Appendix 54

Meadowbank and Whale Tail 2018 Regulators inspection reports

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Indigenous and Northern Affairs Canada | Affaires autochtones et du Nord Canada

WATER LICENCE INSPECTION FORM

☒ Original
☐ Follow-Up Report

Licensee	Licensee Representative
Agnico-Eagle Mines Limited	Robin Allard
Licence No. / Expiry	**Representative's Title**
2AM-MEA1525 / July 22nd 2025	Senior Environmental Coordinator
Land / Other Authorizations	**Land / Other Authorizations**
--	--
Date of Inspection	**Inspector**
August 28th to 30th 2018	WRO T.Morton

Activities Inspected

☒ Camp ☐ Drilling ☒ Mining ☐ Construction ☒ Reclamation ☒ Fuel Storage
☒ Roads/Hauling ☒ Other: Water Supply ☐ Other:

SECTION 1 ☒ **Comments (s.1)** ☐ Non-Compliance with Act or Licence (s.__) ☐ Action Required (s.__)

On August 29th, 2018 an inspection was conducted of the Agnico Eagle Mines' ('AEM') Meadowbank Mine site, authorized under water licence no. 2AM-MEA1525. The inspection was completed by Indigenous and Northern Affairs Canada's Water Resource Officer Tim Morton and was conducted to ensure compliance with the above stated water licence and approved management plans.

This report was produced with the findings collected during the inspection.

Observations

1. The hazardous waste laydown area located near the main camp appeared to be well organized and there were no areas of concern identified during the inspection (Photo #1). The waste from the area is typically shipped to various locations throughout southern Canada once a year in June. No open burning takes place at the Meadowbank site which indicates that all waste is either incinerated or shipped offsite. A scheduled shutdown of the powerhouse was occurring at the time of the inspection and only essential areas of the operation were being powered. Therefore, the incinerator was not inspected due to the lack of lighting to the building.
2. The main tank farm consisted of one 4.5 million liter tank that is located within a lined secondary containment bermed structure. The water from the berm is pumped out in the spring and once again in the fall if required. There was a minimal amount of water present within the berm at the time of the inspection (Photo #2).
3. Goose pit remains inactive and has been filling with water for approximately two years. The pit is naturally refilling and there is no estimated timeline on the amount of time needed until the pit reaches its capacity. The water was three benches from the top at the time of the inspection (Photo #3).
4. Active remediation of the 'Tailings Reclaim Pond North Cell' was taking place at the time of the inspection. The south cell was still active with all seeps through the central dyke being pumped back to the south cell through ST-5.
5. The Vault Road area where sediment released into NP-1 Lake was inspected to ensure that no further sediment was reaching the shoreline. The Inspector found hay waddles and sediment curtains installed between the road and the lake shore (Photos #4 & #5). Mr. Allard stated that no snow is pushed in the Vault roads eastern ditch to help limit the amount of sediment that reaches the shoreline during freshet. Three sediment curtains were installed within NP-1 Lake to ensure there is no impact to Dogleg Lake.
6. Vault Pit was active and was connected to Phaser Pit (Photo #6). A road has been constructed between Phaser Pit and Baby Phaser.
7. NP-2 Lake flows through both the East Diversion Ditch and NP-2 East. The water located within ST-16 is pumped to the North Cell.
8. The sewage treatment plant treats an estimated 100 cubic meters of water per day that is produced from the operation of the camp and other facilities. The treated water is sent to the storm water management pond then to the south cell. AEM staff monitors the quality of the discharged water for pH, dissolved oxygen in, dissolved oxygen out, temperature, and turbidity (Photo #7).
9. The fresh water intake barge was located in Third Portage Lake (Photo #8). The water pumps from the barge to camp holding tanks where it either reports to the camp or the processing mill. The water stream that reports to the camp is chlorinated while the mill water is not altered. The barge intake is equipped with a fish screen to ensure that no fish can enter the intake pipe.
10. The South Cell Tailings Pond had a release of approximately 3,000 liters of tailings from the 14" discharge pipe. The discharge was caused by a gasket that wore out between the 14" pipe and the 4" pipe and sent tailings towards the tailings pond (Photo #9). There was no risk to the environment as all of the tailings entered the tailings pond. The Inspector explained to Mr. Allard that the release will need to be reported to the spill line as it was an uncontrolled and unauthorized release. Mr. Allard reported the spill on August 29th 2018 and is documented as spill 2018-353. No further cleanup or action is required by AEM to address this spill.
11. E Pit remains active and has a life of approximately 1.5 years. The water accumulating at the bottom of the pit will not be removed unless it becomes necessary due to the limited timeline of mining left in the pit.
12. The Northwest end of the runway was inspected to follow up with concerns noted during the last inspection by WRO WILSON. AEM staff installed sediment booms on the shoreline and will monitor the area to ensure that no sediment enters Third Portage Lake (Photo #10).
13. The water use for the camp was at 108.67 liters per minute at the time of the inspection and was being pumped from the barge to the mill at a rate of 20.45 cubic meters per hour. At these rates AEM is below the authorized water usage of 9,120,000 cubic meters annually.
14. Environment and Climate Change Canada (ECCC) conducted water sampling at NP-2 Lake. The samples were taken at N 65 02 24.9" W 96 03 17.4" by EO DIDHAM. The water had a pH 6.7, was 10.9C, and 1832 us/cm conductivity at the time of collection. ECCC sampled for the following parameters, total metals preserved with 1ml HNO3 and cyanide preserved with NAOH (Photo #11).

15. Inspector Morton sampled at ST-8 (N 65 01 11.4" W 96 02 32") for the following parameters: TSS, NH3-N, Total Nitrogen, Extractable Hydrocarbons, Total Metals, BTEX, Purgeable HC. All sample bottles were triple rinsed and samples were preserved as required. The water at the time of the inspection had a pH - 6.37 Temp – 10.9 C Conductivity – 918 us/cm. The sample results have not been received and will be reported to AEM once the testing has been completed (Photo #12).
16. The Baker Lake marshalling facility consists of an equipment laydown yard, seacan storage, 18 * 90,000 liter fuel storage tanks, 6 * 10,000,000 liter tanks (Photo #13), and various other infrastructure. The vessel 'Esta Desgagnes' was offloading fuel to the tank farm at the time of the inspection (Photo #14). The vessel can hold approximately 3.5 million liters of fuel and takes anywhere from 20 to 24 hours to offload. Once unloaded, the Esta Desgagnes remains anchored and refilled by a ship to ship transfer. This process is continuously monitored by onsite personnel until the refueling is complete. AEM staff predicted that another shipment of fuel will have to be offloaded in another two weeks.

SECTION 2 ☐ Comments (s.__) ☐ **Non-Compliance with Act or Licence (s.2)** ☒ Action Required (s.__)

The following documents/information was requested by the Inspector:

- *Active life of each remaining pit (Not Received)*
- *Report the tailings spill that occurred near the south cell (Completed, Spill #18-353)*
- *Water meter usage for both the camp and the mill (Received on August 30th 2018)*
- *Keep the Inspector updated with major milestones at the Meadowbank site.*
- *Most recent sample results from ST-40.2 and 40.3 (Not Received)*

SECTION 3 ☐ Comments (s.__) ☐ Non-Compliance with Act or Licence, (s.__) ☐ **Action Required (s.3)**

Licensee or Representative	**Inspector's Name**
	WRO T.Morton
Signature	**Signature**
	Original signed on file
Date	**Date**
	September 14th 2018

Office Use Only: Follow-up report to be issued by Inspector ☐ Yes ☒ No

cc. Erik Allain, Director, Lands Administration, INAC
Manager, Licensing, Nunavut Water Board
Robin Allard, Environmental Coordinator, AEM

Attached: Photo Log, August 29th 2018

PHOTO LOG			
Date:	**Authorization Number:**	**Camera/Model:**	**Inspector**
August 29th, 2018	2AM-MEA1525	Panasonic Lumix DMC-TS5	WRO Morton
Photo No.		**Lat/Long (DD.MM.SS.SS, NAD83)**	
Photo 1			

Description:
Meadowbank Hazardous Waste Laydown Area

PHOTO LOG

Date:	Authorization Number:	Camera/Model:	Inspector
August 29th, 2018	2AM-MEA1525	Panasonic Lumix DMC-TS5	WRO Morton

Photo No.	Lat/Long (DD.MM.SS.SS, NAD83)
Photo 2	

Description:
Minimal water within the main tank farm berm.

PHOTO LOG			
Date:	**Authorization Number:**	**Camera/Model:**	**Inspector**
August 29th, 2018	2AM-MEA1525	Panasonic Lumix DMC-TS5	WRO Morton
Photo No.		**Lat/Long (DD.MM.SS.SS, NAD83)**	
Photo 3			

Description:
Free board remaining in Goose Pit.

PHOTO LOG			
Date:	**Authorization Number:**	**Camera/Model:**	**Inspector**
August 29th, 2018	2AM-MEA1525	Panasonic Lumix DMC-TS5	WRO Morton
Photo No.		**Lat/Long (DD.MM.SS.SS, NAD83)**	
Photo 4			

Description:
Overview of NP-1 Lake shoreline.

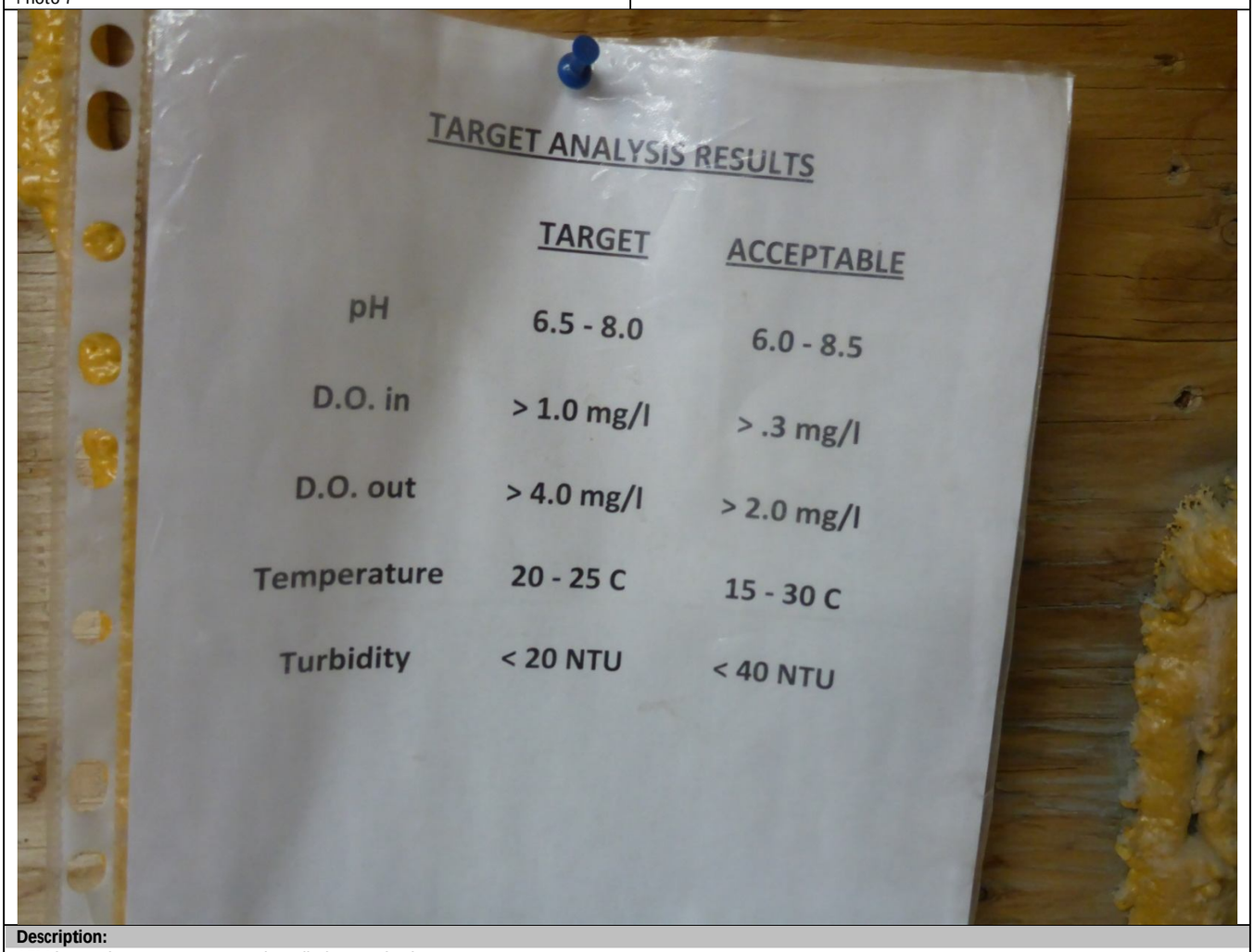
PHOTO LOG			
Date:	**Authorization Number:**	**Camera/Model:**	**Inspector**
August 29th, 2018	2AM-MEA1525	Panasonic Lumix DMC-TS5	WRO Morton
Photo No.		**Lat/Long (DD.MM.SS.SS, NAD83)**	
Photo 5			

Description:
Straw waddles installed between NP-1 Lake and the Vault Road.

PHOTO LOG			
Date:	**Authorization Number:**	**Camera/Model:**	**Inspector**
August 29th, 2018	2AM-MEA1525	Panasonic Lumix DMC-TS5	WRO Morton
Photo No.		**Lat/Long (DD.MM.SS.SS, NAD83)**	
Photo 6			

Description:
Overview of connection between Vault Pit and Phaser Pit.

PHOTO LOG			
Date:	**Authorization Number:**	**Camera/Model:**	**Inspector**
August 29th, 2018	2AM-MEA1525	Panasonic Lumix DMC-TS5	WRO Morton
Photo No.		**Lat/Long (DD.MM.SS.SS, NAD83)**	
Photo 7			



Description:
AEM internal sewage treatment plant discharge criteria.

PHOTO LOG			
Date:	**Authorization Number:**	**Camera/Model:**	**Inspector**
August 29th, 2018	2AM-MEA1525	Panasonic Lumix DMC-TS5	WRO Morton
Photo No.		**Lat/Long (DD.MM.SS.SS, NAD83)**	
Photo 8			

Description:
Overview of the fresh water intake barge located on third portage lake.

PHOTO LOG

Date:	Authorization Number:	Camera/Model:	Inspector
August 29th, 2018	2AM-MEA1525	Panasonic Lumix DMC-TS5	WRO Morton

Photo No.	Lat/Long (DD.MM.SS.SS, NAD83)
Photo 9	

Description:

Gasket that caused the tailings spill reported as 18-353.

PHOTO LOG

Date:	Authorization Number:	Camera/Model:	Inspector
August 29th, 2018	2AM-MEA1525	Panasonic Lumix DMC-TS5	WRO Morton

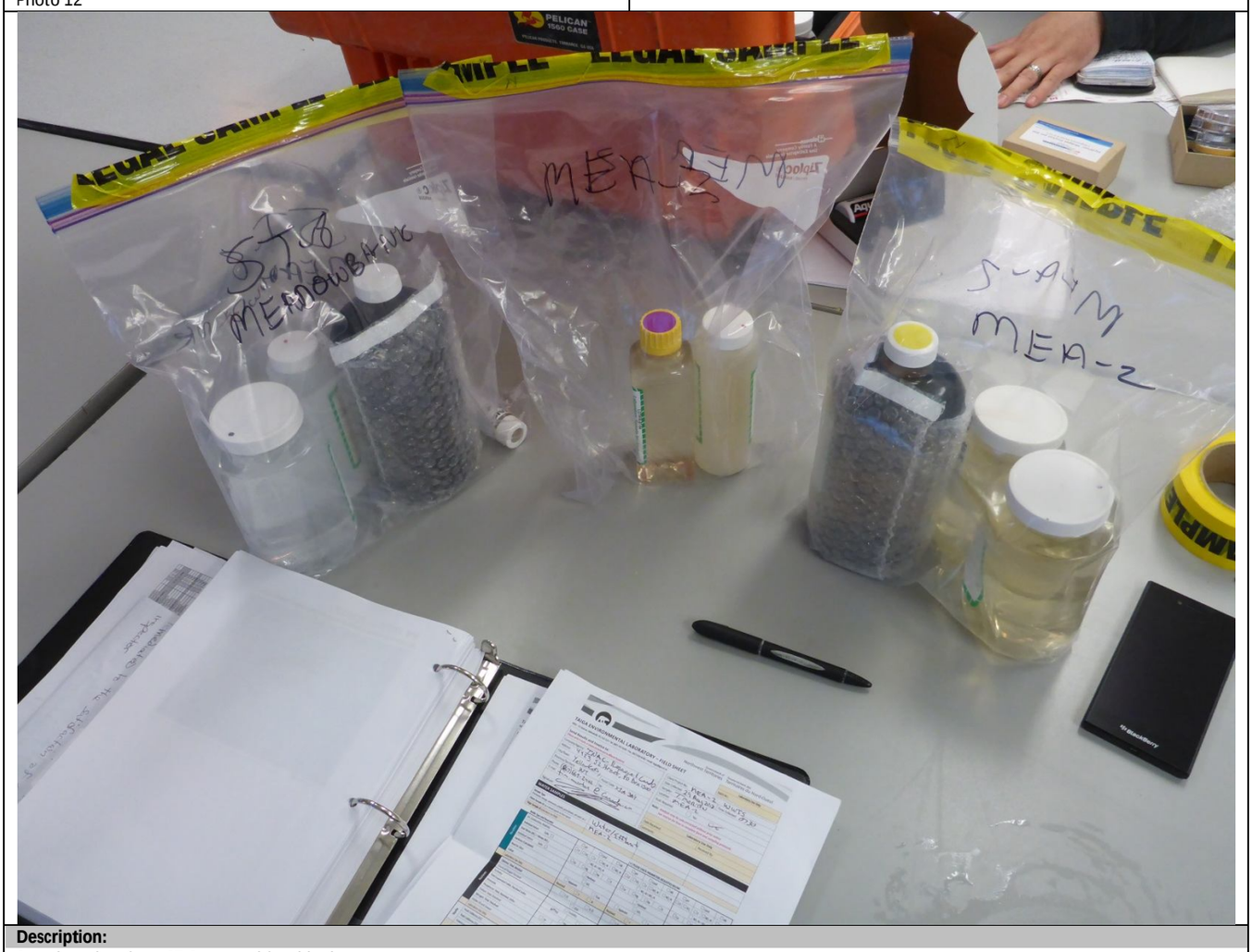
Photo No.	Lat/Long (DD.MM.SS.SS, NAD83)
Photo 10	

Description:
Sediment booms installed at the Northwest end of the runway.

PHOTO LOG			
Date:	**Authorization Number:**	**Camera/Model:**	**Inspector**
August 29th, 2018	2AM-MEA1525	Panasonic Lumix DMC-TS5	WRO Morton
Photo No.		**Lat/Long (DD.MM.SS.SS, NAD83)**	
Photo 11			

Description:
ECCC conducting sampling at the shoreline of NP-2 Lake

PHOTO LOG			
Date:	**Authorization Number:**	**Camera/Model:**	**Inspector**
August 29th, 2018	2AM-MEA1525	Panasonic Lumix DMC-TS5	WRO Morton
Photo No.		**Lat/Long (DD.MM.SS.SS, NAD83)**	
Photo 12			



Description:
Samples taken from ST-8 prepard for shipping.

PHOTO LOG			
Date:	**Authorization Number:**	**Camera/Model:**	**Inspector**
August 29th, 2018	2AM-MEA1525	Panasonic Lumix DMC-TS5	WRO Morton
Photo No.		**Lat/Long (DD.MM.SS.SS, NAD83)**	
Photo 13			

Description:
Overview of the 10,000,000 liter tanks located in Baker Lake.

PHOTO LOG

Date:	Authorization Number:	Camera/Model:	Inspector
August 29th, 2018	2AM-MEA1525	Panasonic Lumix DMC-TS5	WRO Morton

Photo No.	Lat/Long (DD.MM.SS.SS, NAD83)
Photo 14	

Description:
The vessel 'Esta Desgagnes' offloading fuel.

Inspection Report - Water Licence 2AM-WTP1826

Indigenous and Northern Affairs Canada | Affaires autochtones et du Nord Canada

WATER LICENCE INSPECTION FORM

☒ Original
☐ Follow-Up Report

Licensee	Licensee Representative
Agnico-Eagle Mines Limited	Robin Allard
Licence No. / Expiry	**Representative's Title**
2AM-WTP1826 / May 28th 2026	Senior Environmental Coordinator
Land / Other Authorizations	**Land / Other Authorizations**
--	--
Date of Inspection	**Inspector**
August 28th 2018	WRO T.Morton

Activities Inspected

☒ Camp ☐ Drilling ☒ Mining ☒ Construction ☐ Reclamation ☒ Fuel Storage
☒ Roads/Hauling ☒ Other: Water Supply ☐ Other:

SECTION 1 ☒ **Comments (s.1)** ☐ Non-Compliance with Act or Licence (s.__) ☐ Action Required (s.__)

On August 28th 2018 an onsite inspection was conducted of the Agnico Eagle Mines' ('AEM') Whale Tail, authorized under water licence no. 2AM-WTP1826. The inspection was completed by Indigenous and Northern Affairs Canada's Water Resource Officer Tim Morton and was conducted to ensure compliance with the above stated water licence and approved management plans.

This report was produced with the findings collected during the inspection.

Observations

1. The Whale Tail dyke was nearing the end of construction at the time of the inspection (Photo #1 & #2). Turbidity curtains were installed along both sides of the dyke to help contain any sediment that may enter Whale Tail South or Whale Tail North during the construction. The middle of the dyke had TSS impacted water seeping in during the construction, this water was pumped to the water treatment plant.
2. Whale Tail North was being fished out and all fish were relocated to Whale Tail South. Whale Tail North will be used as the sites attenuation pond once the fish out and Whale Tail dyke is completed.
3. Site personnel were constructing the lined area that will contain the Whale Tail powerhouse and associated fuel tanks (Photo #3). The crew was using a geomembrane liner called 'Coletanche'. This liner is designed for temperature as low as -40C and implementation during wind, rain, and cold temperatures. The ES2 elastomeric range of this particular liner is designed for colder climates and will contain any fuel spills during the operation of the powerhouse. The membrane was overlapped by two feet at curves and 9 inches on the straight sections (Photo #4). The construction foreman explained that two feet of crush will be placed on top of the membrane to help protect it from the elements and punctures during the powerhouse construction.
4. Overall, there were no concerns noted with any aspects of the Whale Tail construction and require AEM to inform the Officer of major milestones achieved during the construction of the project.

