a plain language summary for human health risk assessment – there is a need to explain how the human health risk assessments are conducted in a manner that is understood by most of the community.
- AMNS will support the development and implementation of a country foods study with MFN community members. This work could be facilitated via the CWG Terms of Reference.
- AMNS will establish a schedule of proposed technical workshops with MFN with the goal to:
  - review water quality predictions and surface water monitoring plans and MFN involvement in these monitoring programs;
  - review human health risk assessment process and conclusions relating to risk to food consumption within indirect impact zones from dust/other contaminants;
  - review dust predictions and proposed mitigation measures and monitoring program with MFN involvement; and
  - review wildlife patterns with MFN, incorporate this traditional knowledge into effects assessment, mitigation measures, and AMNS commitments.

AMNS acknowledges the importance of MFN harvesting activities and that the community members are exercising their inherent rights as the Mi'kmaq of Nova Scotia. AMNS has heard, and is listening to, community concerns about potentially losing their livelihoods and ways of life. AMNS commits to working closely with the Millbrook community to avoid Project impacts, wherever possible, and to continue to evaluate additional mitigation measures (i.e., adaptive management) to reduce Project impacts throughout the life of the Project.

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Prepared For:

Atlantic Gold

FIGURE CEAA 2-48-1A

Primary Mitigation Measure Proposed Bypass Roads

Beaver Dam Mine Site

Beaver Lake IR

Beaver Dam Mine Road

Haul Road

Touquoy Mine Site

Mooseland Road

HWY 224

- Secondary Access Point
- Stop Sign and Crossing Location
- Proposed Trail End
- Haul Road Centerline
- ATVANS Active Trail
- Collector Road
- Local Road
- Seasonal Road
- Diveways (>300 m)
- Track
- Trail
- Streams
- Beaver Lake IR
- Proposed Multi-use Bypass
- Proposed Property Boundary
- Proposed Infrastructure
- Touquoy Infrastructure Layout
- Lakes

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 0.75 1.5 3 Kilometers

1:78,600 Scale when printed @ 11" x 17"

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Reviewed By: LP

Date: 2021-04-28

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Document Name: BD_EIS_Figure6-14-5Primary Mitigation Proposed Bypass

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4990000 4985000 4980000 4975000

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FIGURE CEAA 2-48-1B

Primary Mitigation Measure Proposed Bypass Roads

- Secondary Access Point
- Stop Sign and Crossing Location
- Haul Road Centerline
- ATVANS Active Trail
- Collector Road
- Local Road
- Seasonal Road
- Diveways (>300 m)
- Track
- Trail
- Streams
- Beaver Lake IR
- Wildlife Indirect Environmental Effects Zone
- Limited Firearms Zone
- Proposed Multi-use Bypass
- Proposed Property Boundary
- Lakes

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 0.375 0.75 1.5 Kilometers

1:40,000 Scale when printed @ 11" x 17"

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Reviewed By: MM

Date: 2021-10-05

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Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri

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4985000 4980000

Document Name: BD_EIS_Figure6-14-6B_Primary Mitigation Proposed Bypass

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FIGURE CEAA 2-48-1C

Primary Mitigation Measure Proposed Bypass Roads

Beaver Dam Mine Site

Haul Road

Beaver Lake IR

HWY 224

Beaver Dam Mine Road

320

106

323

394

Grassy Lake

Rocky Brook

Rocky Brook Lake

Rocky Lake

Otter Lake

Lucifer Lake

Lower Beaver Lake

River Lake

Kent Lake

Middle Beaver Lake

Upper Beaver Lake

Curry Lake

Lake Alma

Grassy Lake

Upper Kidney Lake

Lower Kidney Lake

Sandy Pond

Big Pond

Miller Lake

Mink Lake

Southwest Lake

Spectacle Lakes

Brandon Lake

Eagle Nest Basin

Keef Brook

Jingle Lake

Big Stillwater

Muddy Brook

Buck Lake Brook

515000

520000

4985000

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- Stop Sign and Crossing Location
- Haul Road Centerline
- ATVANS Active Trail
- Collector Road
- Local Road
- Seasonal Road
- Diveways (>300 m)
- Track
- Trail
- Streams
- Beaver Lake IR
- Proposed Multi-use Bypass
- Wildlife Indirect Environmental Effects Zone
- Limited Firearms Zone
- Proposed Property Boundary
- Proposed Infrastructure
- Lakes

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 0.2250.45 0.9 Kilometers

1:36,000 Scale when printed @ 11" x 17"

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FIGURE CEAA 2-48-1D

Primary Mitigation Measure Proposed Bypass Roads

- Secondary Access Point
- Stop Sign and Crossing Location
- Proposed Trail End
- Haul Road Centerline
- Proposed Multi-use Bypass
- Beaver Lake IR
- ATVANS Active Trail
- Wildlife Indirect Environmental Effects Zone
- Limited Firearms Zone
- Proposed Infrastructure
- Touquoy Infrastructure Layout
- Proposed Property Boundary
- Lakes
- Streams
- Collector Road
- Local Road
- Seasonal Road
- Diveways (>300 m)
- Track
- Trail

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 0.175 0.35 0.7 Kilometers

1:18,000 Scale when printed @ 11" x 17"

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Reviewed By: MM

Date: 2021-10-05

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Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri

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Document Name: BD_EIS_Figure6-14-6D_Primary Mitigation Proposed Bypass