SECTION 2 ☐ Comments (s.__) ☐ **Non-Compliance with Act or Licence (s.2)** ☐ Action Required (s.__)

-

SECTION 3 ☐ Comments (s.__) ☐ Non-Compliance with Act or Licence, (s.__) ☐ **Action Required (s.3)**

Licensee or Representative	Inspector's Name
	WRO T.Morton
Signature	**Signature**
	Original signed on file
Date	**Date**
	September 28th 2018

Office Use Only: Follow-up report to be issued by Inspector ☐ Yes ☒ No

cc. Erik Allain, Director, Lands Administration, INAC
Manager, Licensing, Nunavut Water Board
Robin Allard, Environmental Coordinator, AEM

Canada

PHOTO LOG			
Date:	**Authorization Number:**	**Camera/Model:**	**Inspector**
August 28th, 2018	2AM-WTP1826	Panasonic Lumix DMC-TS5	WRO Morton
Photo No.		**Lat/Long (DD.MM.SS.SS, NAD83)**	
Photo 1			

Description:
Southwest view of the Whale Tail Dyke.

Indigenous and Northern Affairs Canada | Affaires autochtones et du Nord Canada

PHOTO LOG

Date:	Authorization Number:	Camera/Model:	Inspector
August 28th, 2018	2AM-WTP1826	Panasonic Lumix DMC-TS5	WRO Morton

Photo No.	Lat/Long (DD.MM.SS.SS, NAD83)
Photo 2	

Description:

Northeast view of the Whale Tail dyke.

Canada

Indigenous and Northern Affairs Canada | Affaires autochtones et du Nord Canada

PHOTO LOG

Date:	Authorization Number:	Camera/Model:	Inspector
August 29th, 2018	2AM-WTP1826	Panasonic Lumix DMC-TS5	WRO Morton

Photo No.	Lat/Long (DD.MM.SS.SS, NAD83)
Photo 3	

Description:

Construction of the lined area that will contain the powerhouse and associated fuel.

Canada

Indigenous and Northern Affairs Canada | Affaires autochtones et du Nord Canada

PHOTO LOG

Date:	Authorization Number:	Camera/Model:	Inspector
August 29th, 2018	2AM-WTP1826	Panasonic Lumix DMC-TS5	WRO Morton

Photo No.	Lat/Long (DD.MM.SS.SS, NAD83)
Photo 4	

Description:

Close up of the Coletanche geomembrane used in the construction of the powerhouse secondary containment.

Canada

PHOTO LOG

Date:	Authorization Number:	Camera/Model:	Inspector
August 29th, 2018	2AM-WTP1826	Panasonic Lumix DMC-TS5	WRO Morton

Photo No.	Lat/Long (DD.MM.SS.SS, NAD83)
Photo 5	

Description:

Overview of the construction of the new camp and associated facilities.

Inspection Report - Water Licence 2BB-MEA1828

Indigenous and Northern Affairs Canada | Affaires autochtones et du Nord Canada

WATER LICENCE INSPECTION FORM

☒ Original
☐ Follow-Up Report

Licensee	Licensee Representative
Agnico-Eagle Mines Limited	Robin Allard
Licence No. / Expiry	**Representative's Title**
2BB-MEA1828 / March 6th 2028	Senior Environmental Coordinator
Land / Other Authorizations	**Land / Other Authorizations**
--	--
Date of Inspection	**Inspector**
August 28th to 30th 2018	WRO T.Morton

Activities Inspected

☒ Camp ☒ Drilling ☒ Mining ☐ Construction ☐ Reclamation ☒ Fuel Storage
☒ Roads/Hauling ☒ Other: Water Supply ☐ Other:

SECTION 1 ☒ **Comments (s.1)** ☐ Non-Compliance with Act or Licence (s.__) ☐ Action Required (s.__)

On August 28th & 29th 2018 an onsite inspection was conducted of the Agnico Eagle Mines' ('AEM') Amaruq advanced exploration project, authorized under water licence no. 2BB-MEA1828. The inspection was completed by Indigenous and Northern Affairs Canada's Water Resource Officer Tim Morton and was conducted to ensure compliance with the above stated water licence and approved management plans.

This report was produced with the findings collected during the inspection.

Observations

1. All of the fuel tanks and piping appeared to be in good shape and no hydrocarbon spills were noted near any of the Amaruq tanks (Photo #1).
2. There were some small hydrocarbon/grease stains around the white maintenance building that need to be removed and disposed of in accordance with the approved management plans (Photo #2).
3. AEM has contracted Orbit Garant Drilling to conduct the exploration drilling throughout the Amaruq area. The drilling locations inspected were located within the Amaruq camp area and thus within the mines footprint. The drilling operation used Xtra85 calcium chloride down hole and recirculated the cuttings to minimize water use and waste disposal to the nearby lands. The drills inspected were at least 100 meters set back from any water and no concerns were noted with the cuttings disposal during the inspection (Photos #4 & #5).
4. Water return from the portal reports to water management pond AP5 (Photo #6). The water returning to AP5 contains high levels of chlorides as it originates from the saline plant where it is mixed with ~800 kg of calcium per 3,000 liters of water. This water is pumped from the plant to the underground drills then reports back to AP5. The Inspector was concerned with the possibility of the saline water leaching prior to treatment from AP5 and entering nearby waters. Information regarding the design of AP5 and the pump rate to AP5 were requested during the inspection to help determine if there is any seeping of water.
5. The water treatment plant was not discharging at the time of the inspection. The plant is designed to treat TSS only and has inline turbidity sensors to monitor the water entering and leaving the plant. Signs labeling all discharge points must be obtained and installed throughout the entire site. The discharge location will be moved once the water treatment plant is restarted in the spring.
6. The sewage treatment plant discharges through ST MEA2 and reports to Whale Tail North. The effluent leaves the plant and enters a causeway containing riprap check dams to slow it down before entering Whale Tail North.
7. Water samples were taken at WWTP MEA-2 for the following parameters: TSS, Fecal Coliforms, BOD, Total Metals, and HEM(O&G). The effluent was discharging at a pH of 6.9 at the time of the sampling which is within the licence criteria. The sample results will be shared with AEM once they are received.
8. Spill #18-316 was discussed during the inspection. The impacted soils were removed and shipped to the Meadowbank for disposal.

SECTION 2 ☐ Comments (s.__) ☐ **Non-Compliance with Act or Licence (s.2)** ☐ Action Required (s.__)

SECTION 3 ☐ Comments (s.__) ☐ Non-Compliance with Act or Licence, (s.__) ☐ **Action Required (s.3)**

Licensee or Representative	Inspector's Name
	WRO T.Morton
Signature	**Signature**
	Original signed on file
Date	**Date**
	September 28th 2018

Office Use Only: Follow-up report to be issued by Inspector ☐ Yes ☒ No

Canada

cc. Erik Allain, Director, Lands Administration, INAC
Manager, Licensing, Nunavut Water Board
Robin Allard, Environmental Coordinator, AEM

PHOTO LOG			
Date:	**Authorization Number:**	**Camera/Model:**	**Inspector**
August 28th, 2018	2BB-MEA1828	Panasonic Lumix DMC-TS5	WRO Morton
Photo No.		**Lat/Long (DD.MM.SS.SS, NAD83)**	
Photo 1			

Description:
Fuel storage area located northeast of the Amaruq camp.

PHOTO LOG			
Date:	**Authorization Number:**	**Camera/Model:**	**Inspector**
August 28th, 2018	2BB-MEA1828	Panasonic Lumix DMC-TS5	WRO Morton
Photo No.		**Lat/Long (DD.MM.SS.SS, NAD83)**	
Photo 2			

Description:
Small hydrocarbon staining located near the camp.

PHOTO LOG

Date:	Authorization Number:	Camera/Model:	Inspector
August 29th, 2018	2BB-MEA1828	Panasonic Lumix DMC-TS5	WRO Morton

Photo No.	Lat/Long (DD.MM.SS.SS, NAD83)
Photo 3	

Description:
Overview of the Amaruq camp hazardous waste storage area.

PHOTO LOG

Date:	Authorization Number:	Camera/Model:	Inspector
August 29th, 2018	2BB-MEA1828	Panasonic Lumix DMC-TS5	WRO Morton

Photo No.	Lat/Long (DD.MM.SS.SS, NAD83)
Photo 4	

Description:
Overview of drill located near the Amaruq Camp.

PHOTO LOG

Date:	Authorization Number:	Camera/Model:	Inspector
August 29th, 2018	2BB-MEA1828	Panasonic Lumix DMC-TS5	WRO Morton

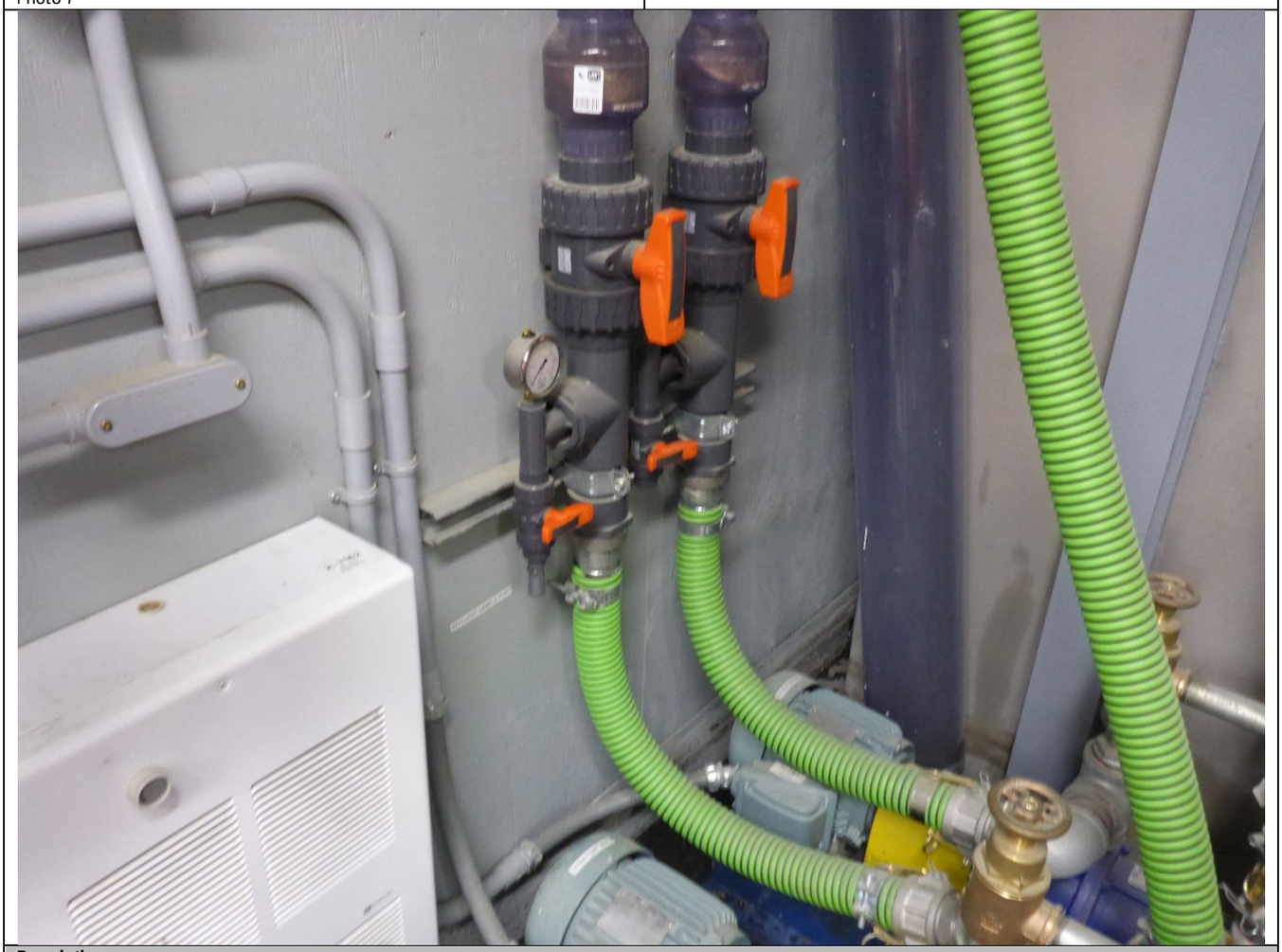
Photo No.	Lat/Long (DD.MM.SS.SS, NAD83)
Photo 5	

Description:
Overview of the area surrounding the exploration drill.

PHOTO LOG			
Date:	**Authorization Number:**	**Camera/Model:**	**Inspector**
August 29th, 2018	2BB-MEA1828	Panasonic Lumix DMC-TS5	WRO Morton
Photo No.		**Lat/Long (DD.MM.SS.SS, NAD83)**	
Photo 6			

Description:
Active flooding of the storm water storage pond (AP-5).

PHOTO LOG			
Date:	**Authorization Number:**	**Camera/Model:**	**Inspector**
August 29th, 2018	2BB-MEA1828	Panasonic Lumix DMC-TS5	WRO Morton
Photo No.		**Lat/Long (DD.MM.SS.SS, NAD83)**	
Photo 7			



Description:
MEA-2 discharge sampling location.

PHOTO LOG

Date:	Authorization Number:	Camera/Model:	Inspector
August 29th, 2018	2BB-MEA1828	Panasonic Lumix DMC-TS5	WRO Morton

Photo No.	Lat/Long (DD.MM.SS.SS, NAD83)
Photo 8	

Description:
MEA-2 samples prepared for shipping.

2017-2018 Annual Monitoring Report

2017 – 2018 Annual Monitoring Report

for Agnico Eagle Mines Ltd.'s
Meadowbank Gold Mine Project [03MN107] &
Whale Tail Pit Project [16MN056]

Nunavut Impact Review Board
File Nos. 03MN107 and 16MN056
November 2018

Report Title:	The Nunavut Impact Review Board's 2017 – 2018 Annual Monitoring Report for the Meadowbank Gold Mine Project (NIRB File No. 03MN107) & Whale Tail Pit Project (NIRB File No. 16MN056)
Projects:	Meadowbank Gold Mine Project (NIRB File No. 03MN107) Whale Tail Pit Project (NIRB File No. 16MN056)
Project Location:	Kivalliq Region, Nunavut
Project Owner:	Agnico Eagle Mines Ltd. P.O. Box 540 Baker Lake, NU X0C 0A0
Monitoring Officer:	Sophia Granchinho, M.Sc., EP
Monitoring Period:	October 2017 – September 2018
Date Issued:	November 7, 2018
Cover photos:	1) Baker Lake Marshalling Facility 2) Meadowbank Gold Mine 3) Haul Truck at Whale Tail 4) Bridge along Amaruq Haul Road

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LIST OF ACRONYMS

Agnico Eagle	Agnico Eagle Mines Ltd.
ARD	Acid Rock Drainage
AWAR	All-weather private access road
CCME	Canadian Council of Ministers of the Environment
CIRNAC	Crown-Indigenous Relations and Northern Affairs Canada
CREMP	Core Receiving Environment Monitoring Program
DFO	Fisheries and Oceans Canada
ECCC	Environment and Climate Change Canada
EEM	Environmental Effects Monitoring
FEIS	Final Environmental Impact Statement
GN	Government of Nunavut
GN-DoE	Government of Nunavut, Department of Environment
HTO	Hunters and Trappers Organization
INAC	Indigenous and Northern Affairs Canada
KIA	Kivalliq Inuit Association
km	kilometre
MMER	Metal Mining Effluent Regulations
ML	million litre
Mt	million tonnes
NIRB	Nunavut Impact Review Board
Nunavut Agreement	*Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada*
NuPPAA	*Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2
NWB	Nunavut Water Board
PEAMP	Post-environmental assessment monitoring program
SEMC	Socio-Economic Monitoring Committee
TSF	Tailings Storage Facility
TSS	Total suspended solids
VEC	Valued Ecosystemic Component

1.0 INTRODUCTION

The Nunavut Impact Review Board (NIRB or Board) was established through Articles 10 and 12 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (*Nunavut Agreement*) and is responsible for the assessment of ecosystemic and socio-economic impacts of projects in the Nunavut Settlement Area pursuant to the *Nunavut Agreement*. The NIRB is responsible for post environmental assessment monitoring of projects in accordance with Part 7 of Article 12 of the *Nunavut Agreement* and s. 135 of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (*NuPPAA*).

The purpose of the NIRB's monitoring program as outlined in Section 12.7.2 of the *Nunavut Agreement* and s. 135(3) of the *NuPPAA* are:

(a) measure the impact of the project on the ecosystemic and socio-economic environments of the designated area;

(b) determine whether the project is carried out in accordance with the terms and conditions imposed under subsection 152(6) or set out in the original or amended project certificate;

(c) provide the information necessary for regulatory authorities to enforce the terms and conditions of licences, permits or other authorizations that they issue in relation to the project; and

(d) assess the accuracy of the predictions contained in the project impact statement.

As such, this report provides findings that resulted from the Board's monitoring programs for the Meadowbank Gold Mine Project from October 2017 to September 2018 and the Whale Tail Pit Project from March 2018 to September 2018.

1.1. PROJECT COMPONENTS

1.1.1. Meadowbank Gold Mine Project

The Meadowbank Gold Project as operated by Agnico Eagle Mines Ltd. (Agnico Eagle or the Proponent) consists of an open pit gold mine located approximately 70 kilometres (km) north of the Hamlet of Baker Lake on Inuit-owned surface lands. The project components include the Meadowbank mine site (main mine site); Vault mine site; marshalling facilities in Baker Lake; and a 110 km all-weather access road (AWAR) connecting the Hamlet of Baker Lake with the Meadowbank mine site. The main mine site is comprised of: camp facilities, mill, waste rock facility, landfill, landfarm remediation site, tailings storage facility and Portage attenuation pond, airstrip, fuel tank farm, airstrip, waste and hazardous materials storage area, incinerator and active mine areas including the Goose pit (mining ended early 2015) and the Portage pits. The Vault mine site consists of a maintenance shop, shelter/refuge facility, waste rock storage facility, water management facilities, and haul roads.

In addition to mining infrastructure and activities, ancillary Project infrastructure is located approximately two (2) km east of the hamlet of Baker Lake and consists of barge unloading facilities, a laydown storage and marshalling area, a 60 million litres (ML) fuel tank farm,

associated interconnecting roads and a 110 km AWAR from the Hamlet of Baker Lake to the Meadowbank mine site. Supplies are shipped from locations within Canada via sealift to Baker Lake where they are offloaded at Agnico Eagle's marshalling area and transported to the Meadowbank site via haul trucks along the 110 km AWAR.

1.1.2. Whale Tail Pit Project

The Whale Tail Pit Project as proposed by Agnico Eagle includes the development of an open pit gold mine located at the Amaruq property. Construction is proposed to take approximately one (1) year beginning in 2018, with operations expected to commence in early 2019 and continuing for three (3) to four (4) years, from 2019 to 2022, followed by closure of the site from approximately 2022 to 2029, ending in post-closure monitoring. Development of the pit is intended to allow for access to an estimated 8.3 million tonnes (Mt) of ore and produce 46.7 Mt of waste rock and 5.8 Mt of overburden.

Ore will be trucked from the Whale Tail site via an approximately 65 km private haul road (referred to in this report as the Amaruq haul road) at a rate of 9,000 to 12,000 tonnes per day to the existing Meadowbank Gold Mine for milling. Approximately 8.3 Mt of tailings produced from the milling process will be stored within the existing Meadowbank Gold Mine's Tailings Storage Facility (TSF).

Infrastructure used for the Whale Tail Pit Project would include Agnico Eagle's existing marine infrastructure to support open-water shipping during the construction phase and annual resupply during operations, with the mine product, doré gold bars, to be flown to market directly from site.

1.2. PROJECT HISTORY AND CURRENT STATUS

On December 30, 2006 pursuant to Section 12.5.12 of the *Nunavut Agreement*, the Nunavut Impact Review Board (NIRB or Board) issued Project Certificate No. 004 for the Meadowbank Gold Mine Project (Meadowbank Project), allowing the Meadowbank Project to proceed in accordance with the Terms and Conditions issued therein. In November 2009, the NIRB formally amended Project Certificate No. 004 to include an amendment to Condition 32 pursuant to *Nunavut Agreement* 12.8.2 and an approval to change the name of the assignee from Cumberland Resources Ltd. to Agnico Eagle Mines Ltd. (NIRB 2009). In August 2016, the NIRB formally amended the Project Certificate No. 004 to include the Vault Pit Expansion Project proposal for the Project (NIRB 2016a).

In March 2018, pursuant to Section 12.5.12 of the *Nunavut Agreement* and s. 111(1) of the *NuPPAA* the NIRB issued Project Certificate No. 008 for the Whale Tail Pit Project (Whale Tail Project), allowing the Whale Tail Project to proceed in accordance with the Terms and Conditions issued therein (NIRB 2018a).

The NIRB Monitoring Officer for the Meadowbank and Whale Tail Projects along with another NIRB staff member conducted a site visit of the two (2) Projects from August 14 to August 16, 2018. Prior to the site visit, the NIRB staff held a community information session in Baker Lake on August 13, 2018 to update, discuss with, and receive feedback from community members on

the NIRB's monitoring program for the Meadowbank Gold Mine project. This site visit report is summarized in Appendix I and the community meeting is summarized in Appendix II.

1.2.1. Meadowbank Gold Mine Project

Table 1 provides a summary of the Meadowbank Project history and current status. To summarize, Agnico Eagle acquired Cumberland Resources Ltd.'s assets which included the Meadowbank Gold Mine in early 2007. Construction of an AWAR from the Hamlet of Baker Lake to the Meadowbank mine site was completed in 2008 and the road opened to mine-related transportation in March 2008. The Meadowbank Gold Mine entered the operations phase of the project in February 2010 and is currently entering its eighth year of operations.

For the 2018 year, Agnico Eagle's mining plan is to continue to operate Portage and Vault pits at the Meadowbank mine site with a total of 12.5 million tonnes (Mt) of rock to be hauled from these two pits during the year. The mine plan consists of moving 10.1 Mt of waste rock and 2.4 Mt of ore from the open pits and 1.0 Mt of ore from the stockpiles. In its 2017 Annual Report (as required by Appendix D), Agnico Eagle indicated that Meadowbank totalled 352,256 ounces of gold and produced 276,853 ounces of silver in the year (Agnico Eagle 2018a). Agnico Eagle further noted that production at the site has been extended into 2019 due to an extension of the mine plan at Vault and Phaser pits in 2018, and the Portage Pit in 2018 and 2019 (Agnico Eagle 2018a). As presented in the 2017 Water Management Report and Plan (Agnico Eagle 2018b), active re-flooding would potentially commence in 2018 for Goose and Portage Pit, and in 2019 for Vault Pit. The first phase of the flooding sequence is planned to be completed in 2025. However, in February 2018 Agnico Eagle submitted a proposal to change the method of tailings disposal for its operations at the approved Meadowbank Gold Mine and Whale Tail Pit Gold Mine from the current practice of placing all tailings within the Meadowbank TSF to also allow future disposal of tailings in three (3) mined-out pits: Portage Pit A, Portage Pit E, and Goose Pit. Following a technical review of the proposal, the NIRB concluded that the proposed amendment to the Meadowbank Gold Mine may proceed to the licensing and permitting regulatory phase with no revisions to the existing Terms and Conditions of Project Certificate No. 004 required (NIRB 2018b).

Table 1: Meadowbank Gold Mine Project History

DATE	ACTIVITY
December 2006	The NIRB issued Meadowbank Project Certificate No. 004 (NIRB 2006a).
June 2007	Agnico Eagle acquired Cumberland Resources Ltd.'s assets (Agnico Eagle 2007).
March 2008	Construction of the AWAR from the Hamlet of Baker Lake to the Meadowbank mine site was completed and the road opened to mine-related transportation.
June 2008	Type "A" Water Licence No. 2AM-MEA0815 issued by the Nunavut Water Board (NWB).
November 2009	The NIRB issued an amendment to the Meadowbank Project Certificate to include an amendment to Condition 32 pursuant to *Nunavut Agreement* 12.8.2 and an approval to change the name of the assignee from Cumberland Resources Ltd. to Agnico Eagle Mines Ltd. (NIRB 2009).
February 2010	Operations of the Meadowbank Gold Mine commenced.

DATE	ACTIVITY
May 2010	Amendment to the water licence issued by NWB to allow for an expansion to the Baker Lake fuel tank farm facility which included two (2) additional 10 ML fuel tanks to a combined total of six (6) 10 ML fuel tanks.
September 2010	The NIRB issued a *Nunavut Agreement* 12.4.4(a) recommendation to the then-Minister of Indian and Northern Affairs indicating that the proposed expansion to the Meadowbank airstrip project could proceed subject to additional project specific terms and conditions. Additionally, the NIRB expanded its Part 7 *Nunavut Agreement* monitoring program for the Meadowbank Project to include the airstrip expansion (NIRB File No. 10XN039).
July 2011	The NIRB issued *Appendix D – Meadowbank Monitoring Program* to Agnico Eagle in accordance with the Project Certificate (NIRB 2011). The Meadowbank monitoring program includes responsibilities for Agnico Eagle, the NIRB, and several Regulatory Authorities and government departments.
January 2013	Agnico Eagle applied to the NWB to amend the site water licence and allow for the expanded airstrip. The request indicated a revision to the original 2010 request (NIRB File No. 10XN039) which substantially reduced the impact to Third Portage Lake and included construction of the expansion during the winter season.
April 2013	The NWB approved the proposed modification to the airport expansion and the airport extension was completed (Agnico Eagle 2014).
July 2014	Agnico Eagle applied to Fisheries and Oceans Canada (DFO) for a *Paragraph 35(2)(b) Fisheries Act Authorization (Normal Circumstances)* to expand its current Vault pit operations into Phaser Lake to access additional gold deposits and defer the operations closure date later in 2017.
June 2015	Dewatering of Vault Pit completed.
April 2015	Mining activities ceased in at Bay-Goose Pit.
August 2016	The NWB granted Agnico Eagle's request to renew and amend the water licence and issued the amended Licence No. 2AM-MEA1525 for a 10-year licence period.
August 2016	Following a technical review and a public hearing, the NIRB formally approved the Vault Pit Expansion and amendment to the Project and issued an amended Meadowbank Gold Mine Project Certificate on August 19, 2016 (NIRB 2016a). Dewatering of the Phaser Lake commences.
October 2016	Dewatering and fish-out program of the Phaser Lake complete (Agnico Eagle 2017a).
December 2017	Agnico Eagle submit application to the Nunavut Planning Commission that included a proposed modification of Agnico Eagle's tailings disposal from the current method (use of current TSF) to an in-pit tailings disposal in Portage Pit A, Portage Pit E and Goose Pit.
August 2018	Following technical review of the proposed modification and reconsideration, the NIRB concluded that the proposed amendment to dispose of tailings into three (3) pits may proceed to the licensing and permitting regulatory phase with no revisions to the existing Terms and Conditions of Project Certificate No. 004 required (NIRB 2018b).

1.2.2. Whale Tail Pit Project

Table 2 provides a summary of the Whale Tail Pit Project history and current status. To summarize, Agnico Eagle submitted information regarding the Whale Tail Pit Project proposal on May 2016 to both the Nunavut Planning Commission and the NIRB. Following a technical

review and a Final Hearing, the NIRB determined that with appropriate mitigation, management and monitoring measures, the Whale Tail Pit Project can be conducted in a manner that protects and promotes the existing and future well-being of the residents and communities of the Nunavut Settlement Area while also adequately protecting the ecosystemic integrity of the Nunavut Settlement Area. On this basis, the NIRB issued Project Certificate No. 008 for the Whale Tail Pit Project on March 15, 2018 following acceptance of the Board's Final Hearing Report and associated recommendations by the then-Minister of Crown Crown-Indigenous Relations and Northern Affairs, and other Responsible Ministers (NIRB 2018a). Following receipt of the Project Certificate, Agnico Eagle applied for its permits and licences and commenced the construction of the Whale Tail Pit Project with the dike across the North and South Basin of Whale Tail Lake starting in July 2018. In addition, the Amaruq haul road expansion was initiated in early June 2018.

Table 2: Whale Tail Pit Project History

DATE	ACTIVITY
March 2018	The NIRB issued Project Certificate No. 008 for the Whale Tail Pit Project (NIRB 2018a).
May 2018	Type "A" Water Licence No. 2AM-WTP1826 issued by the NWB.
June 2018	Expansion of the Amaruq haul road commenced.
July 2018	*Paragraph 35(2)(b) Fisheries Act* Authorization (16-HCAA-00370) issued by the DFO. Construction of Whale Tail dike commenced.
August 2018	Fish-out program of the North Basin of Whale Tail Lake commenced.

2.0 MONITORING ACTIVITIES

2.1. GENERAL REPORTING REQUIREMENTS

2.1.1. Meadowbank Project Certificate No. 004

As per Appendix III, Agnico Eagle demonstrated a general compliance with reporting requirements imposed through commitments resulting from the NIRB's Review of the Meadowbank Project, including those contained in related reports, plans, and the NIRB's Project Certificate No. 004 for the Meadowbank Project. The Proponent has provided the following updated items as required by the terms and conditions contained within the Meadowbank Project Certificate for the current monitoring period of October 2017 through September 2018 as outlined in Table 3.

Table 3: Reports submitted as required under the Meadowbank Gold Mine Project Certificate No. 004

REPORT	SUBMISSION DATE	VERSION	RELATED PERMIT OR LICENCE
Mine Waste Rock and Tailings Management Plan	April 2018	Version 7	1) PC T&C # 15 2) Water Licence 2AM-MEA1525

REPORT	SUBMISSION DATE	VERSION	RELATED PERMIT OR LICENCE
Tailings Storage Facility - Operation, Maintenance and Surveillance Manual	February 2018	Version 8	1) PC T&C #9 2) Water Licence 2AM-MEA1525
Dewatering Dikes - Operation, Maintenance and Surveillance Manual	April 2018	Version 7	Water Licence 2AM-MEA1525
2017 Water Management Report and Plan (Appendix C2) including the Ammonia Management Plan and the Freshet Action Plan	April 2018		1) PC T&C #12 2) Water Licence 2AM-MEA1525
Groundwater Monitoring Plan	April 2018	Version 8	1) PC T&C #8 2) Water Licence 2AM-MEA1525
Oil Handling Facility: Oil Pollution Emergency Plan	May 2017	Version 8	1) PC T&C #44 2) Water Licence 2AM-MEA1525
Emergency Response Plan	January 2018	Version 12	1) PC T&C #44 2) Water Licence 2AM-MEA1525
Terrestrial Ecosystem Management Plan	June 2018	Version 5	PC T&C 54
Noise Monitoring and Abatement Plan	June 2018	Version 3	PC T&C 62

2.1.1.1. **Annual Report as per Project Certificate No. 004 – Appendix D**

Appendix D of Project Certificate No. 004 is designed to provide direction to the Proponent, the NIRB's Monitoring Officer, government departments, and regulatory authorities with regard to the monitoring program established for the project pursuant to Section 12.7 of the *Nunavut Agreement*. Appendix D also outlines the Proponent's responsibilities to establish a monitoring program for the Meadowbank Project, the requirement of the NIRB's Monitoring Officer to support the production and interpretation of various monitoring reports, and also outlines the NIRB's requirements of various authorizing agencies in reporting compliance monitoring activities. As outlined in Appendix D, the Proponent is required to submit an annual report that provides an updated status of the Meadowbank Project operations, an overview of the site and its operation during the reporting period, as well as a discussion of the observations made as a result of, or illustrated through, the monitoring program (NIRB 2011).

On May 5, 2018 the NIRB received Agnico Eagle's *Meadowbank Gold Project 2017 Annual Report* (2017 Annual Report). On May 15, 2018 the NIRB distributed the report to interested parties with a request that they provide comments relating to effects and compliance monitoring as well as other areas of expertise or mandated responsibility. On or before June 22, 2018 the NIRB received comments from the following parties:

- Kivalliq Inuit Association (KIA)
- Government of Nunavut (GN)

- Environment and Climate Change Canada (ECCC)
- Fisheries and Oceans Canada (DFO)
- Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Comments received by parties identified specific areas that may require further attention and/or discussion; these are addressed throughout the remainder of this report and are considered in the recommendations set forth by the Board under separate cover, for subsequent action, attention, or remedial activity by the Proponent.

2.1.2. Whale Tail Pit Project Certificate No. 008

As per Appendix IV, Agnico Eagle demonstrated a general compliance with reporting requirements imposed through commitments resulting from the NIRB's Review of the Whale Tail Project, including those contained in related reports, plans, and the NIRB's Project Certificate No. 008 for the Whale Tail Project. The Proponent has provided the following plans and reports as required by the terms and conditions contained within the Whale Tail Pit Project Certificate for the current monitoring period of March 2018 through September 2018 as outlined in Table 4.

Table 4: Reports submitted as required under the Whale Tail Pit Project Certificate No. 008

REPORT	SUBMISSION DATE	VERSION	RELATED PERMIT OR LICENCE
Air Quality and Monitoring and Management Plan	June 2018	Version 3	PC T&C #1
Greenhouse Gas Emissions Reduction Plan	May 2018	Version 1	PC T&C #3
Noise Monitoring and Abatement Plan	June 2018	Version 3	PC T&C #4 PC T&C #5
Water Management Plan	September 2018	Version 3	1) PC T&C #6 2) Water Licence 2AM-WTP1826
Mine Waste Rock Management Plan	May 2018; September 2018	Version 2 Version 3	1) PC T&C #7 2) Water Licence 2AM-WTP1826
Operational ARD-ML Sampling and Testing Plan, Whale Tail Addendum	June 2018	Version 2	PC T&C #8
Site-Specific Geotechnical Investigations Report	June 2018	n/a	PC T&C #9
Erosion Management Plan	June 2018	Version 1	PC T&C #11
Thermal Monitoring Plan	May 2018	Version 1	PC T&C #14
Groundwater Monitoring Plan	June 2018	Version 1	PC T&C #15 PC T&C #16
Water Quality and Flow Monitoring Plan	May 18, 2018	Version 3	PC T&C #17 & PC T&C #18
Core Receiving Environmental Program – Whale Tail Pit Addendum	May 18, 2018		PC T&C #19

REPORT	SUBMISSION DATE	VERSION	RELATED PERMIT OR LICENCE
Whale Tail Fisheries Habitat Offsetting Plan	May 2018	Version 1	Part of PC T&C #24
Terrestrial Ecosystem Management Plan	June 2018	Version 5	PC T&C 28
Shipping Management Plan	April 2018	Version 2	PC T&C #37 and #40
Analysis of risk of temporary mine closure	September 2018	n/a	PC T&C #47
Staff Schedule	June 2018		PC T&C #48

2.2. COMPLIANCE MONITORING

Compliance monitoring involves an assessment undertaken by regulators and other agencies to establish whether a project is being carried out within the legislation, regulations, instruments, commitments and agreements as such are applicable to certain project activities, and further, is a requirement of the NIRB's Post-Environmental Monitoring Program for each Project Certificate. Appendix III provides the terms and conditions and compliance achievements by Agnico Eagle for the Meadowbank Project under Project Certificate No. 004 while Appendix IV provides the terms and conditions and compliance achievements by Agnico Eagle for the Whale Tail Project under Project Certificate No. 008.

2.2.1. Compliance with the NIRB Screening Decision Reports

2.2.1.1. **Screening Decision Report 11EN010**

One of the recommendations of the NIRB's March 7, 2017 Screening Decision Report for Agnico Eagle's "Amaruq Exploration Access Road – Additional Quarry Amendment" project (File No. 11EN010; now referred to as the "Amaruq" project) is that Agnico Eagle include a summary of activities undertaken within its annual report for the Meadowbank Gold Project (File No. 03MN107). Agnico Eagle included within its 2017 Annual Report a comprehensive report of the activities associated with the "Amaruq" project that occurred in 2017 (Agnico Eagle 2018c).

2.2.2. Compliance with NIRB Project Certificate No. 004 – Meadowbank Project

2.2.2.1. **Proponent's Responses to the Board's 2017 Recommendations**

On November 24, 2017 the Board issued several recommendations to Agnico Eagle as a result of its 2016-2017 monitoring efforts including the 2017 site visit (NIRB 2017). The following provides an overview of Agnico Eagle's responses to the Board's recommendations as provided to the NIRB on January 25, 2018.

a. Spill Management – Condition 26

Recommendation 1: The Board requested that Agnico Eagle provide a written submission explaining the conditions which contributed to increased spills being reported on site for 2016, and describe the measures and training implemented since to address spill prevention and the associated results.

In response to the Board's recommendation, Agnico Eagle noted that it began a Spill Reduction Action Plan with Key Performance Indicators developed to monitor the reported spills. Further, general awareness on spill management and reporting with management and operations were expanded by meeting equipment users and stakeholders.

b. Participation in Surveys – Conditions 51 and 54

Recommendation 2: The Board requested that Agnico Eagle provide a plan on how Agnico Eagle will meet the objectives of both Conditions 51 and 54 moving forward. The plan shall include a clear indication of timelines, next steps in development of the Creel Surveys and the Hunter Harvest Survey (HHS), measures for success and contingency planning. Limitations on the effectiveness of the current studies employed at the Meadowbank Project as well as the feasibility of alternative studies to ensure that a gap in available knowledge is not developing should be clearly highlighted within the submission.

In its response, Agnico Eagle noted that the HHS monitoring program was suspended for two years (2016 and 2017) to allow participants to rest and to develop new approaches and direction. In 2018, Agnico Eagle will be exploring other ways to gather harvest data in consultation with the Baker Lake Hunters and Trappers Organization (HTO), Kivalliq Inuit Association (KIA), Government of Nunavut (GN), and potentially other agencies.

The objectives for the 2018 HHS are:

- Facilitating greater involvement/partnership of the local community, including the HTO;
- Involving the GN Wildlife Officer or a suitable GN representative in the study;
- Increasing Agnico Eagle's community affairs involvement in the study development and unveiling; and
- Ensure consistency and compatibility with the previous HHS

c. Suppression of surface dust – Condition 74

Recommendation 3: The Board reminded Agnico Eagle that Condition 74 applies to the suppression of dust on all surface roads including the all-weather access road (AWAR). As such, Agnico Eagle shall provide a plan of action on how it will meet the objectives of Condition 74 along the AWAR. This plan shall include a clear indication of timelines, next steps and adaptive management measures/contingency planning should Agnico Eagle not meet this condition.

Recommendation 4: The Board requested that Agnico Eagle provide a submission to the NIRB, which describes its assessment of the effectiveness of dust suppression efforts using water to date and demonstrates its consideration for the use of alternative dust suppressants (e.g., TETRA flakes, Dust Stop®, EnviroKleen®) and more frequent application. Limitations on the effectiveness of current dust suppression employed for

the Meadowbank Project as well as the feasibility of alternative dust suppression compounds should be clearly highlighted.

Recommendation 5: The Board requested that Agnico Eagle report on the quality assurance and quality control protocols used to ensure data reliability and proper functioning of the dust monitoring equipment used for the dust sampling program along the all-weather access road.

In response to recommendation #3, Agnico Eagle noted that through consultation in 2016, Agnico Eagle and the Hamlet of Baker Lake identified six locations along the Meadowbank AWAR that are high priorities for dust suppression. Following a pilot study in 2016, Agnico Eagle determined from both visual observations and dustfall monitoring that TetraFlake® was the optimal product for dust suppression along this roadway. As a result, a single application of this dust suppressant was planned for each of the six locations in 2017. However, to provide optimal coverage throughout the driest months, and after consulting with the community, Agnico increased the planned frequency of application, and two applications were made (June 11 and July 22, 2017). Agnico Eagle plans to continue this approach to dust suppression along the AWAR (two summertime applications of an approved chemical dust suppressant in the identified priority locations), pending results of 2017 monitoring. Agnico Eagle noted in its response that this approach is similar to other project sites in Nunavut where chemical suppressants are used in a discontinuous fashion along a long-distance roadway in priority areas only. Furthermore, Agnico Eagle indicated that dustfall and terrestrial monitoring along the Meadowbank AWAR did not exceed FEIS predictions.

Further discussion on the NIRB's conclusions concerning the suppression of surface dust as related to the 2016 – 2017 monitoring period and to Condition 74 is discussed in Section 2.2.2.2. Results of the dust monitoring and terrestrial monitoring completed in 2017 were provided in the 2017 Annual Report and further discussed in Section 2.3.1.3 of this report.

In response to recommendation #4, Agnico Eagle noted that it employs two water trucks to continuously water onsite haul roads, pit areas, and the airstrip (15-30 minutes prior to and immediately after landing). The monitoring data indicated that dust is effectively being controlled onsite and from this data, Agnico Eagle has not considered regular application of alternative dust suppressants.

In response to recommendation #5, Agnico Eagle indicated that the AWAR dustfall sampling methodology differs slightly from methods employed at other sites (e.g., Meadowbank onsite, Meliadine, Mary River Project). Even though the sampling canisters are likely identical across these projects and provided by an accredited laboratory in all cases, sampling along the AWAR is done by placing the canisters at ground level rather than at 2-3 metre height. Agnico Eagle rationalize this methodology to be more effective due to the difficulty of constructing and deploying tall, secure stands to hold the large number of sample containers (84 locations in 2016) in the remote AWAR locations. Further, Agnico Eagle noted that the stations were not designed to be permanent sampling stations. In addition, the original study in 2012 compared dustfall collected at ground level and at two (2) metres (m) height to ensure proper functioning of the dust monitoring equipment (dustfall canister) using this technique. Agnico Eagle indicated that no statistical correlations were found between rates of dustfall on

stands and those on the ground. Therefore, dustfall collection at ground level generally appeared to provide comparable estimates of dustfall to those obtained at two (2) m height (and was more conservative in 3 of 4 cases). Based on these results and the reasons described in guidance documents for mounting dust canisters at 2 – 3 m height, collection at ground level appears to be generally conservative, and was employed in all future AWAR studies by Agnico Eagle.

d. Appendix D and the Annual Report

Recommendation 6: The Board required that Agnico Eagle provide a full discussion and summary on the post-environmental assessment monitoring program for the Project. This must include a discussion that references the baseline and previous years' monitoring data and further indicates whether any trends have been observed at the mine site for each Valued Ecosystem Component where an impact has been observed. The discussion should include whether any identified trends of effects over time are indicating the potential for impacts from or associated with the Meadowbank Project.

In response to the Board's recommendation, Agnico Eagle indicated that a full discussion and summary is already included within the Meadowbank annual report. Agnico Eagle is confident that these discussions reference any potential impacts observed. Further, Agnico Eagle recommended that Agnico Eagle and the NIRB discuss this point further. Finally, Agnico Eagle noted that in addition the annual report is based on an extensive review of our FEIS and associated Terms and Conditions from the environmental assessment.

Further discussion on Agnico Eagle's response and conclusions concerning its PEAMP from the 2017 Annual Report is available in Section 2.3.3.1.

e. Aquatic Environment

Recommendation 7: The Board requires Agnico Eagle to provide a full trend analyses and discussion on the observed project effects on the aquatic environment based on the data collected to date under the Core Receiving Environment Monitoring Program. Further, a clear indication regarding whether any impacts are being observed from the proposal and whether the analyses meet or exceed the predictions made within the Final Environmental Impact Statement must be included. This is required under Appendix D for the post-environmental assessment monitoring program.

Recommendation 8: The Board requests that Agnico Eagle provide a discussion on the apparent mine-related changes observed at the near-field stations, the changes observed over time at these stations since operations commenced, what the cause may be for the changes observed at these stations, and whether Agnico Eagle intends to establish other near-field stations that could be used for baseline/reference conditions.

Recommendation 9: The Board requests that Agnico Eagle provide a discussion and additional evidence to support its contention that the parameters measured at Meadowbank which have been observed to be above the CCME guideline levels are not a serious concern for aquatic life.

In response to recommendation 7, Agnico Eagle noted that trend analysis is done on an annual basis as part of the Core Receiving Environment Monitoring Program (CREMP) program and a historical trend assessment was provided at length in the 2012 CREMP report. Agnico Eagle noted that the CREMP continues to detect changes in some general water quality parameters that appear to be related to mining activity. These changes are also reflected in higher concentrations of some parameters when compared to the model predictions in FEIS. The FEIS water quality predictions are estimates of change water quality in Third Portage Lake, Second Portage Lake, and Wally Lake assuming different mixing scenarios and loading estimates from water releases and dike leaching. Agnico Eagle provided a summary of the trends observed at the different lakes noting that CREMP water quality results are consistent with the "low" significance rating applied to model predictions in the FEIS.

In response to recommendation 8, Agnico Eagle noted that the CREMP program has identified mine-related changes in a number of parameters. The study design for the CREMP is based on the BACI model but integrates the concepts of a gradient approach by including near-field (NF), mid-field (MF) and far-field (FF) stations. Given that the design is working as intended (i.e., identifying subtle mine-related changes), and that adding NF stations would not improve the design, Agnico Eagle noted that there are no plans to add stations at this time. Agnico Eagle further stressed that changes to the design were made after the widespread construction-related changes that occurred during dike construction; an additional reference area (Pipedream Lake) and a far-field area (Tehek Lake) were added to provide better spatial coverage. None of changes detected to date in water quality or sediment quality have translated into adverse changes to aquatic life in the receiving environment.

In response to recommendation 9, Agnico Eagle noted that as discussed in the response to recommendation 7, none of the changes in water quality detected in the 2016 CREMP program exceeded CCME guidelines and, as discussed in recommendation 8, those changes in water quality have not resulted in adverse effects to aquatic life. That said, changes in sediment chromium concentrations exceeding CCME guidelines have been observed at TPE following dike construction. It should be noted that sediment metals concentrations in mineralized regions are often elevated naturally, so exceedances relative to CCME need to be interpreted cautiously. In this case, there was a clear increasing trend in chromium that occurred over a number of years before stabilizing, with the most plausible source being the rock used for the dikes.

2.2.2.2. **Compliance Achievements**

The NIRB notes that Agnico Eagle has demonstrated general compliance with the reporting requirements imposed through the NIRB's Project Certificate No. 004 as previously discussed in Section 2.1.1 and as outlined in Appendix III. However, the NIRB notes that Agnico Eagle is not in full compliance with the following Terms and Conditions of the Meadowbank Project Certificate, and that recommendations from the Board have been provided to the Proponent under separate cover.

a. Spill Management – Condition 26

In review of the annual report and the copies of spill reports submitted to the Government of Nunavut (Agnico Eagle 2018d), it is noted that there was a slight decrease in the number of reportable spills from 2016 to 2017 and this is likely based on the implementation of the Spill Reduction Action Plan. However, the number of spills still remain high. In addition, it is noted that the number of non-reportable spills have increased since 2014. No reason was provided by Agnico Eagle for the continued increase of the non-reportable spills. This concern was brought up by both the KIA and the CIRNAC. Agnico Eagle also acknowledged that there has been an increase in reported spills and noted that it continues to implement the Spill Reduction Action Plan and that mandatory spill training is included in the Meadowbank site induction and that the Environmental Department is working in a collaborative approach to ensure field personnel are reminded consistently on best practices in spill management. In addition, refresher training is being developed at the time of writing of the annual report. However, in review of the 2017 Annual Report, Agnico Eagle does not provide a discussion on the possible reasons for why the number of non-reportable spills continue to rise despite the implementation of the Spill Reduction Action Plan.

b. Placement of local area marine monitors – Condition 36

Condition 36 requires that Agnico Eagle place/hire local area marine mammal monitors onboard all vessels transporting fuel or materials for the Project through Chesterfield Inlet. In review of Appendix J5 of 2017 Annual Report (Agnico Eagle 2018e), only one marine mammal monitor was hired for the period of July 25 to July 28, 2017. In review of Figure 35 of Agnico Eagle's 2017 Annual Report, approximately 36 ships with fuel and goods arrived in Baker Lake from Chesterfield Inlet in 2017. Agnico Eagle did not provide a reason on why marine mammal monitors were not hired for the other ships that were travelling through Chesterfield Inlet.

c. Participation Surveys and Studies as per Condition 51 and Condition 54

It is noted that Condition 51 requires the Proponent to develop, implement, and report on the Creel Surveys within waterbodies affected by the Project while Condition 54 requires the Proponent to conduct a Hunter Harvest Survey (HHS) to determine the effect on ungulate populations from increased access via the all-weather access road (AWAR). In 2016 and 2017, Agnico Eagle suspended the harvest data collection for both the Creel Surveys (creel surveys involved the collection of recorded fish harvested by participants) and the Hunter Harvest Survey (HHS) due to decrease in participation rates. It is encouraging that Agnico Eagle will be working with stakeholders to improve the Creel Surveys and the HHS, however, no information was provided on the next steps for both programs save for an indication that the studies will be implemented in 2018 with the collaborative approach as summarized in the 2017 Annual Report.

This issue of non-compliance was brought up by the Board in 2017 as Agnico Eagle noted that the Hunter Harvest Survey would be implemented during the fall migration of 2017. However, the study was not implemented in 2017 and no reason other than participant fatigue and the overall need for renewal was noted. In response to the Board's 2017 Recommendations, Agnico Eagle noted that it will be exploring other ways to gather harvest data in consultation with stakeholders (see Section 2.2.2.1). This appears to contradict the

information that was provided in the 2017 Annual Report as it gives the impression that Agnico Eagle will not implement the Creel Surveys and the HHS in 2018 as required by Conditions 51 and 54 of Project Certificate No. 004. The NIRB is concerned that at the moment with both the creel and Hunter Harvest Survey surveys not being completed, the NIRB and other agencies are not seeing results and a gap in available knowledge is developing which needs to be addressed. This is important as Agnico Eagle is proposing additional development in the region and plans to be in the region for the long term.

Further, as requested by the Board in its 2017 Recommendations, a plan that that includes a clear indication of timelines, next steps in development of the Creel Surveys and the Hunter Harvest Survey, measures for success, contingency planning and limitations on the effectiveness of the current studies employed at the Meadowbank Project was not provided by Agnico Eagle.

Further discussion on the NIRB's review of these two topics can be found in Section 2.3.1.4.

d. Suppression of surface dust – Condition 74

As noted in previous NIRB annual reports, in review of annual reports and during site visits (see Appendix I for the 2018 site visit report), Agnico Eagle has limited its dust suppression techniques to haul roads at the mine site, between the Meadowbank gatehouse (at the airstrip) and Exploration Camp site, between the Baker Lake marshalling facility and the Baker Lake gatehouse, and the airstrip. Agnico Eagle utilizes calcium chloride at most of the aforementioned sites; however, it uses water on the mine site haul roads (including the Vault road) and the airstrip. Dust suppression has not been applied along the AWAR between Baker Lake and Meadowbank except at five (5) key areas identified to be of concern to the community of Baker Lake. Monitoring results in 2017 indicated that rates of dustfall were effectively reduced in those locations.

In its response to the Board's 2017 recommendations Agnico Eagle noted that six (6) locations were identified to have high priorities for dust suppression. Clarification is required whether it is five (5) or six (6) locations that have been identified along the AWAR as high priorities for dust suppression. In addition, Agnico Eagle maintained that it is meeting Condition 74 and that the approach where chemical suppressants are used in an intermittent fashion along a long-distance roadway in priority areas only is similar to other project sites in Nunavut. No references to the other project sites were provided to be able to compare methodologies.

Apart from continuing the dustfall monitoring along the AWAR and applying dust suppressants along the high priority areas, Agnico Eagle has not indicated any further commitment to apply dust suppressant to the whole AWAR in the future. Condition 74, requires the application of dust suppression measures along all project roads including the AWAR. The Proponent has not fully met the requirements of Condition 74, as dust suppression techniques were not being applied along the AWAR from Baker Lake to the mine site. The NIRB stresses that Condition 74 applies to all mine roads including the AWAR.

2.2.3. Compliance with NIRB's Project Certificate No. 008 – Whale Tail Project

2.2.3.1. **Compliance Achievements**

As the Project Certificate No. 008 for the Whale Tail Pit Project was released in March 2018, annual reporting on the compliance achievements for the terms and conditions under the Project Certificate will be provided for the 2018 – 2019 monitoring period. As noted in Section 2.1.2 and Appendix IV, Agnico Eagle has demonstrated a general compliance with the reporting requirements imposed through the NIRB's Project Certificate No. 008. However, the NIRB notes that Agnico Eagle is not in full compliance with the following Terms and Conditions of the Whale Tail Pit Project Certificate No. 008 and that recommendations have been provided to the Proponent under separate cover.

a. Update to existing Dust Management and Monitoring Plan – Condition 2

As required by Condition 2, Agnico Eagle has not provided the updated Dust Management and Monitoring Plan for the Meadowbank Mine site including verification of commitments made to the utilization of dust suppressants along the all-weather access road, the Amaruq haul road and other roads and trails associated with the Project.

b. Site-specific Permafrost Monitoring, Mapping and Thermal Analysis – Condition 10

Condition 10 requires the Proponent to consult with applicable regulatory agencies to undertake additional site-specific permafrost monitoring mapping and thermal analysis with the results of these studies provided to the NIRB at least 30 days prior to the start of construction of project infrastructure such as the Whale Tail pit, water management structures, mine site and haul roads, waste rock storage facilities, etc. During the 2018 site visit in August, construction of several of the above-mentioned infrastructures has commenced; however, the NIRB has not received any information from the Proponent on the results of the studies as requested. Agnico Eagle did provide a Thermal Monitoring Plan in May 2018 (Agnico Eagle 2018f) which summarized the current permafrost conditions based on data collected up to October 2017. Further, Agnico Eagle provided a copy of a presentation delivered to CIRNAC in July 2018 that covered the hydrogeological model (to meet Condition 6); however, the presentation does not appear to provide the information related to additional site-specific permafrost monitoring mapping and thermal analysis to document permafrost conditions, including season thaw and amount of ground ice (Agnico Eagle 2018g). Further, the presentation does not inform the detailed design of project infrastructure as outlined above. As NRCan was not consulted on this information and the results not provided to the NIRB, it appears that Agnico Eagle has not met the requirements of Condition 10.

c. Viability of flooded South Basin as an effective offset for habitat loss – Condition 24

In review of the Whale Tail Fisheries Habitat Offsetting Plan (Agnico Eagle 2018h) submitted by Agnico Eagle in May 2018, it is not clear if the requirements under Condition 24 have been met. The NIRB would like confirmation from Fisheries and Oceans Canada that the plan as submitted meets the requirements of Condition 24 and whether the concern that the increased surface area of Whale Tail Lake is a viable offset to habitat losses resulting from

the development of the Project and whether Whale Tail end pit would support fish in the post closure scenario has been addressed.

d. Invasive Species Mitigation Plans – Condition 25

Agnico Eagle has not provided an Invasive Species Mitigation Plans, Protocols, Monitoring and Inspection Program as required by Condition 25 to date. This was to be provided to the NIRB for review at least 30 days prior to the first shipment of equipment and supplies to the site. In correspondence received in October 2018, Agnico Eagle indicated that it is working on developing a plan for the 2019 barge season (Agnico Eagle 2018i).

e. Finalized Terms of Reference – Condition 27

Condition 27 requires that Agnico Eagle provide a finalized Terms of Reference (TOR) for the Terrestrial Advisory Group (TAG) to the NIRB within six (6) months of issuance of the Project Certificate. Within the Terrestrial Ecosystem Management Plan (Agnico Eagle 2018j) provided to the NIRB in June 2018, Agnico Eagle noted that it is committed to the establishment of a TAG consisting with the appropriate representatives and that the TOR will be discussed and completed by Q4 of 2018 for the TAG. To date, the finalized TOR has not been provided to the NIRB.

f. Initial Listing of Formal Certificates and Licences – Condition 52

Condition 52 requires that Agnico Eagle develop and maintain an easily referenced listing of formal certificates and licences that may be acquired via on-site training or training during project employment. The initial listing was to be provided to the NIRB within six (6) months of the Project Certificate being issued. To date, no listing of formal certificates and licences have been provided for review. In correspondence received in October 2018, Agnico Eagle indicated that it is working on developing a listing which would be provided by November 2018 (Agnico Eagle 2018i).

g. Occupational Health and Safety Plan – Condition 57

An updated Occupational Health and Safety Plan was to be provided to the NIRB within six (6) months of issuance of the Project Certificate as per Condition 57. To date, no updated plan has been provided. In correspondence received in October 2018, Agnico Eagle indicated that it is working on developing a listing which would be provided by November 2018 (Agnico Eagle 2018i).

2.2.4. Compliance Monitoring by Regulatory Authorities for the Meadowbank Gold Mine Project

On May 5, 2018 the NIRB requested that regulatory authorities with jurisdiction and/or area of expertise for the Meadowbank Gold Mine project provide comments and information with respect to compliance monitoring for the 2017 reporting period as required in Part D of Appendix D of the Meadowbank Project Certificate (NIRB 2011). Specifically, comments were requested regarding the following:

a. Provide a summary of any compliance monitoring and/or site inspections undertaken in association with the Project, including specifically:
    i. Identify the terms and conditions from the Project Certificate which have been incorporated into any permits, certificates, licences or other government approvals issued for the Project, where applicable;
    ii. A summary of any inspections conducted during the 2017 reporting period, and the results of these inspections; and
    iii. A summary of the Proponent's compliance status with regard to authorizations that have been issued for the Project.

The following is a *summary* of the comments received from parties regarding compliance monitoring.

2.2.4.1. **Environment and Climate Change Canada (ECCC)**

Environment and Climate Change Canada (ECCC) reported in its comments on compliance monitoring that an onsite inspection of the Meadowbank and Amaruq projects was conducted in July 2017 to verify compliance under the *Canadian Environmental Protection Act* and the *Fisheries Act*. No non-compliance issues were identified by ECCC during the inspections. ECCC further conducted five (5) report verifications of the 2017 quarterly reports and the annual report for the final discharge points and no compliance issues were identified.

2.2.4.2. **Fisheries and Oceans Canada (DFO)**

Fisheries and Oceans Canada (DFO) stated in its comments that the Proponent currently operates under multiple *Fisheries Act* Authorizations (03- HCAA-CA7-00109, 03-HCAA-CA7-00191: NU-03-0191.3 and NU-03-0191.4, and 14-HCAA-01046) with multiple terms and conditions from the NIRB's Project Certificate No: 004 for the Meadowbank Gold Project incorporated into DFO's *Fisheries Act* Authorizations. DFO further indicated that it did not conduct site inspections during the 2017 monitoring period but acknowledges that Agnico Eagle is currently in compliance with the *Fisheries Act* Authorizations that were issued and for the terms and conditions under the NIRB Project Certificate No.:004. However, DFO noted, following review of the 2017 Annual Report, that Term and Condition 52 of the NIRB's project certificate No.:004 states "Cumberland shall enforce a no-fishing policy for employees while working on the job site" and that Condition 2.6 under Agnico's *Fisheries Act* Authorization NU-03-0191.3 states "The Proponent shall develop and enforce a policy that prohibits fishing on Second Portage Lake and Third Portage Lake and surrounding lakes and streams by individuals on the mine site in a capacity as mine employee, contractor or visitor during all phases of mining activities, unless otherwise agreed to by DFO." DFO noted that it is important to monitor worker fishing in order to demonstrate compliance with both the NIRB term and condition and Agnico Eagle's *Fisheries Act* Authorization.

2.2.4.3. **Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)**

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) noted that it is responsible for inspecting and enforcing terms and conditions contained within water licences issued in Nunavut but noted that the decision to implement the terms and conditions of a project certificate,

from the perspective of inland water management, rests with the NWB. CIRNAC noted that both the Crown Land Lease No. 66A/8-71-2, which was obtained for the development of portions of the all-weather access road, and the Crown Land Lease No. 66A8-72-2, which was obtained to construct quarries on the associated parcels of land located on Crown Land was issued in January 2007. CIRNAC provided a summary of the terms and conditions from Project Certificate No. 004 as an appendix in its letter, which were incorporated into the NWB water licence and the Crown land leases.

CIRNAC further noted that the 2017 Annual Report provided a good overview of Agnico Eagle's socio-economic monitoring initiatives and addresses the Project Certificate Appendix D Meadowbank Monitoring Program requirements. CIRNAC indicated that it participated in the Kivalliq Socio-economic Monitoring Committee and the Working Group to finalize the terms of reference.

With respect to compliance for the socio-economic Project Certificate terms and conditions, CIRNAC noted that the 2017 Annual Report's format does not provide the resolution status of all Project Certificate terms and conditions and commitments and recommended that Agnico Eagle include a table of concordance for Project Certificate terms and conditions, and commitments in future Annual Report submissions. This would facilitate the review of their resolution status.

CIRNAC further noted that as per Term and Condition #65, Agnico Eagle is required to provide data on the community of origin of hired Nunavummiut which was lacking from the 2017 Annual Report.

With respect to Term and Condition #68, CIRNAC noted that it is difficult to ascertain that policies and management plans are being reviewed and modified to incorporate Inuit societal values. CIRNAC recommended that a record of decisions and perhaps a policy on how Inuit societal values are to be adhered throughout mine operations should be included in future annual report submissions.

Contrary to the one (1) inspection as noted by Agnico Eagle in its 2017 Annual Report, CIRNAC's Water Resource Officer (WRO) performed three (3) inspections in May, July and October of 2017. No non-compliance with the Act or Licence was noted for the May and July inspections. However, for the October inspection, the WRO expressed concerns related to non-compliance with the water licence as there was failure to respect effluent quality limits prior to discharge.

Overall, CIRNAC noted that it was generally satisfied with Agnico Eagle's response to concerns raised by CIRNAC's inspectors in 2017 and will continue to work with Agnico Eagle to ensure compliance with all water license requirements associated with the project.

2.2.5. Compliance with Instruments

2.2.5.1. **Compliance with Licenses and Authorizations as Described in the 2016 Annual Report**

Agnico Eagle noted within the annual report that for the 2017 year all water quality results complied with Water License and MMER authorized limits, except for two TSS related results. On May 11th and September 22nd elevated levels of TSS were noted on analytical certificates received from our external laboratory from the ST-8/MMER-3 discharge into SPL. Discharge was immediately stopped, and stakeholders notified of the incident and TSS levels were reported to the GN spill report line.

Results from the incinerator stack testing, incinerator ash testing and waste oil testing complied with the applicable regulatory and guideline criteria.

Further, Agnico Eagle noted that following inspections conducted by ECCC, KIA, CIRNAC, and the GN either no follow-up reports were submitted by the agencies or no non-compliance issues were identified. The only exception was following an inspection conducted by KIA in September 2017 which resulted in a follow-up report outlining outstanding issues with items that will require follow-up in 2018.

2.3. EFFECTS MONITORING

Effects monitoring can be described as an assessment of the measurable change to a particular environmental or socio-economic component, as compared to the potential effects that were predicted to result from a proposed development. In the case of Meadowbank, impact predictions and mitigation measures were outlined and developed throughout the environmental review of the Project and were recorded and presented through the Proponent's Final FEIS and other related documents.

On May 15, 2018 the NIRB also requested that regulatory authorities with jurisdiction and/or area of expertise for the Meadowbank Gold Mine project review Agnico Eagle's 2017 Annual Report and provide comments and information with respect to effects monitoring as required in Part D of Appendix D of the Meadowbank Project Certificate (NIRB 2011). Specifically, comments were requested regarding the following:

a. Whether the conclusions reached by the Proponent in the 2017 Annual Report are valid;
b. Any areas of significance requiring further studies; and
c. Changes to the monitoring program which may be required.

The following section provides the NIRB's review of the 2017 Annual Report and a *summary* of the comments received from parties.

2.3.1. NIRB's Review of Agnico Eagle's 2017 Annual Report for the Meadowbank Gold Mine Project

Appendix D of the Project Certificate No. 004 provides an outline of the requirements for the Proponent's annual report for the Meadowbank Project. Particularly, the annual report should include a summary of the results from the PEAMP, including an analysis of the Project's impact upon the environment with reference to the predictions and environmental and socio-economic indicators referenced throughout the FEIS and the Final Hearing. As part of its Post Environmental Assessment Monitoring Plan (PEAMP), Agnico Eagle provided a summary on how the current environmental and socio-economic effects of the Meadowbank mine site compare to the impacts as predicted in the FEIS for the following:

- Aquatic Environment
- Terrestrial and Wildlife Environment
- Noise
- Air Quality
- Permafrost
- Socio-economic

The NIRB reviewed these items as presented in Agnico Eagle's 2017 Annual Report summarized as follows:

2.3.1.1. **Aquatic Environment**

Agnico Eagle reported in the PEAMP section of the 2017 Annual Report that observed impacts to surface water quantity, surface water quality, and fish and fish habitat measured in 2017 appeared to have been within FEIS predictions, or if not were not expected to result in adverse environmental impacts.

As in previous years, the PEAMP section of the 2017 Annual Report did not provide a discussion on the CREMP or Agnico Eagle programs or any discussion on the changes observed/detected at the aquatic stations. Further, there was no discussion on the changes observed over time at these stations since operations commenced, or what the cause may be for the changes observed at these stations. A year-to-year comparison by Agnico Eagle in its Annual report would assist in the analysis and identification of trends in the data collected for the aquatic environment, specifically for the water quality and sediment quality data. Agnico Eagle concluded in the annual report that since observed impacts to water quantity, water quality, fish and fish habitat measured in 2017 are within the FEIS predictions or are not expected to result in adverse environmental impacts, a trend analyses are not required for any components of the aquatic environment.

In review of the Annual Report, and as noted by regulatory parties, there was an increase in a number of parameters that are exceeding predictions from the year to year since 2012 or trigger exceedances in several parameters for both water quality and sediment chemistry. In response, Agnico Eagle stated that the CREMP continues to detect changes in some general water quality parameters that appear to be related to mining activity or that trends observed in sediment samples are due to natural spatial heterogeneity. Agnico Eagle also noted that these changes were reflected in higher concentrations of some parameters when compared to the model predictions

in FEIS. Agnico Eagle set thresholds and/or triggers at the 95th percentile of baseline data and concluded while that these results represent mine related changes, the observed concentrations are still relatively low and unlikely to adversely affect aquatic life. Further, Agnico Eagle indicated that due to the low likelihood of adverse effects on aquatic life, a discussion was not required on the management actions with respect to trigger exceedances observed in water. Information regarding why Agnico Eagle considers the exceedances of these thresholds "relatively low" and materials to support the statement that Agnico Eagle is "unlikely to adversely affect aquatic life" by linking to the findings from the biotic surveys (i.e., phytoplankton and benthic invertebrate community) conducted in 2017 should be provided. In addition, Agnico Eagle should provide a discussion of management action with respect to trigger exceedances in water, even if the likelihood of adverse effects on aquatic life is low.

Further, similar to KIA's concern, it was noted that the updated water quality model indicated that treatment may be required for aluminum, arsenic, cadmium, chromium, copper, fluoride, iron, nickel, and selenium so that the pit water quality will meet the CCME criteria at mine closure, while silver is no longer anticipated to be a problem at closure due to low loadings in the 2016 mill effluent. This represents a change from the previous annual reports and an explanation should be provided by Agnico Eagle on why there has been an increasing trend in the number of parameters predicted to require treatment at closure.

2.3.1.2. **Noise Quality Monitoring**

In its 2017 Annual Report, Agnico Eagle indicated that the daytime target sound level (55 dBA) was not exceeded during any monitoring event. One night-time value at Station R1 slightly exceeded the target sound level (45 dBA), with a recorded $L_{eq,night}$ value of 46.2 dBA. Agnico Eagle noted that an examination of the data indicated that 1-h L_{eq} values only exceeded 45 dBA in the early morning hours (6 – 7 am), which corresponds to shift change-over on the mine site and generally increased activity levels, and this was similar to what was recorded in previous years. Agnico Eagle stated that overall, since targets were only marginally exceeded on one occasion during peak helicopter season and only by a maximum of 1.2 dB, significant impacts to wildlife beyond impact predictions are not anticipated. Furthermore, regular wildlife monitoring continues to indicate that monitoring thresholds related to sensory disturbance are not being exceeded. No comparison of the data was provided to the FEIS predications for noise levels nor was a trend analyses provided. The NIRB noted that in previous years, measured sound levels exceeded predicted levels only on occasion at station R5; however, no discussion was provided on how this exceedance of the predicated sound levels were resolved.

In addition, in response to the NIRB's recommendation from the 2016 Annual Report, Agnico Eagle committed to evaluating the noise model in the next annual report and predicted impacts within the FEIS would be discussed further. This information was not provided in the 2017 Annual Report.

2.3.1.3. **Air Quality Monitoring**

Dustfall Monitoring along the AWAR

Since 2012 Agnico Eagle has conducted dustfall monitoring to characterize dust deposition rates at various distances from the Meadowbank AWAR in order to determine the potential for impacts to habitat in excess of those predicted in the FEIS. The study also included dustfall measurements along the proposed Amaruq haul road to obtain measurements of background dustfall and to act as a reference for the AWAR. In 2016, Agnico Eagle initiated a dust suppression pilot study along the AWAR, in addition to the regular dustfall monitoring program. This study continued in 2017 and was expanded to assess the dustfall rates in five (5) AWAR dust suppression locations (km 11, 25, 50, 69 and 84) as well as two reference sites without dust suppression (km 18 and 78). The areas as selected were identified in consultation with the community of Baker Lake and noted as important. Agnico Eagle stated that the statistical analysis showed that for all transects with dust suppression, significant reductions in mean fixed dustfall rates occurred up to 150 m from the road, compared to reference sites without dust suppression. Rates of dustfall were comparable to reference sites without dust suppression, and to background rates of dustfall 300 m from the road. Overall, Agnico Eagle noted that the results of the dust sampling program showed that the applied dust suppressant is effectively reducing rates of dustfall for at least 2 months following application (Agnico Eagle 2018k).

Cumulative results to date indicate that without dust suppressant application, average rates of dustfall decline below Alberta Environment's guideline for recreational areas within 100 m of the AWAR. Further, the samples collected at the 300 m or 1000 m distance have been within the range of background values, with average dustfall rates meeting the range of observed background values at 200 m from the road. Agnico Eagle noted that based on these results, it is unlikely that FEIS predictions are being exceeded and that impacts to VECs (vegetation community productivity and wildlife) due to dust are not occurring beyond the smallest assumed zone of influence (100 m). Wildlife monitoring to date has indicated no significant road-related effects, dust monitoring has indicated no trend towards increasing rates of dustfall, and risk assessment has indicated no incremental risk for wildlife from chemical contaminants near the AWAR.

On-site air and dust monitoring

Agnico Eagle reported that there were no apparent trends towards increasing air quality concerns at the Meadowbank site for any measured air quality parameter. Only one (1) out of 47 samples exceeded the Alberta recreational area guideline.

Estimated green house gas emissions for the Meadowbank site were 197,678 tonnes CO_2 equivalent, which is similar to the value obtained in 2015 and 2016.

Incinerator

In its 2017 Annual Report, Agnico Eagle stated that the incinerator was operational throughout 2017 and that the Daily Report Logbook entries cover every month in 2017. Agnico Eagle outlined that approximately 50% of the material incinerated was food waste; the other 50% was dry waste comprised of food containers, cardboard boxes, paper, and absorbent rags. In total, 3,893 cubic metres of waste was burned in the incinerator.

In the review of the available 2017 Incinerator Daily Report Logbook (Agnico Eagle 2018l), the NIRB notes that there were several recorded temperatures below 1000ºC temperature in the secondary chamber (October 3, October 4, November 16 and December 1) with the lowest temperature recorded as 251°C. In its 2017 Annual Report, Agnico Eagle noted that for 2017 there were no recorded temperatures below 1000°C in the secondary chamber and considers that maintenance work conducted at the incinerator between 2014 and 2016 was effective in improving efficiency of the unit. This contradicts the available record and Agnico Eagle should clarify the discrepancies.

Stack testing was conducted by Agnico Eagle in December 2017 by an outside agency and the results from the tests indicated that the application standards for dioxins and furans (PCDD/F) were met for all test. In addition, the mercury level average was below the ECCC guidelines during the stack testing (Agnico Eagle 2018m). Further, to prevent exceedances that were observed in 2014, Agnico Eagle will complete stack testing in 2018 and 2019 as well and return to biennial if all results are below the emission standards.

Finally, Agnico Eagle committed within the 2016 Annual Report that it would revise the Incinerator Management Plan with the operators and continue to stress to employees the importance of good waste segregation. However, this does not appear to have been done as Agnico Eagle notes in the 2017 Annual Report that the Incinerator Waste Management Plan would be updated to reflect the stack testing schedule and an updated plan has not been submitted.

In addition to stack testing, Agnico Eagle conducted ash sampling from the incinerator twice in 2017 instead and the results indicated no exceedance of the Government of Nunavut Environmental Guidelines for Industrial Discharge.

2.3.1.4. **Wildlife Monitoring**

Creel Survey (Condition 51)

In 2016 and 2017, Agnico Eagle suspended the fish harvest data collection as participation rates were decreasing. Considering possible participants fatigue and overall need for renewal, Agnico Eagle stated it intended to draft improved methodology that would involve the stakeholders within the program. Discussions were held to initiate learning based on past experiences and assess the path forward for the Hunter Harvest Survey (HHS), including the Creel Surveys. Agnico Eagle noted that it intends to continue working with the GN, KIA and HTO to ensure a representative number of participants and long-term success of the program. The HHS, including Creel Surveys, would be implemented with the collaborative approach.

Hunter Harvest Survey (Condition 54)

Agnico Eagle stated that after low participation during the first year of the study, methods were strategically adapted, participation increased steadily, and valuable information on harvest patterns in the Baker Lake area was collected for the Hunter Harvest Survey (HHS) from 2007 to 2015; however, declining participant rates in 2014 and 2015, Agnico Eagle predicted due to participant fatigue, led to reconsideration of the HHS approach in 2016. Lower participant rates and reduced data made it increasingly difficult to determine hunting patterns in the Baker Lake area and along the AWAR, and to answer fundamental questions on the effect of the mine on

regional Caribou populations. Therefore, Agnico Eagle suspended the program for 2016 and 2017 and met with stakeholders in 2017 in order to develop a new fully integrated HHS which is anticipated start by the end of 2018.

Thus, moving forward Agnico Eagle intends to continue working with the GN, KIA and HTO to ensure a representative number of participants and long-term success of the program. The HHS would be implemented in 2018 with this collaborative approach and to ensure success in re-starting the HHS, Agnico has contracted a third-party consultant.

2.3.2. Effects Monitoring by Regulatory Authorities

2.3.2.1. **Kivalliq Inuit Association**

Within its submission, the Kivalliq Inuit Association (KIA) noted they are generally satisfied with the information and conclusions presented in the 2017 Meadowbank Annual Report. However, there were several issues outstanding from the review of the 2016 Annual report, e.g., reasons for greater than expected water volumes measured in Vault Pit, ability of lab to reach required detection limits, details on seepage monitoring at the waste rock storage facility and at Bay Goose Dike, changes to parameters predicted to require treatment at closure. KIA's consultant encouraged the KIA to work with Agnico Eagle in order to follow up on shortcomings identified in the reviews as a means to ensure constant improvement in mine performance. The KIA's consultant also recommended a formal procedure through the NIRB to address comments on the Annual Reports to ensure that comments and recommendations are adequately addressed.

With respect to the 2017 Annual Report, numerous sections were identified by the KIA consultant that require additional background information or detail to help clarify and justify statements made. A summary of the comments and recommendations provided are provided in Table 5. KIA's consultant indicated that while the Project appeared to be operating in a way that does not result in undue impact to the receiving environment as per the Project Certificate No. 004 and the water licence, the lack of information in these sections made it difficult to fully evaluate whether all potential impacts of the mine are being adequately monitored. These considerations should be addressed in future annual reports for the Meadowbank Project and its expansions.

Table 5: Kivalliq Inuit Association Comments and Recommendations for Effects Monitoring

Topic	Comment/Concern	Recommendation
General	Reports are cited in the text which are not part of the accompanying appendices.	Provide linkages to source documents or provide copies of reports to agencies.
Amaruq Exploration Access Road *[Amaruq Haul Road]*	Information lacking on what steps were taken to minimize the environmental impacts of drilling for the Amaruq project in 2017.	Provide information on steps taken to minimize environmental impacts.
Amaruq Exploration Access Road *[Amaruq Haul Road]*	Revisions were made to the TEMP following consultation with the GN, however this information was not provided within or summarized within the 2017 Annual Report.	Indicate what changes were made to the TEMP as a result of consultation with GN biologists.

Topic	Comment/Concern	Recommendation
Amaruq Exploration Access Road *[Amaruq Haul Road]*	Agnico Eagle did not provide a summary of Wildlife Monitoring and Mitigation Plan (WMMP) results including the wildlife log, record of observations or any mitigation actions that were undertaken (e.g., number of each type of wildlife encountered, actions taken, and outcome of actions).	Provide a written summary of the log and record of observations and mitigation actions in the text.
Construction or Earthworks: Bay Goose Dike	Mining activity ceased in the Goose Pit in 2015 and some seepage associated with the dike has been observed, however, Agnico Eagle did not indicate its volume or extent. Further, it is not clear from the reports whether or not monitoring of the seepage is occurring as contradictory statements have been provided in the 2017 Annual Report and previous reports.	Clarify whether monitoring of the seepage along the Bay Goose dike is occurring, and if so, with what frequency.
Construction or Earthworks: Stormwater Dike	Agnico Eagle reported that cracks were observed in the foundation of the stormwater dike in the summer of 2016 and that monitoring of the dike's movement has been implemented, and a buttress type structure was constructed at the downstream toe of the dike in 2016. However, new tension cracks and signs of settlements were observed on the crest of the dike again in July 2017 and Agnico Eagle believes that thawing of soft soil below the dike may be responsible for these changes to the structure. From the information provided, it is not clear if Agnico Eagle plans any further action to promote freezing of the thawed foundation at the downstream toe.	Explain what additional mitigation measures, if any, are planned to prevent further cracking and settlement of the dike's foundation due to thawing of the underlying soil.
Construction or Earthworks: Annual Geotechnical Inspection	Recommendations were made by Golder Associates in its Annual Geotechnical Inspection relating to performance of structures throughout the mine site. Agnico Eagle only included recommendations related to the Central Dike in its Annual Report but did not present other recommendations as per Golder's Annual Geotechnical Inspection Report. From this, it is not clear what action Agnico Eagle is taking to address the concerns and recommendations raised by Golder.	Discuss all recommendations made by Golder in Appendix B1 in the main text of the Annual Report, including details on how Agnico Eagle plans to address them.

Topic	Comment/Concern	Recommendation
Water Management Activities: Lake Level Monitoring	Agnico Eagle monitors lake levels during the open water period for Third Portage Lake, Second Portage Lake and Wally Lake. Third Portage Lake has not received discharge from Portage Attenuation Pond since 2014. Second Portage Lake receives water from the East Dike seepage year-round, while water from the Vault Attenuation Pond was discharged into Wally Lake from July 2016 to October 2017. The General Water Movement models for 2017-2029 presented in Appendix C2 did not include Second Portage Lake.	Include Second Portage Lake in the General Water Movement models for the life of the mine.
Water Management Activities: Lake Level Monitoring	Agnico Eagle reported that water levels remained within the range of naturally occurring levels for all three lakes in 2017 and does not see the advantage of comparing the water level to the natural seasonal variation as water levels are only taken in ice free period. KIA emphasized the importance of continuing these comparisons to ensure discharge is not having significant effects on water levels.	Continue to monitor lake levels during the ice-free period in lakes receiving discharge.
Water Balance Water Quality Model Reporting Summary	The updated water quality model indicated that treatment may be required for aluminum, arsenic, cadmium, chromium, copper, fluoride, iron, nickel, and selenium so that the pit water quality will meet the CCME criteria at mine closure. Silver is no longer anticipated to be a problem at closure due to lower loadings in the 2016 mill effluent. This represents a change from the statements made in the 2014 Annual Report (which predicted that only copper and selenium might require treatment), the 2015 Annual Report (which predicted that copper, silver, selenium and total nitrogen might require treatment), and the 2016 Annual Report (which predicted that aluminum, arsenic, chromium, copper, fluoride, iron, silver, and selenium might require treatment). No explanation for the changes to predictions is made in the Annual Report.	1) Explain why there has been an increasing trend in the number of parameters predicted to require treatment at closure. This was also highlighted by KIA in its review of the 2016 Annual Review. 2) Provide more detailed discussion on the reasons for specific parameter exceedances in the Annual Report, by summarizing the information from Section 4.0 of the SNC-Lavalin Meadowbank Water Quality Forecasting Update provided in Appendix C2.

Topic	Comment/Concern	Recommendation
Predicted versus measured water quality and quantity	The volume of water measured in the Portage Pit in 2017 was more than 20% below the volume predicted for 2013 to 2017. The volume of water measured in Goose Pit was more than 20% below the volume predicted for 2012 to 2017, indicating that the contribution of seepage and groundwater sources to the pit is less than originally predicted. The volume of water measured in Vault Pit was more than 20% greater than the volume predicted in 2014 (start of mining) and 2015 (by 120% and 142% respectively). No significant difference was observed in 2016 but in 2017 the volume measured was 363% greater than predicted. Agnico Eagle suggested that this was due to a larger freshet and more rainfall flowing to Vault and Phaser Pits. No weather data were provided to support this conclusion.	Provide possible reasons for the greater than expected water volumes measured in Vault Pit in 2014, 2015 and 2017 and consider these against the reasons for reduced volumes in Portage and Goose Pits. Include a discussion on the implications of these exceedances on water management at Vault Pit.
Predicted versus measured water quality and quantity	Water quality in the three pit sumps (Portage, Goose and Vault) showed similar patterns in 2017 to those in previous years (2012-2016). Most parameters of concern had greater than 20% differences between their measured and predicted concentrations (i.e., in both positive and negative directions) in all pit sumps. Agnico Eagle provided several possible reasons for differences greater than +/- 20% between predicted and measured values and noted that none of the pits are discharged directly to the environment.	1) Provide an explanation on why measured pH in Portage and Goose Pits is higher than expected. 2) Ensure that the accredited laboratory used to analyze pit water quality meets the required detection limits for pertinent comparisons for all future monitoring.
Waste Rock Management Activities: Geochemical Monitoring	Agnico Eagle stated that any PAG or uncertain waste rock material is placed in the middle of the waste rock facility and is surrounded by NPAG material to encapsulate the PAG material. The effectiveness of this abatement measure is then evaluated by monitoring runoff or seepage water. Agnico Eagle reported that no indication of PAG leaching has been observed from runoff water to date; however, the results of the seepage monitoring, nor an explanation of the monitoring frequency were provided. It is not clear what the threshold level of acceptable PAG in runoff or seepage is.	1) Report results of the seepage monitoring to confirm no PAG leaching has occurred at the waste rock storage facility. 2) Provide details on the approach that is used to monitor the waste rock disposal method. In addition, Agnico Eagle should indicate what the threshold level of acceptable PAG runoff or seepage will be and describe available mitigation measures which can be applied if this level is surpassed.

Topic	Comment/Concern	Recommendation
Waste Rock Management Activities: Geochemical Monitoring	Agnico Eagle has recommended in previous annual reports that surface water chemistry sampling at fish-bearing watercourses be discontinued, unless turbidity issues are visually observed. Agnico Eagle indicated that detailed monitoring will be implemented if an erosional issue arises, with, at a minimum, a single water chemistry sample being collected upstream and downstream of the source. KIA is concerned that water quality issues unrelated to turbidity (e.g., PAG leaching) may be missed if regular surface water chemistry sampling does not occur at fish-bearing watercourses.	Recommend that, in addition to monitoring for turbidity yearly, detailed surface water chemistry sampling be conducted every three (3) to five (5) years at fish-bearing watercourses.
Tailings Storage Facility Capacity	The deposition plan model concluded that the total estimated capacity of the TSF North Cell and South Cell is 32.0 million tonnes (Mt). The total capacity of the North Cell is estimated at 18.2 Mt and the total capacity of the South Cell is estimated at 15.0 Mt. The sum of these totals (33.2 Mt) exceeds the combined estimated capacity (32.0 Mt).	1) Clarify the discrepancy between the total estimated capacity and the sum of the individual capacities for the North and South Cells. 2) Report total estimated capacity and remaining estimated capacity of the TSF Cells in the same units.
Tailings Freezeback and Capping Thickness	Information on the number and type of instruments to monitor the various mine structures is reported and monitoring results are presented in figures (and appendices). However, summaries of results in the text are lacking, particularly for Stormwater Dike, Central Dike and Second Portage Lake Arm, East Dike of Portage Pit and Bay-Goose Dike.	Summarize results of instrumentation monitoring (i.e., thermistors and piezometer data) in the text of the Annual Report.
Waste Management Activities	Information provided in the tables for the section regarding waste management activities are missing, are not clear or do not match with the text provided.	Please add information as requested for the tables included in this section in the 2017 Annual Report.
Spill Management	The number of non-reportable spills has shown a steep increase since 2014, including a ~150% increase from 2015 to 2016, and an 18% increase from 2016 to 2017. Agnico Eagle does not discuss possible reasons for why the number of non-reportable spills continue to rise despite implementation of the Spill Reduction Action Plan.	1) Discuss why the number of non-reportable spills continue to increase and what is being done to reverse this trend. 2) Present the number of reportable and non-reportable spills from 2011 to 2017 in table or graph format in the Annual Report.
Spill Management	Agnico Eagle reported that “contaminated soil picked up and disposed of appropriately” for numerous spills but it is not clear what clean-up procedure was followed	Provide more details on the clean-up procedure for spills that resulted in contaminated soil.

Topic	Comment/Concern	Recommendation
Landfarm	Agnico Eagle found a new location for the landfarm (Landfarm 2) to continue treatment of contaminated soil, since the existing landfarm (Landfarm 1) is located on the northwest side of the South Tailings Cell and will eventually be flooded by reclaim water. Landfarm 2 was constructed in 2016, however information on the location of Landfarm 2 is lacking. Further, it is not clear if contaminated soil was added to Landfarm 2 in the remainder of following January 2017.	Provide the location of Landform 2 and indicate whether soil was deposited to Landfarm 2 in February-December 2017.
Landfarm	It is not clear when Landfarm 1 will cease operation, and how the remaining soil there will be managed to avoid exposure to flooding and the generation of unnecessary contact water.	Provide an explanation on when Landfarm 1 will cease operation, and how the remaining soil at the landfarm will be managed to avoid exposure to flooding.
Landfarm	Agnico Eagle stated in the Annual Report that chemical and microbiological analyses of soil samples from the landfarm were analyzed in October 2017; however, it is not clear if it was from both landfarms.	Clarify whether soil samples were analysed from both landfarms.
Landfarm	Agnico Eagle reported within the Annual Report that there was a moderate level of PHC F2 and F3 contamination (i.e., exceedances of CCME guidelines), but no values were provided to evaluate this conclusion. Further, Agnico Eagle stated that soil nitrogen and TOC contents were moderate, but no values were provided. KIA noted concern that the exceedance of CCME guidelines is interpreted as moderate contamination.	Report the levels of PHC F2 and F3, soil nitrogen and TOC contents recorded in soil samples.

Topic	Comment/Concern	Recommendation
CREMP: Water Chemistry	As in previous years, there were several statistically significant mine-related changes relative to baseline/reference conditions at Meadowbank study lakes in 2017, relating to alkalinity, conductivity, hardness, major cations (calcium, potassium, magnesium and sodium), total dissolved solids (TDS) and total Kjeldahl nitrogen (TKN). Since no effects-based thresholds exist for these parameters (such as CCME water quality guidelines), Agnico Eagle set triggers at the 95th percentile of baseline data. Agnico Eagle concluded that "while these results represent mine-related changes, the observed concentrations are still relatively low and unlikely to adversely affect aquatic life".	1) Explain why trigger exceedances are considered "relatively low" and provide support for the statement that they are "unlikely to adversely affect aquatic life" by linking to the findings from the biotic surveys (i.e., phytoplankton and benthic invertebrate community) conducted in 2017. 2) Include Table 3.2-3 from Appendix G1 in the Annual Report, which summarizes water quality parameters with 2017 trigger exceedances, in the Annual Report.
CREMP: Water Chemistry	Agnico Eagle further stated that there were no trigger exceedances for any water quality parameters having CCME guidelines. However, it was noted that in Appendix G1 Table 3.2-1, a number of parameters are listed that have trigger values above CCME threshold guidelines, to reflect site-specific conditions. These parameters should be identified in the text of the Annual Report, and reference should be made to baseline monitoring results to indicate that elevated levels are naturally occurring and not due merely to mine activity.	1) Discuss which water quality parameters were assigned trigger values above their CCME guideline thresholds due to site-specific conditions. 2) Explain (with reference to baseline monitoring data) why these parameters have been assigned site-specific trigger values.

Topic	Comment/Concern	Recommendation
CREMP: Sediment Chemistry	Wally Lake had trigger exceedances in lead, chromium and arsenic in 2017 sediment samples. While lead and chromium were "marginally above their respective trigger values", arsenic was approximately 2.5 times higher than baseline and had increased since the previous coring sample was collected in 2014. Agnico Eagle suggested that this trend may be due to natural spatial heterogeneity but is not affecting benthic richness or abundance according to the 2017 BACI analysis. Agnico Eagle recommended that coring continue in 2018 to determine whether the increasing trend is real or related to spatial heterogeneity, and that a targeted bioavailability study also be conducted to determine potential effects on biotic communities. From the information provided, it is not clear whether Agnico Eagle has established medium and high-level triggers that require additional action if levels of these parameters continue to increase.	1) Explain how additional coring will be used to distinguish between mine related and background variation in arsenic values at Wally Lake. 2) Clarify the potential influence of spatial heterogeneity on variation in arsenic levels. 3) Explain what medium and high-level triggers are in place for these parameters and the associated management actions required should these triggers be exceeded.
CREMP: Sediment Chemistry	Chromium concentrations were measured in Third Portage Lake East Basin as 178-264 mg/kg dry weight. The trigger value for chromium is 135 mg/kg dry weight.	Explain how Agnico Eagle determined that these measured values were "marginally above" the trigger values.
CREMP: Sediment Chemistry	Appendix G1 Table 3.2-9 indicated that CCME guidelines were not used as threshold values for several sediment parameters because of site-specific conditions. These parameters should be identified in the text.	Discuss which sediment chemistry parameters were assigned trigger values above their CCME guideline thresholds due to site-specific conditions.
CREMP: Sediment Chemistry	Appendix G1 Table 3.2-11 shows numerous (most) hydrocarbon and PAH results from sediment grabs as being below the detection limit. This is problematic, especially for parameters whose CCME guideline levels are below the detection limit, such as acenaphthene, acenaphthylene, and dibenz(a,h)anthracene. Agnico Eagle should ensure that laboratory testing is capable of analysing samples with low concentrations so that threshold exceedances can be detected.	Discuss what steps will be taken to improve laboratory testing to address detection limit issues.
MMER and EEM Sampling: Vault Attenuation Pond Discharge	Raw data was provided for the discharge monitoring results for the Vault Attenuation Pond to characterize effluent, but no summary or interpretation of the results were provided in the Annual Report.	Summarize and interpret discharge monitoring results for the Vault Attenuation Pond discharge.

Topic	Comment/Concern	Recommendation
MMER and EEM Sampling: East Dike Discharge	Two episodes of elevated TSS occurred during the 2017 year during discharge from the South and North seepage points resulting in water being redirected to Portage Pit sumps and discharged to Portage Pit once compliant. In each case there was a delay between sampling and response, due in part to waiting for lab results resulting in TSS being discharged into Second Portage Lake before being redirected.	Investigate potential modifications to the discharge system which would avoid or minimize the delay in switching discharge from Second Portage Lake to the Portage Pit sumps in the event of future exceedance events.
MMER and EEM Sampling: EEM Interpretive Report Cycle 2 and EEM Study Design Cycle 3	Transferred fish from Vault Lake in 2014 and from Phaser Lake in 2016 to Wally Lake were tagged but these tags may have since been shed and thus the origin of Lake Trout captured for the Lake Trout population study will be unknown. Agnico Eagle acknowledged that this issue could confound investigation into the effects of Vault discharge on Wally Lake fish, if individuals from different sources have differential responses to the discharge. Agnico Eagle did not, however, discuss how it will address this confounding factor in the study design.	Discuss how fish transfers may affect monitoring results and how this will be addressed.
Mine Site Water Quality and Flow Monitoring (and Evaluation of NP2)	Agnico Eagle is required to present the results and interpretation of the monitoring program under Water License 2AM-MEA 1525 Schedule B-15. Raw data is provided in tables, but the information was not summarized or interpreted in the text. Instead, Agnico Eagle reports for many mine site data that there are "no applicable license limits". KIA noted that it understood that limits may not be applied because water is not directly released to the environment from these sites. However, tracking levels of contaminants year over year is important in the event that seepage occurs (e.g., as occurred from Portage Waste Rock Storage Facility in 2013, which had elevated levels of cyanide, nickel and copper, and was found to have originated from reclaim water from North Cell TSF).	Summarize monitoring results and interpret trends for the Mine Site Water Quality and Flow Monitoring in the Annual Report.

Topic	Comment/Concern	Recommendation
Mine Site Water Quality and Flow Monitoring: Mine Site Water Collection System	In June 2017, elevated TSS was detected in NP1 Lake and reported as a spill. Agnico Eagle implemented a daily TSS monitoring program "until results are satisfying…and compliant with regulation for a period judged acceptable for confirmation that runoff water will not impact the receiving body further". However, no further details were provided, and it is not clear how long elevated TSS conditions persisted, what exceedance level was recorded, nor what period of compliance is deemed "acceptable for confirmation that runoff water will not impact the receiving body further".	Provide additional details about the elevated TSS event at NP1 Lake, including what the exceedance level was, how long TSS was elevated, how it was addressed, and what period of compliance is deemed acceptable.
Mine Site Water Quality and Flow Monitoring: Mill Seepage	Agnico Eagle presented the results of water quality monitoring of seepage in the interception trench, monitoring wells and Third Portage Lake in the Annual Report but the exceedances were not highlighted in the tables. It was noted by KIA that there were several exceedances relating to free cyanide and iron in trench and wells, and copper in Third Portage Lake but was not discussed.	1) Highlight guideline exceedances of parameters in the tables as appropriate. 2) Discuss the implications of the copper exceedance measured in Third Portage Lake.
Air Quality Monitoring: AWAR Monitoring	Agnico Eagle expanded its dustfall sampling along the AWAR in 2017 by studying the effects of dust suppression at five (5) key locations. It was noted that sites with suppression had significant reductions in the mean fixed dustfall rates up to 150 m from the road compared to sites where no suppression was applied. At 300 m beyond the road, dustfall rates were similar between reference and treatment sites. No information was provided on the type of dust suppressants used or the reason why the five (5) locations were selected along the AWAR.	1) Indicate what type of dust suppressant was used along the AWAR. 2) Explain why the five locations receiving dust suppressant were identified as potential areas of concern for dustfall.

Topic	Comment/Concern	Recommendation
Wildlife Monitoring: Habitat	In 2014, the habitat analysis results indicated that the mine site threshold was being approached, as 775.7 ha actual loss was recorded. Agnico Eagle responded by committing to remove material stored in the NPAG extension area and use it for capping the North Cell TSF during closure and reclamation. Agnico Eagle reasoned that this would free up high suitability habitat in the NPAG extension area, making it available again for ungulates following restoration. Agnico Eagle does not report on how much habitat this would restore, nor when it would be fully restored as high suitability habitat.	1) Provide more details on the restoration of the NPAG extension area, including how much habitat would be restored, how it would be restored, and what the status of restoration is. 2) Provide more details on the habitat analysis planned for 2018, including rationale. The 2018 habitat analysis should also be discussed in the Annual Report.
Wildlife and AWAR	For the 2017 year, low numbers of caribou were observed along the AWAR compared to previous years (2007 – 2016) and KIA asked for the potential reason for the much lower numbers seen in 2017.	Discuss possible reasons for the low numbers of caribou observed along the AWAR in 2017 compared to other monitoring years. Investigate whether the decline also occurred in reference areas or is a mine-related effect.
Inspections, Compliance Reports and Non-compliance Issues	Agnico Eagle mentions that several inspections occurred in 2017 by regulatory authorities and these reports were provided in the appendices but no summaries were provided in the Annual Report regarding what issues were raised and how Agnico Eagle addressed them as is required under the Water Licence.	Summarize concerns or deficiencies raised by agency inspections in 2017 and indicate how they were addressed.
Traditional Knowledge, Consultation with Elders and Public Consultation	Agnico Eagle mentioned that traditional knowledge is collected from community meetings and reported annually but information is not provided on how it is reported.	Explain how traditional knowledge gathered at community meetings is reported and used.
PEAMP: Aquatic Environment	A large discrepancy was observed between the predicated average annual discharge to Wally Lake versus the measured amount.	Explain why discharge volume to Wally Lake was 57% higher than predicted in 2017.
PEAMP: Aquatic Environment	No information was provided on how parameters without CCME guidelines are dealt with in predictions for impacts of mine-related activities on the receiving environment and the predicted and observed impacts to fish and fish habitat.	Indicate how parameters without CCME guidelines are incorporated into predicted and observed impacts on water quality and fish and fish habitat.

Topic	Comment/Concern	Recommendation
PEAMP: Terrestrial and Wildlife Environment	Information on the terrestrial ecosystem monitoring program thresholds were not provided for the 2017 year only the 2016 year.	The text should reflect thresholds exceeded in 2017 and the number of exceedances reported should be consistent with those present in Annual Report.
PEAMP: Terrestrial and Wildlife Environment	Information provided on the predicted and measured habitat loss at the mine site and AWAR should be updated to report individual percent losses. Further, the percent exceedance of threshold/prediction for habitat loss and degradation of high suitability habitat for ungulates, small mammals, waterbirds and other breeding birds should be provided for each not just area.	1) Include individual percent loss of habitat values for the mine site and AWAR. 2) Include the percent exceedance of the threshold/prediction for high suitability habitat under the 'Measured Impact' column for ungulates, small mammals, waterbirds and other breeding birds.
PEAMP: Terrestrial and Wildlife Environment	Three large predators (one wolverine and two wolves) were killed at the mine in 2017, which exceeded the one mortality per year threshold for large predatory mammals. Agnico Eagle examined historical trends to evaluate the situation and from the this Agnico Eagle concluded that "based on this data, there is no clear trend towards increasing mortalities of large predatory mammals on the Meadowbank site". However, another way to interpret the data is that there was a steady decline in mortalities on site from 2011 to 2016, followed by an increase again in 2017, which warrants further investigation into what occurred in 2017.	Discuss possible reasons for an increase in large predatory mammal mortality on site in 2017 and describe what steps are being taken to avoid further threshold exceedances.
PEAMP: Terrestrial and Wildlife Environment	Agnico Eagle stated that "to determine appropriate management actions for exceedances of impact predictions related to habitat disturbance areas, further habitat analyses are planned for 2018". KIA questioned the necessity of further analyses.	Explain the nature of habitat analyses planned for 2018 and provide a rationale for them. These analyses should focus on determining the best options to mitigate the larger than predicted habitat loss that has occurred on the mine site to date, as well as steps that can be taken to avoid further habitat loss.

2.3.2.2. **Government of Nunavut**

Within its submission on Agnico Eagle's 2017 Annual Report, the GN provided comments and recommendations on the following items as outlined in

Table 6: Government of Nunavut Comments and Recommendations for Effects Monitoring

Topic	Comment/Concern	Recommendation
Wildlife Habitat Loss	Habitat loss poses a risk to grazing species such as caribou and muskox in Nunavut. Both of these species are important both economically and culturally to Nunavummiut.	Conduct an inclusive habitat analysis at the earliest possible date and, in coordination with the GN, develop and implement specific adaptive management measures relating to the exceedances of habitat loss at the Project site.
All-Weather Access Road Ground Surveys	It is essential to the validity of survey results that adequate observation be undertaken during the AWAR road survey. If the driver is being utilized as an observer, observational power will be weighted towards the passenger side of the road and there will exist the potential for missed observations along the driver's side of the road.	1) Survey design should be updated to include two dedicated observers to ensure that each side of the road is observed with an adequate and equal amount of attention. 2) The implementation of another monitoring method in addition to the road surveys is recommended. This would allow the Proponent to detect if caribou are being disturbed by the AWAR before they are within sight of the road observer. The Proponent should work in collaboration with the Department of Environmental regional caribou biologist to devise and implement additional monitoring methods.
Caribou Monitoring and Project Interaction	Caribou are a key species in Nunavut ecologically, economically, and culturally. The accurate reporting of caribou movements by project proponents is essential to the continued sustainable management of caribou in Nunavut.	Update the Wildlife Monitoring Summary Report to reflect the movement of collared caribou across and around the Project RSA during the spring migration period.
Dustfall Monitoring	Accurate measures of air quality are required for monitoring Project effects. Dust deposition has the potential to damage vegetation through both mechanical damage and through smothering. Dust deposition also has the capacity to impact caribou forage (Chen *et al*., 2017). Caribou are present seasonally within the Project area and footprint. An accurate measure of a loss of forage is therefore necessary to determine potential Project effects on caribou.	1) Update the dustfall monitoring plan to include the measured parameters of TSP, PM_{10}, $PM_{2.5}$, and NO_2 at sampling stations DF-3 and DF-4. 2) Add additional air quality station in the vicinity of the project and along the Vault Pit haul road to ensure adequate monitoring of Project related dust generation.

Topic	Comment/Concern	Recommendation
Acoustic Environment	Noise effects on wildlife have to be monitored and assessed to ensure proper implementation of noise mitigation measures. Accurate identification of impacts and presentation of the results determines compliance with Project Certificate terms 62 and 85: "[d]evelop and implement a noise abatement plan to protect wildlife from significant mine activity noise, including blasting, drilling, equipment, vehicles and aircraft)" and ("[d]evelop a detailed blasting program to minimize the effects of blasting on fish and fish habitat, water quality, and wildlife and terrestrial VECs"). This will also support implementation of the Terrestrial Ecosystem Management Plan Version 5 (June 2018).	1) Provide a rationale for location selection of the receptors for noise monitoring; and 2) Include within the Annual Report a discussion on noise effects on wildlife, including vibration and blasting noise.
Wildlife Interactions and Mortalities	Predatory mammals - in addition to being important furbearers for the Nunavut economy - represent a threat to the health and safety of project personnel. Every attempt should be made regarding adequate monitoring and deterrence methods to ensure the safety of both wildlife and Project personnel. Rapid alerting of personnel to the presence of wildlife is integral to human and animal safety and all measures to alert site personnel quickly should be taken. Accurate tallying of wildlife mortality with details of demographic parameters including sex is integral to analyzing Project effects. Where the cause of mortalities can only be assumed, a cause of death should be listed as "undetermined".	1) Update the predatory mammal deterrence protocols to include the immediate issuance of a site alert to personnel when carnivores are sighted in and around the project area. 2) Amend Appendix C of the Wildlife Monitoring Summary Report, Wildlife Mortality Report to include the sex of deceased animals. 3) Revise the wildlife incident report as the cause for the December 1, 2017 incident should be 'undetermined

Topic	Comment/Concern	Recommendation
Monitoring of Wolverine	Predatory mammals are susceptible to loss of denning habitat, and sensory disturbance associated with project construction and operation. Predatory mammals are also prone to attraction to project sites through human waste and strange smells associated with project activities. As required by the Project Certificate Term and Condition No. 54, the Proponent shall provide "statistical validation to support the conclusions drawn from monitoring impacts of the mine and infrastructure on wildlife".	1) Given the high occurrence of wolverines at the mine sites, surveys on wolverine distribution and habitat use should be conducted, in order to properly assess the impact to local population for the required mitigation and monitoring needs; 2) Reassess the mitigation measures pertaining to prevention of wildlife attraction on and around the Project site; 3) Conduct a survey to identify wolverine habitat in the Project area that may be directly or indirectly (sensory disturbance) affected by mine activities; 4) Develop a response plan when a wolverine den site is detected within 1 km of Project activity to ensure no significant effects on this valued ecosystem component; and 5) Provide "statistical validation to support the conclusions drawn from monitoring impacts of the mine and infrastructure on wildlife" as it applies to wolverine.
Impact to Health Services	The Annual Report provided that between 14 and 58 employees were referred to health centres in Baker Lake, Rankin Inlet, and Arviat. The referrals do not indicate if the person's employment at the mine caused the referral. Complete data are required to determine the true impacts these referrals have on the relevant health centres.	Collect additional data when employees visit the on-site clinics and receive referrals for community health centres. If employees consent, the collection of information could include whether the referral is for a mine-related health issue or otherwise. If employees consented to such collection, additional information could also include: communicable disease reporting and/or testing; mine-related clinic visits; health plan utilization reports; and the number of referrals and consultations with the Department of Health. The information would provide a more complete assessment of positive and negative impacts to health services.

Topic	Comment/Concern	Recommendation
Economic Security and Wellbeing	Turnover rate alone does not appear to fulsomely address questions about economic security. In addition to turnover rates, an analysis prefaced on the length of services of Inuit employees would provide more complete data to address issues related to social assistance and economic security.	Include average lengths of service for Inuit employees in future annual reports as a more accurate reflection of economic security.

2.3.2.3. Environment and Climate Change Canada

ECCC had no comments to provide with respect to the effects monitoring.

2.3.2.4. Fisheries and Oceans Canada

In review of the 2017 annual report, DFO commented on Agnico Eagle's conclusions regarding the 2017 Blast Monitoring Report indicating it cannot confirm the validity of Agnico Eagle's conclusion that additional studies may not be necessary to confirm low peak particle velocity (PPV) at spawning and incubation sites and recommended that Agnico Eagle continue to record PPV and overpressure monitoring data during blasting activities.

With respect to the monitoring program, DFO noted no changes are required at this time.

2.3.2.5. Crown-Indigenous Relations and Northern Affairs Canada

In review of the annual report, CIRNAC provided comments and recommendations based on their mandate which is provided in Table as a summary.

Table 7: Crown-Indigenous Relations and Northern Affairs Canada Comments and Recommendations for Effects Monitoring

Topic	Comment/Concern	Recommendation
General	CIRNAC noted that in their previous reviews of the Annual Reports (2015 and 2016), it was sometimes difficult to ascertain the status of activities proposed by Agnico Eagle and to track the implementation of recommendations made by regulators within the Annual Report and/or supporting documents. This recommendation was not carried forward to the 2017 Annual Report.	Develop a table to track proposed activities and recommendations presented within the Annual Report and supplementary documentation appended to the Annual Report. Such a table would help to ensure the follow-up of potential issues, such as information regarding whether a recommendation was adopted, how it was implemented and/or the rationale as to why a recommendation was not considered.

Topic	Comment/Concern	Recommendation
General	In some cases where commitments were made to update documents "at least once a year" (e.g., the Emergency Response Plan) have not been fully adhered to.	Ensure that all documents are updated on a timely basis.
Quarries	The annual report does not present historical petroleum hydrocarbon (PHC) degradation data and trends to support Agnico Eagle's assertion that "[b]ased on the degradation history of PHC's in the Meadowbank Landfarm and upon results from the 2014 and 2016 Q22 soil sampling, Agnico Eagle is confident that the natural degradation of Petroleum Hydrocarbon related products is an effective remediation method for Q22."	Present the data and information on historical PHC degradation at the Meadowbank Landfarm that corroborates the conclusions within the Annual Report.
Lake Level Monitoring	Changes in lake levels in Turn Lake, resulting from diversions involved in the Phaser Lake dewatering, do not appear to have been measured/reported in 2017, as well as in previous year (2013-2016). Thus, comparisons to FEIS predictions were not provided in the 2017 Annual Report.	Provide an explanation as to why Turn Lake water levels are not being monitored, reported and compared to FEIS predictions.
Lake Level Monitoring	The annual report describes separate lake level measurements for Ponds B, C and D in the Vault Attenuation Pond; however, there is mention of only one monitoring location for the Vault Attenuation Pond, station VN-IN which is established in Pond B (shown on Figure 3). Thus, it is not clear how measurements were obtained for Ponds C and D.	Clarify the methodology by which lake level measurements were obtained for Ponds B, C, and D of the Vault Attenuation Pond.
Predicted vs. Measured Water Quality	While the results of predicted vs. measured comparisons (average and lower 25th percentile) for both scenarios (Probable and Probable Poor End) are provided in the 2017 Annual Report for each pit (North Portage Pit [ST-17], Third Portage Pit [ST-19], Goose Pit [ST-20], and Vault Pit [ST-23]) in paragraph form for each year for the period 2012-2017, the manner in which these data are presented makes it difficult to decipher any temporal trends. Further, no discussion of temporal trends is included in the text. Presenting these data in a tabular or graphical format would provide a more effective means of deciphering water quality trends over time.	Predicted versus measured water quality parameter comparisons should be presented in a tabular or graphical format as outlined by CIRNAC in its comments.

Topic	Comment/Concern	Recommendation
Predicted vs. Measured Water Quality	Agnico Eagle provided comments on the probable causes of discrepancies and how the results could affect the re-flooding plans as requested by CIRNAC in 2018; however, information appears to be still lacking in the annual report.	1) Discuss the probable causes of the discrepancies and how they could affect reflooding plans or provide a rationale for not doing so. 2) Provide discussions of potential impacts of placing tailings into pits and how this would affect existing reflooding plans.
Waste Rock Volume	Agnico Eagle did not provide a comparison of the waste rock volume generated annually to the FEIS predictions as committed to following CIRNAC's review of the 2016 Annual Report.	Provide a comparison of the volume of waste rock generated annually to FEIS prediction.
Tailings Storage Facility (TSF)	CIRNAC noted discrepancies between the Annual Report and the Mine Waste Rock and Tailings Management Plan with respect to the storage of tailings making it difficult to determine the Proponent's intention regarding tailings management	Clarify the discrepancy in tailings management approach mentioned in the 2017 Annual Report and the Mine Waste Rock and Tailings Management Plan.
Tailings Freezeback and Capping Thickness	As with the review of the 2016 Annual Report, CIRNAC repeated its comments with respect to the tailings freezeback and capping thickness	1) Include a meaningful discussion of the results from the permafrost monitoring in the Annual Report. FEIS predictions should be compared with monitoring results and be clearly presented. 2) Present the updated modeling supporting their conclusions that the conceptual plans for thermal encapsulation of the Tailing Storage Facility and the Waste Rock Storage Facility remain effective to prevent and control deleterious seepage over long term. 3) If results show discrepancies from the predicted values, Agnico Eagle should discuss the management actions that should be implemented to address the risk."
Tailings Freezeback and Capping Thickness	Information lacking on the nature and extent of research efforts conducted on three experimental cells and how it has been used for the cover design of the TSF North and South Cells.	Provide information on the nature and extent of research efforts, results of the research and a discussion of how the proposed cover design has been influenced by these results.

Topic	Comment/Concern	Recommendation
Tailings Freezeback and Capping Thickness	It is not clear how Agnico Eagle will confirm that the Vault Waste Rock Storage area will be frozen without the placement of instrumentation.	Instrumentation should be added to confirm Vault Waste Rock Storage freezeback predictions and measure performance.
Spill Management	The 2017 Annual Report shows that the number of Reportable Spills (28), while not as high as 2016 (34) still remains high. Non-Reportable Spills (442) continue to be at levels much higher than in prior years [2016 (374), 2015 (148), 2014 (63)].	Increase the Spill Reporting to once a quarter to track the effectiveness of spill reduction efforts and assure that these preventative efforts are effective.
Core Receiving Environment Monitoring Program (CREMP)	Agnico Eagle noted that due to the low likelihood of adverse effects on aquatic life a discussion was not provided on the management actions with respect to trigger exceedances observed in water.	Provide a discussion of management action with respect to trigger exceedances in water, even if the likelihood of adverse effects on aquatic life is low.
Core Receiving Environment Monitoring Program (CREMP)	In response to NIRB's comment on near-field baseline/reference stations (NIRB 2016-2017 Annual Monitoring Report), Agnico Eagle indicated that it is not considering finding other near-field stations that could be used for baseline/reference conditions and provided a rationalization as to why, which does not appear to have been accepted by NIRB.	The issues of impact causes and reference/baseline stations needs to be resolved.
Portage Rock Storage Facility (ST-16)	In review of the information provided, it appears that detectable levels of all cyanide (CN) forms were measured in NP-2 and NPC-1 and CN WAD and CN Free in Dogleg and Portage in 2014 and CN Total and CN WAD in all lakes in 2017 which contradicts Agnico Eagle's statement that "monitoring has indicated no CN levels".	Clarify the statement "To date (previous 4 years) the monitoring has indicated no CN levels in NP-2, NP-1 and downstream lakes, dogleg and Second Portage" and confirm the cyanide results.
All Weather Road (AWAR) and Quarries	Recommendations were provided by Golder Associates with respect to the geotechnical structures of the AWAR including all culverts, bridges and quarries and Agnico Eagle believes that the existing monitoring program addresses these recommendations.	Develop a table to track proposed activities and recommendations presented within the Annual Report and supplementary documentation appended to the Annual Report. Such a table would help to ensure the follow-up of potential issues, such as information regarding whether a recommendation was adopted, how it was implemented and/or the rationale as to why a recommendation was not considered.

Topic	Comment/Concern	Recommendation
Seepage Through Central Dike	In review of the Meadowbank Dike Review Board (MDRB) meeting records, CIRNAC noted that the MDRB still had some concerns regarding the Central Dike seepage and the need for additional investigations of void interpreted features. MDRB suggested that Agnico Eagle consult with Ground Penetrating Radar (GPR) specialists to assess applicability of GPR surveys.	CIRNAC agrees with the MDRB recommendation that additional investigations be carried out, and that Agnico Eagle assess applicability of GPR in this regard.
Groundwater	Unclear from the Groundwater Monitoring Report whether the waste rock seepage signature is PAG or NAG.	Clarify whether the signature is for PAG or NAG waste rock seepage.
Progressive Reclamation – Mine Site	No mention is made of potential implications of updates to Life of Mill plan if ore is milled from additional pits elsewhere, and what if any implications this may have on planned progressive reclamation. In terms of progressive reclamation progress, the only numeric value provided is that of 86% of the Portage PRSF had been covered to end of January 2017.	CIRNAC expects that the 2018 updates to the Interim Closure and Reclamation Plan will include more details on progressive reclamation such as: areas of TMF and WRSF facilities covered in 2017 and total areas to date, along with the volumes associate with these areas, amongst others.
Inspections, Compliance Reports and Non-Compliance Issues	The annual report does not provide a summary statement on findings of all inspections and where necessary, did not provide a list of issues that have been identified and the status of these issues.	Provide a summary statement on findings in future annual reports.
Post-Environmental Assessment Monitoring Program (PEAMP) – Evaluation of Impact Predictions	Agnico Eagle indicated that it will only provide a discussion of year-to-year trends for any monitoring components where an exceedance of impact predictions was observed. Agnico Eagle only provided an assessment of historical trends was conducted for large predatory mammal mortality since such mortality in 2017 occurred beyond FEIS thresholds while concluding that observed impacts to water quantity, water quality, fish and fish habitat measured in 2017 are within the FEIS predictions or are not expected to result in adverse environmental impacts, therefore trend analyses were not presented for any components of the aquatic environment.	While the concentrations of conventional water quality parameters that exceeded trigger values were deemed to be low and with a low likelihood of adverse effects on aquatic life, these parameters may eventually become problematic if their concentrations are increasing over time which is why a trend analysis is needed. Data comparisons and interpretations presented for the PEAMP continue to be limited to those between current conditions (2017) and FEIS predictions. Therefore, it is recommended that Agnico Eagle include a temporal analysis identifying trends over time in the data interpretation.

Topic	Comment/Concern	Recommendation
Accuracy of Impact Prediction	It was noted that the climate change model predictions used in the FEIS are dated and it may be appropriate to update the climate change discussions with more recent research information.	n/a
Other Considerations	The annual report is for the most part silent with respect to the potential impacts of Life of Mill extension if additional mineral resources are processed at the Meadowbank operation. Such activities would be a major variance to the Meadowbank FEIS plans and associated predictions. Given the desire to compare predicted impacts to actual impacts, the failure to at a minimum point out that the life of the operation may change, and if so, that the predictions for some aspects of the operation (tailings storage, closure concepts, extended life of mill and associated infrastructure operations both on site and at off site locations) will also change accordingly is a major shortcoming in understanding the potential long term behaviour and impacts of the operation.	n/a

2.3.3. Areas Requiring Further Study or Changes to the Monitoring Program

2.3.3.1. **Appendix D and the Annual Report**

The NIRB notes that Agnico Eagle's 2017 Annual Report provided a detailed analysis of results from its 2017 monitoring program and that it compared observed impacts noted in 2017 to predictions made within the FEIS. Agnico Eagle's evaluation focused on the VECs that were identified in the FEIS, including the aquatic environment, the wildlife and terrestrial environment, noise quality, air quality, permafrost, and socio-economics; however, no trend analyses were provided. Further discussion on the results on noise quality and air quality is provided in Sections 2.3.1.2 and 2.3.1.3.

However, the NIRB found that the discussion and analysis within the PEAMP could be expanded to include the other VEC, especially for water quality values that were measured within the pits as results showed an increase in a number of parameters that exceeded predictions from year to year since 2012. The overall lack of reference to baseline data or to data from previous years makes it difficult to quantify or measure the relevant effects of the Project. While comparison between monitoring as proposed in the FEIS and monitoring undertaken in 2017 was helpful, rationale for why these were different was not always clearly presented. The NIRB also found that some of the sections within the PEAMP provided more clarity than others; a consistent approach across VECs would be helpful in future annual reporting.

2.4. SITE VISIT

The complete site visit report to both the Meadowbank Gold Mine Site and the Whale Tail Pit Site can be found in Appendix I. The following sections provide a summary of the observation from both mine sites.

2.4.1. Findings and Summary of Meadowbank Site Visit

Based on the observations made during this site visit, all Meadowbank facilities in operation and all sites currently under construction continue to appear to be well managed, and generally are maintained with adequate environmental protection measures and procedures in place. Details provided by Agnico Eagle during the site visit provided the Monitoring Officer with additional information regarding the company's continued efforts to address ongoing water and waste management issues observed at the site.

As with years past, Agnico Eagle appears to be in compliance with a majority of the terms and conditions contained within the Meadowbank Project Certificate No. 004; however, there may be certain situations in which the Proponent has not yet fully met the requirements of the Project Certificate and which require further consideration and attention.

The Monitoring Officer noted that the landfarm and hydrocarbon remediation program undertaken in 2013 appeared to have been successful in treating hydrocarbon contaminated soil as noted by Agnico Eagle staff. This technique is used to treat all of Agnico Eagle's hydrocarbon contaminated soils at the Meadowbank site.

Regarding Condition 8, three (3) groundwater wells appeared to be operational during the 2018 site visit following revisions of the groundwater well program.

Condition 25 requires that the Proponent employ legal deterrents to deter carnivores and/or raptors from the Meadowbank site, while Condition 59 requires that the Proponent consult with Elders and the Hunters and Trappers Organization (HTO) to design and implement deterrence measures to impede caribou from access to the tailings ponds. Agnico Eagle stated that wildlife (including muskox, caribou, wolves, and birds) had been observed around the site and along the AWAR, and that migratory birds would use the tailings storage facility during the spring time. Wildlife tracks have been noted by the Monitoring Officer at the tailings storage facility during previous site visits and during the 2018 site visit which provide evidence that wildlife are accessing the tailings storage facility.

Overall, there was no evidence of wind-blown material observed around the Meadowbank site and at the ancillary facilities in Baker Lake during the 2018 site visit and the Monitoring Officer observed that the fuel storage facilities appeared to be well maintained and properly set up for the re-fuelling of vehicles.

Condition 74 requires that the Proponent employ environmentally protective techniques to suppress any surface dust. To date, this condition has not been met. The only dust suppressants that have been applied have been at the mine site and along the access road between the Baker Lake facility and the gatehouse. The Proponent has not fully met the requirements of Condition

74, as dust suppression techniques were not being applied along the AWAR from Baker Lake to the mine site. However, the Proponent has initiated a dust sampling program along the road in 2012 to monitor dust deposition on vegetation along the road. Further, the Proponent implemented additional studies in 2016 which still continues to determine the most effective protective techniques to suppress surface dust from vehicles. Results from the ongoing studies viewed during the site visit have been provided in Agnico Eagle's 2017 annual report.

2.4.2. Findings and Summary of Whale Tail Site Visit

The NIRB staff observed a busy site with considerable construction activity with all sites appearing to be well managed, and generally maintained with adequate environmental protection measures and procedures in place. Details provided by Agnico Eagle during the NIRB's monitoring visit provided the NIRB staff with information regarding the company's ongoing efforts to ensure compliance with the Project Certificate No. 008 and minimize impacts to the environment. However, it appeared that dust suppressants were not used along the Amaruq haul road even though it is undergoing expansion. The lack of dust management or frequent application of dust suppressants is a concern. Further, the lack of sufficient spill response equipment/material along the Amaruq haul road is of concern due to the potential of major spills occurring while the road is under construction. Finally, the traffic on the Amaruq haul road is not currently being monitored but any vehicle accessing the road is required to radio-in to the operator.

3.0 FINDINGS

As noted in Section 1.0, the objectives of the NIRB's monitoring programs are:

(a) measure the impact of the project on the ecosystemic and socio-economic environments of the designated area;

(b) determine whether the project is carried out in accordance with the terms and conditions imposed under subsection 152(6) or set out in the original or amended project certificate;

(c) provide the information necessary for regulatory authorities to enforce the terms and conditions of licences, permits or other authorizations that they issue in relation to the project; and

(d) assess the accuracy of the predictions contained in the project impact statement.

Overall, the Meadowbank Gold Mine Project and the Whale Tail Pit Project appear to be in compliance with the majority of the terms and conditions contained within the Meadowbank Project Certificate No. 004 and the Whale Tail Pit Project Certificate No. 008, respectively. Further, Agnico Eagle is generally meeting the objectives of monitoring and mitigation plans and procedures put in place for the projects. However, certain outstanding issues will require the Proponent's attention as discussed throughout this report for both the Meadowbank Gold Mine Project and the Whale Tail Pit Project. These items are addressed in the Board's recommendations provided to the Proponent under separate cover.

Pursuant to Sections 12.7.2 and 12.7.3 of the *Nunavut Agreement* and ss. 135(3) and 135(4) of the *NuPPAA*, the NIRB will continue to work with Agnico Eagle and other regulatory authorities in order to provide the required evaluation of monitoring efforts, results and compliance as outlined within the Board's project-specific monitoring programs and in accordance with the requirements set out in the Meadowbank Gold Mine Project Certificate No. 004 and in the Whale Tail Pit Project Certificate No. 008.

Prepared by:	Sophia Granchinho, M.Sc., EP	Reviewed by:	Kelli Gillard, P.Ag.
Title:	Manager, Impact Assessment	Title:	Manager, Project Monitoring
Date:	November 7, 2018	Date:	November 7, 2018
Signature:	Granchinho	Signature:	Kelli Gillard

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Appendix I 2018 Site Visit Report for the Meadowbank Gold Mine Project (03MN107) and Whale Tail Pit Project (16MN056)

2018 Site Visit Report

for the NIRB's Monitoring of
Agnico Eagle Mines Ltd.'s

Meadowbank Gold Project (03MN107)

and

Whale Tail Pit Project (16MN056)

Nunavut Impact Review Board
File Nos. 03MN107 and 16MN056
October 2018

Full Report Title:	2018 Site Visit Report for the Nunavut Impact Review Board's Monitoring of Agnico Eagle Mines Ltd.'s *Meadowbank Gold Project* (NIRB File No. 03MN107) and *Whale Tail Pit Project* (NIRB File No. 16MN056)
Project:	Meadowbank Gold Project and Whale Tail Pit Project
Project Location:	Kivalliq Region, Nunavut
Land Tenure:	Inuit Owned Lands and Crown lands
Project Owner:	Agnico Eagle Mines Ltd. Meadowbank Division P.O. Box 540 Baker Lake, NU X0C 0A0
Proponent Contact:	Robin Allard, Senior Environment Coordinator & Martin Archambault, Environmental Senior Coordinator
Telephone:	(819) 759-3555, ext. 6744
Visit conducted by:	Sophia Granchinho, Manager, Impact Assessment
Contact:	Phone: (867) 857-4829; email: sgranchinho@nirb.ca
	Mia Otokiak, Junior Technical Advisor Phone: (867) 983-4622; email: motokiak@nirb.ca
Site visit date:	August 14-16, 2018
Last site visit:	August 24-25, 2017
Report prepared by:	Sophia Granchinho, Manager, Impact Assessment
Photos by:	Sophia Granchinho and Mia Otokiak
Cover photos:	1) Baker Lake Marshalling Facility 2) Meadowbank Portage Pit Area 3) Meadowbank Camp Site 4) Whale Tail Lake with Exploration Camp in Background

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1 INTRODUCTION

The Nunavut Impact Review Board (NIRB or Board) was established through Articles 10 and 12 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (*Nunavut Agreement*) and is responsible for the assessment of ecosystemic and socio-economic impacts of projects in the Nunavut Settlement Area pursuant to the *Nunavut Agreement*. The NIRB is responsible for post environmental assessment monitoring of projects in accordance with Part 7 of Article 12 of the *Nunavut Agreement* and s. 135 of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (*NuPPAA*).

In December 2006, pursuant to Section 12.5.12 of the *Nunavut Agreement*, the NIRB issued Project Certificate No. 004 for the Meadowbank Gold Mine Project (Meadowbank Project), allowing the Meadowbank Project to proceed in accordance with the Terms and Conditions issued therein. In November 2009, the NIRB formally amended the Project Certificate No. 004 to include an amendment to Condition 32 pursuant to Section 12.8.2 of the *Nunavut Agreement* and an approval to change the name of the holder of the Project Certificate [No. 004] from Cumberland Resources Ltd. to Agnico Eagle Mines Ltd. (Agnico Eagle) (NIRB 2009). In August 2016, the NIRB formally amended the Project Certificate No. 004 to include the Vault Pit Expansion Project proposal for the Meadowbank Gold Mine Project (NIRB 2016).

In March 2018, pursuant to Section 12.5.12 of the *Nunavut Agreement* and s. 111(1) of the *NuPPAA* the NIRB issued Project Certificate No. 008 for the Whale Tail Pit Project (Whale Tail Project), allowing the Whale Tail Project to proceed in accordance with the Terms and Conditions issued therein.

This report provides the findings that resulted from the NIRB's site visits of the Meadowbank Gold Mine Project and of the Whale Tail Pit Project that took place between August 14 and August 16, 2018.

1.1 Objectives & Purpose of Site Visits

The objective of the NIRB's site visits were to determine whether the projects are carried out in accordance with the terms and conditions of the NIRB's Meadowbank Gold Project Certificate [Section 12.7.2(b) of the *Nunavut Agreement*] and the NIRB's Whale Tail Pit Project Certificate [s. 135(3)(b) of the *NuPPAA*].

The observations resulting from these site visits shall, wherever possible, be incorporated into the measurement of the relevant effects of the Meadowbank Gold Mine Project and the Whale Tail Pit Project, provide the information necessary for agencies to enforce terms and conditions of land or resource use approvals, and will further be used to assess the accuracy of the predictions contained in the project impact statements in accordance with Section 12.7.2 of the *Nunavut Agreement* and s. 135(3) of the *NuPPAA*.

1.2 Preparations for the Site Visits

The NIRB's Monitoring Officer for the Meadowbank Gold Mine and the Whale Tail Pit projects (the Monitoring Officer) reviewed the following items to prepare for the site visits: the Meadowbank Project Certificate No. 004; the Whale Tail Pit Project Certificate No. 008; previous Site Visit Reports (where relevant); Agnico Eagle's 2017 Meadowbank Gold Mine Annual Report and associated appendices as well as follow-up correspondence from the NIRB's 2017 Meadowbank Gold Mine site visit.

1.3 Overview of the Meadowbank and Whale Tail Site Visits

The 2018 site visits to the Meadowbank and the Whale Tail projects were conducted by Ms. Sophia Granchinho, the NIRB's Monitoring Officer for the Meadowbank and Whale Tail projects and Ms. Mia Otokiak, Junior Technical Advisor. In the morning of August 14, 2018 Ms. Granchinho and Ms. Otokiak were met by Mr. Martin Archambault, Environmental Senior Coordinator with Agnico Eagle, and driven first to the ancillary Project infrastructure that included the Baker Lake bulk fuel storage facility and the marshalling area. After viewing the ancillary Project infrastructure, Mr. Archambault drove to the Meadowbank mine site and stopped along several areas along the all-weather access road (AWAR) as outlined in Table 1. Once at the Meadowbank Mine site, the NIRB staff were given a tour and viewed the areas as outlined in Table 1. Ms. Granchinho, Ms. Otokiak, and Mr. Archambault discussed the Meadowbank Project in general and specific items related to the Project Certificate.

Table 1: Meadowbank Site Visit Tour

All-weather access road sites	Meadowbank sites
Gatehouse at kilometre 5	Exploration camp staging area
Two quarry sites (5 and 22)	Assay laboratory
One of the two (2) snowmachine crossings (kilometre 10)	Dust and air quality monitoring station near the assay laboratory
Two (2) of the three (3) dust testing sites along the road (kilometre 10, 24, and 48)	Incinerator
The dust sampling canisters at kilometre 25	Waste and hazardous materials storage area
Bridge at kilometre 23	Fuel tank storage area, Bay-Goose Pit
Exploration staging area for Greyhills	Groundwater wells
	Tailings storage facility (south cell and north cell),
	Central and East Dikes

All-weather access road sites	Meadowbank sites
	Active mine areas including: ▪ Portage Pit B and Portage Pit E (also known as South Portage Pit), ▪ Vault Pit, ▪ Vault waste rock facility, ▪ Wally Lake diffuser, ▪ Vault Pit Attenuation Pond, ▪ Phaser and BB Phaser Pits, ▪ North Diversion ditch, ▪ Waste rock facility, ▪ Landfill, ▪ Landfarm remediation site, and ▪ Emulsion plant

The following morning, on August 15, 2018, Ms. Granchinho and Ms. Otokiak were met by Mr. Archambault and driven along the 65 km haul-road to the Whale Tail site at the Amaruq property. The road was being expanded as part of the activities approved for the Whale Tail project and originally constructed during the bulk sample phase of the project. During the drive, the tour stopped at several areas as outlined in Table 2 along the haul road. Once at the Whale Tail site, the NIRB staff were met by Mr. Tom Thomson and provided a tour of the area as summarized in Table 2. Ms. Granchinho, Ms. Otokiak, and Mr. Archambault also discussed the Whale Tail Project in general and specific items related to the Project Certificate.

Table 2: Whale Tail Site Visit Tour

Haul road sites	Whale Tail site
Quarry 10.5	Amaruq exploration camp
Snowmachine crossing (kilometre 12)	Portal to underground exploration
Several bridges	Quarry sites
Dust sampling canisters	Mammoth Lake
	Berm between North and South Basin
	Future Whale Tail Camp.

On the morning of August 16, 2018, the NIRB staff were met by Mr. Archambault to discuss the site visits, and further issues related to environmental compliance. Afterwards, Mr. Archambault drove Ms. Granchinho and Ms. Otokiak to the Hamlet of Baker Lake from the Meadowbank site.

The site visits provided participants the opportunity to observe all major Project components as well as discuss relevant issues and items related to the Meadowbank and Whale Tail projects.

2 MEADOWBANK GOLD MINE SITE VISIT

2.1 Meadowbank Project Description

The Meadowbank Project involves the construction and operation of an open pit gold mine located in the Kivalliq Region of Nunavut, approximately 70 kilometres (km) north of the hamlet of Baker Lake on Inuit-owned surface lands. In its 2017 Annual Report (as required by Appendix D), Agnico Eagle indicated that Meadowbank totalled 352,256 ounces of gold and also produced 276,853 ounces of silver in the year (Agnico Eagle 2018). Agnico Eagle further noted that production at the site has been extended into 2019 due to an extension of the mine plan at Vault and Phaser pits in 2018, and the Portage Pit in 2018 and 2019 (Agnico Eagle 2018).

The mine site is comprised of a camp, airstrip, associated mining infrastructure and three (3) active open pits: the Portage, Vault and Phaser pits. Dewatering was completed at the Phaser Lake in October 2016 and started mining of Phaser and BB Phaser in Q4 of 2017. Mining activity stopped at Bay-Goose Pit in April 2015 as the ore was depleted and therefore no production occurred after April 2015. In addition to the mining infrastructure and activities, ancillary Project infrastructure is located approximately 2 km east of the hamlet of Baker Lake and consists of barge unloading facilities, a laydown storage and marshalling area, a temporary laydown storage are for cyanide, a 60 million litre (ML) fuel tank farm, associated interconnecting roads and a 110 km all-weather private access road (AWAR) from the hamlet of Baker Lake to the Meadowbank mine site. Supplies are shipped from locations within Canada via sealift to Baker Lake where they are offloaded at Agnico Eagle's marshalling area and transported to the Meadowbank site via truck haul along the AWAR. See Photo 1 for an overview photo of the Meadowbank Mine Site. Figure 1 through Figure 3 provide a layout of the Meadowbank Mine Site, the Vault Pit Area and the marshalling facility near Baker Lake.

Photo 1: Overview of Meadowbank Mine Site

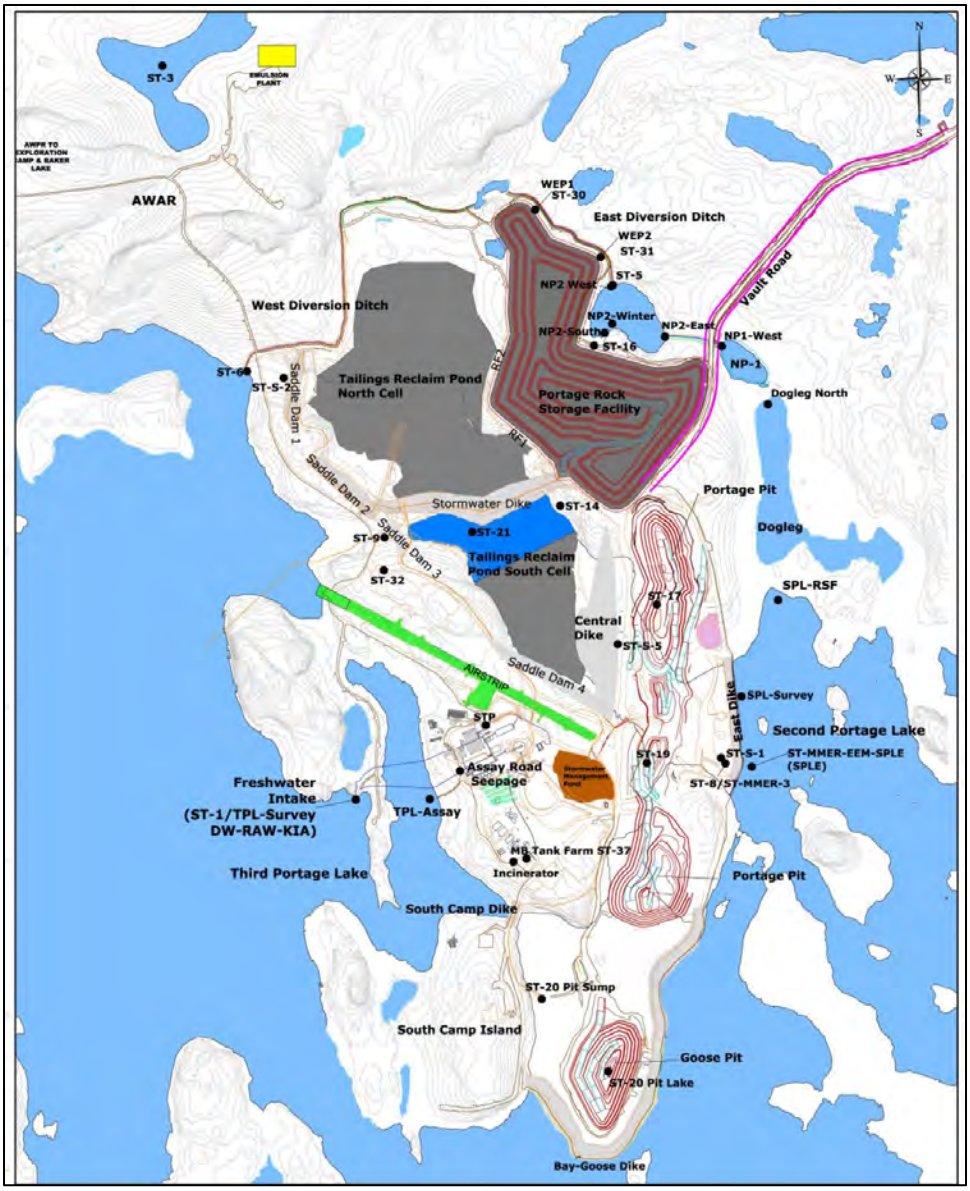

Figure 1: Meadowbank Mine Site (*from Agnico Eagle's 2017 Annual Report; Figure 1*)

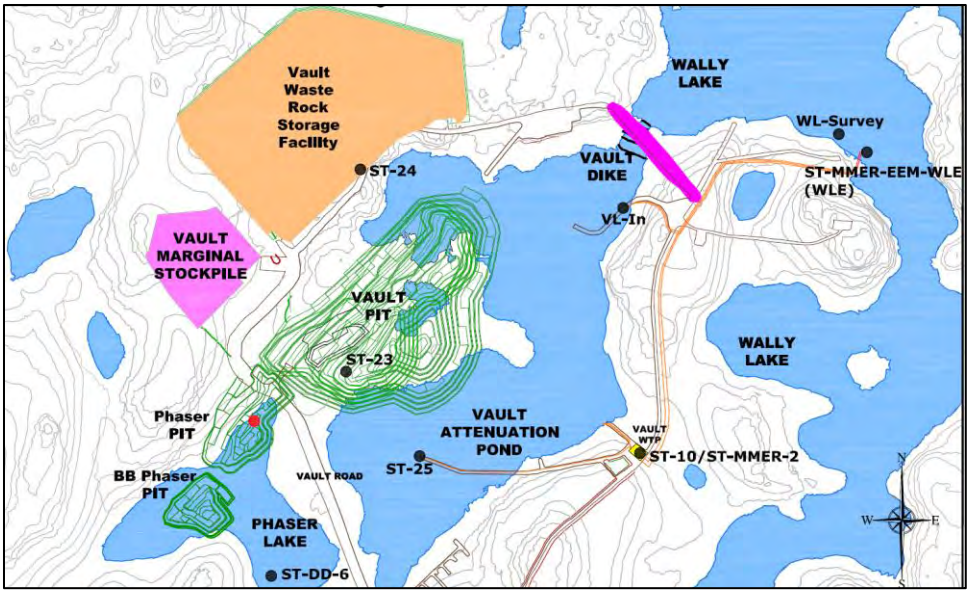

Figure 2: Vault Pit Site (*from Agnico Eagle's 2017 Annual Report; Figure 3*)

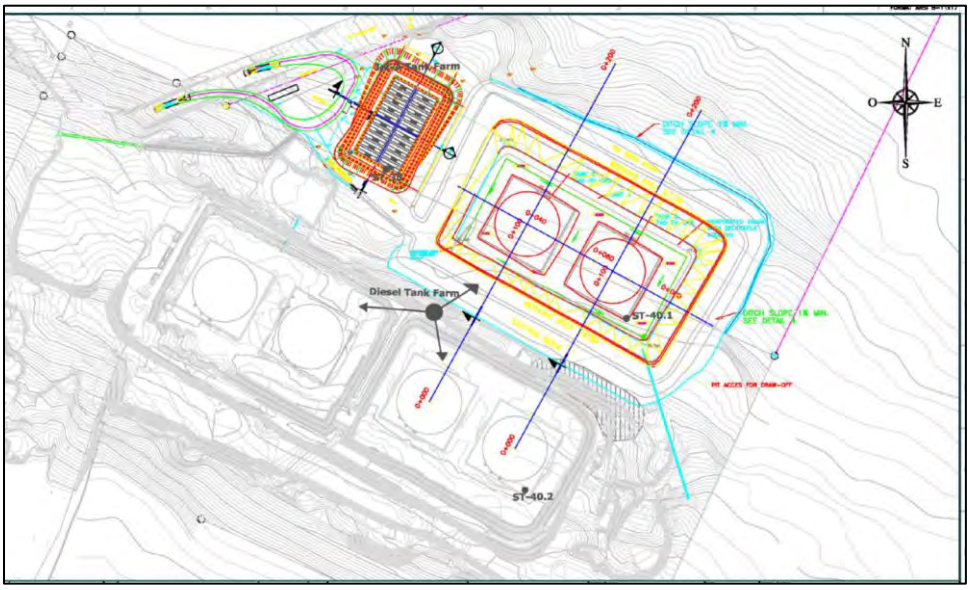

Figure 3: Baker Lake Marshalling Facility (*from Agnico Eagle's 2017 Annual Report; Figure 4*)

2.2 General Observations for Meadowbank Mine Site

The following are general observations made during the site visit and do not pertain specifically to any particular terms or conditions of the Meadowbank Project Certificate:

2.2.1 General observations along the all-weather private access road

a. The Monitoring Officer observed that the environmental emergency seacans containing booms, shovels, absorbent pads, and other miscellaneous spill response equipment were located at the Baker Lake laydown facility (see Photo 2). At the time of the site visit, a barge was at the Baker Lake dock facility and offloading equipment and the marshalling facility was very busy with the movement of supplies from the barge (see Photo 3 and Photo 4).

Photo 2: Environmental Emergency Seacan at the Baker Lake Marshalling Facility

Photo 3: Barge at Baker Lake Facility

Photo 4: Baker Lake Marshalling Facility

b. It was further noted that the lower all-terrain vehicle (ATV) trail that goes through the Baker Lake bulk fuel storage facility/marshalling area was blocked seacans limiting access to the community members ability to travel to their cabins along the shoreline (see Photo 5 and Photo 6).

Photo 5: Tires blocking lower ATV trail along the Baker Lake shoreline

Photo 6: Little bridge to ensure access to ATV trail (photo from 2017)

c. While travelling along the AWAR to and from the Meadowbank site and the Hamlet of Baker Lake, the Monitoring Officer observed several species of wildlife, which included geese, sand-hill cranes, muskox, arctic hare, Peregrine Falcon, siksik (ground squirrel) and arctic fox kits (see Photo 7 and Photo 8). Agnico Eagle staff stated that caribou, muskox, and wolves were observed occasionally along the AWAR.

Photo 7: Siksik (Ground Squirrel) along the AWAR

Photo 8: Muskox along the AWAR

d. While travelling along the AWAR, the Monitoring Officer noted that this time the road was not extensively used by Baker Lake community members but was extremely busy with haul trucks traveling up to the Meadowbank site (see Photo 9, Photo 10 and Photo 11) with sometimes 10 haul trucks on the road at once.

Photo 9: Bus leaving the gatehouse with workers from Baker Lake

Photo 10: Haul truck on AWAR

Photo 11. Several Haul Trucks Travelling to Meadowbank

e. Two snowmachine crossings are located along the AWAR, one near km 10 and the second near km 98 (previously near km 82). There were no signs of extreme slopes or rocks along the side of the AWAR (see Photo 12).

Photo 12: Snowmachine crossing near km 10

f. Environmental emergency seacans were located at all bridge crossings.

g. Agnico Eagle indicated that remediation is ongoing at Quarry 22 following storage of contaminated hydrocarbon soil in previous years at this quarry site as the soil/gravel still tested positive for hydrocarbons (see Photo 13). No remediation work was conducted in 2018 due to active Peregrine Falcon nests at this quarry but plans were in place to continue the remediation work in 2019 but none were completed at the time of the site visit.

Photo 13: Quarry 22

2.2.2 General observations at the Meadowbank mine site

h. Active drilling was ongoing at Portage Pit (see Photo 14 and Photo 15) and at Vault Pit (Photo 16 and Photo 17), while blasting was being conducted at the Phaser Pit and BB Phaser Pit area during the site visit (see Photo 18 and Photo 19). During the site visit it was noted that an ice sheet has formed on the walls of the Vault Pit (see Photo 17) and Agnico Eagle noted that it has been spraying the ice sheet with water to keep it from growing and potentially breaking off and falling into the pit.

i. The Monitoring Officer was previously notified that mining at the Bay-Goose Pit had ended in early 2015 and the pit has been allowed to slowly fill in naturally with water (see Photo 20 and Photo 21). During the 2017 site visit, the Monitoring Officer was informed that the pit will be filled with water during the fall but this did not occur as observed during the 2018 site visit and as noted in the photos (see Photo 21) as Agnico Eagle was proposing to use the Bay-Goose Pit as an in-pit tailings facility at the time of the site visit.

Photo 14: View of Portage Pit (South Portage)

Photo 15: Portage Pit from viewpoint

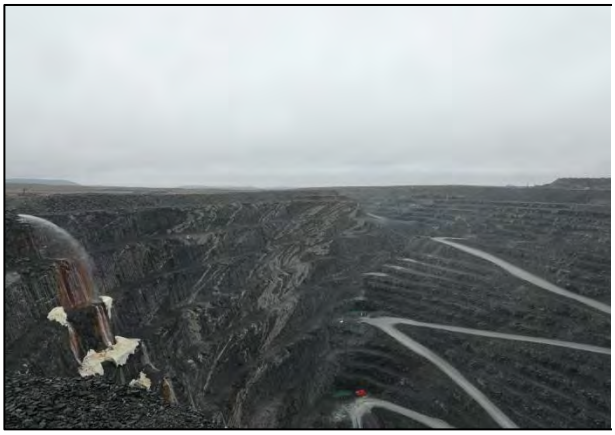

Photo 16: View of Vault Pit – looking west

Photo 17: View of Vault Pit – looking east

Photo 18: Phaser and BB Phaser – looking north

Photo 19: Phaser and BB Phaser – looking west

Photo 20: View of Bay-Goose Pit – looking north

Photo 21: Bay-Goose Pit looking south

j. The Vault Pit waste rock storage facility has increased in size since the 2017 site visit (see Photo 22 through Photo 25) and the Agnico Eagle staff noted that waste rock from the Vault Pit has been tested to be non-potentially acid forming (NPAG rock). The NPAG rock is stored in the Vault marginal stockpile for re-use on-site.

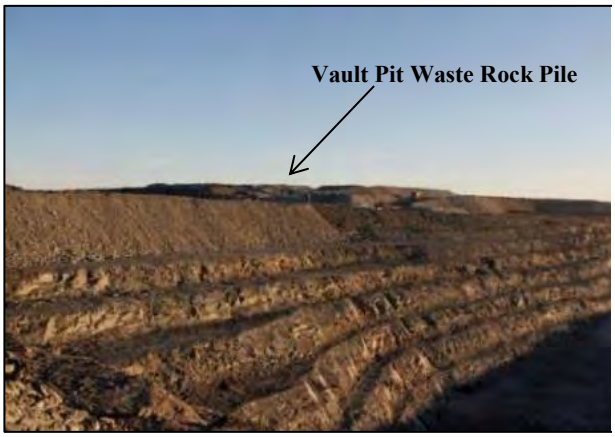

Photo 22: Vault Pit waste rock storage facility in 2015

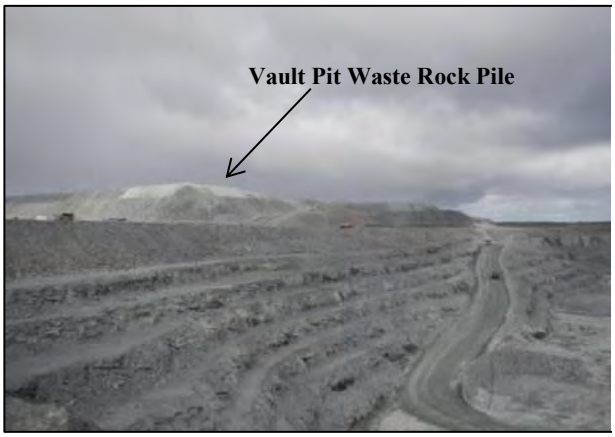

Photo 23: Vault Pit waste rock storage facility in 2016

Photo 24: Vault Pit waste rock storage facility in 2017

Photo 25: Vault Pit waste rock storage facility in 2018

k. Agnico Eagle started a new landfarm site in 2017 to treat all contaminated hydrocarbon soil on site, while the old landfarm, which was located next to the South Cell, was flooded as the tailings deposition continues. The remediation program at the Meadowbank site, which commenced in 2013, uses on-site nutrients (sewage sludge) to initiate biodegradation of all contaminated hydrocarbon soil on site and appears to be successful (see Photo 26).

Photo 26: Landfarm

2.3 Observations based on NIRB's Meadowbank Project Certificate No. 004

Sections 2.3.1 through 2.3.6 relate to those sections of the Meadowbank Project Certificate as indicated, with specific terms and conditions providing a basis for the noted observations.

2.3.1 Water Quality and Waste Management

Condition 8

> *"…At the time samples are taken Cumberland shall also assess the condition of existing groundwater monitoring wells and replace any defective wells. Cumberland shall continue to undertake semi-annual groundwater samples and re-evaluate the groundwater quality after each sample collection…"*

During the 2017 site visit, Agnico Eagle staff noted that Agnico Eagle was attempting a different technique to ensure the groundwater wells stay open and do not freeze or are damaged. This technique involves the installment of a seacan on top of the groundwater wells and ensuring a heat trace could be installed down the well. A consultant from SNC Lavalin has audited the revised groundwater monitoring protocols and it appears to be working well. At the time of the 2018 site visit, five (5) groundwater monitoring wells was operational: MW-08-02 (see Photo 27), MW-16-01 (see Photo 28), MW-IPD-01, MW-IPD-07 (see Photo 29), and MW-IPD-09.

Photo 27: Groundwater monitoring well MW-08-02 (photo from 2017)

Photo 28: Groundwater monitoring well MW-16-01

Photo 29: Groundwater monitoring well MW-IPD-07

In 2013, Agnico Eagle noted seepage from the Portage waste rock storage facility with potentially acid generating rock (which has a high sulphur content, heavy metals, and other contaminants) at a location near the south shore of a fish bearing lake (referred to as North Pole 2 or NP-2 lake) (see Photo 30). Agnico Eagle staff stated monitoring of the seepage is ongoing during the open water season and that accumulated water is pumped directly back to the North Cell tailings storage facility. It was previously indicated that no seepage have been observed since the North Cell was raised during the summer of 2016 as the assumption is that the tailings storage facility was built on an old riverbed system and may have seeped through this system.

Photo 30: Ongoing monitoring of seepage from the Portage waste rock storage facility

In 2013, Agnico Eagle discovered water seeping through the road in front of the Assay laboratory towards Third Portage Lake where cyanide destruction in tailings occurred (see Photo 31). Following investigation, Agnico Eagle determined that the seepage was coming from the process plant, specifically leakage from containment structures through test results of the seepage water that indicated levels of cyanide, iron, and copper.

In April 2014, a trench was constructed to intercept any potential water seepage during freshet and pumped back to the mill (see Photo 32) and following repairs and sealing of the containment structures within the mill no levels of cyanide, iron, and copper were detected within the tested water. Water from the trench continues to be pumped back for use at the mill and continues to be tested.

Photo 31: Assay Laboratory

Photo 32: Trench below Assay Laboratory to prevent water from entering lake

Condition 18

"Cumberland shall commit to a pro-active tailings management strategy through active monitoring, inspection, and mitigation. The tailings management strategy will include the review and evaluation of any future changes to the rate of global warming, compliance with regulatory changes, and the ongoing review and evaluation of relevant technology developments, and will respond to studies conducted during mine operation."

The tailings facility at Meadowbank consist of the North and South cells (see Photo 33). Progressive reclamation commenced at the North Cell of the tailings storage facility in the winter of 2015 by capping the tailings following the completion of tailings deposition in this cell. When viewing the North Cell of the tailings storage facility, the Monitoring Officer observed the thermistors, installed in 2012 to measure freezeback, and did not observe any apparent rips in the exposed lining of Saddle Dams 1 and 2 or at the Stormwater Dike (see Photo 34). Tailings have been deposited into the South Cell of the tailings facility (see Photo 35) since 2016. The construction of the different phases of the Central Dike and Saddle Dams were ongoing during the site visit.

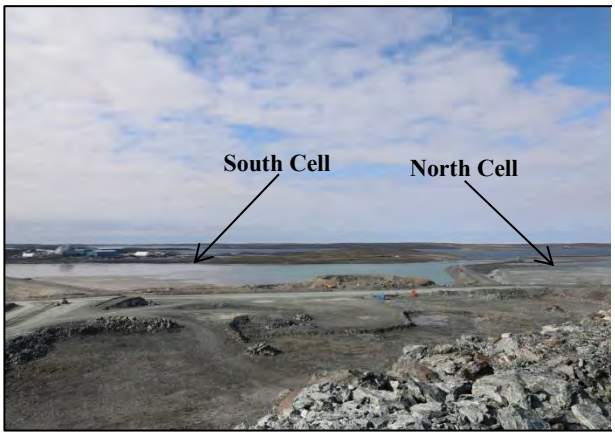

Photo 33: Tailings Storage Facility

Photo 34: Tailings Storage Facility (North Cell)

Photo 35: Tailings Storage Facility (South Cell)

Condition 25

> *"Cumberland shall manage and control waste in a manner that reduces or eliminates the attraction to carnivores and/or raptors. Cumberland shall employ legal deterrents to carnivores and/or raptors at all landfill and waste storage areas…incorporated into the final Waste Management Plan."*

As per previous NIRB site visits, the Monitoring Officer noted during the 2018 site visit that Agnico Eagle continues to segregate and store all domestic, hazardous, and combustible wastes in marked seacans prior to these materials being incinerated or shipped to the appropriate and approved off-site disposal facilities (see Photo 36).

Photo 36: Seacans used for waste segregation and storage area

In 2014, Agnico Eagle started a pallet recycling program where pallets not needed at site are transported in seacans to the high school in Baker Lake for use as building materials in the woodshop. In 2018, Agnico Eagle noted that it has discontinued to supply the high school with pallets for their woodshop program but still continues to donate pallets to community members for personal use (see Photo 37 of the Meadowbank landfill).

Agnico Eagle further stated that the landfill is frequently inspected by employees to ward off any wildlife that may be present, and to ensure wastes are segregated appropriately and that wastes designated to the incinerator or metal do not end up in the landfill.

Photo 37: Landfill at Meadowbank mine site

Mr. Archambault noted during the trip to the site that not as many active Peregrine Falcon nests were observed during the 2018 nesting season compared to the previous two years at the quarry sites. During the trip to and from the site on the AWAR, Peregrine Falcons were observed at only one (1) of the quarry sites.

Condition 26

"Cumberland shall ensure that spills, if any, are cleaned up immediately and that the site is kept clean of debris, including wind-blown debris."

During the 2018 visit to the Meadowbank site, the Monitoring Officer observed that all areas were kept in a clean state, with no obvious spills. There was no evidence of wind-blown material viewed around the Meadowbank site and at the ancillary facilities in Baker Lake (see Photo 38).

Photo 38: Meadowbank Mine Site

Condition 27

> *"Cumberland shall ensure that the areas used to store fuel or hazardous materials are contained using safe, environmentally protective methods based on practical, best engineering practices."*

During the 2018 site visit, the Monitoring Officer noted that fuel and hazardous materials associated with Agnico Eagle's Meadowbank project appeared to be stored in a safe and environmentally protective manner (see Photo 39 to Photo 41). Any observed water in the containment berms had no visible sheen on the water or discernable hydrocarbon odours at either the Baker Lake or the Meadowbank site fuel facilities (see Photo 40).

Photo 39: Baker Lake Fuel Tank Farm Facility

Photo 40: Baker Lake Aviation Fuel Tank Farm

Photo 41: Meadowbank Fuel Tank Farm Facility

2.3.2 All-Weather Private Access Road (AWAR)

Amended **Condition 32**

"AEM shall operate the all-weather road as a private access road, and implement all such measures necessary to limit non-mine use of the road to authorized, safe and controlled use by all-terrain vehicles for the purpose of carrying out traditional Inuit activities. The measures AEM shall undertake include, but are not limited to:

a. *Maintaining a gate and manned gatehouse at kilometre 5 of the Private Access Road;*
b. *In consultation with the Hamlet of Baker Lake, the local HTO, and the KivIA, update the All-Weather Private Access Road Management Plan to set out the criteria and processes to authorize and ensure safe and controlled non-mine use of the road by all-terrain vehicles for the purpose of carrying out traditional Inuit activities, and measure to limit all other non-mine use of the road. The updated Plan is to be submitted to the GN, INAC, and KivIA for approval no later than one (1) month after the approval of revised Condition 32;*
c. *The posting of signs in English and Inuktitut at the gate, each major bridge crossing, and each 10 kilometres of road, stating that unauthorized public use of the road is prohibited;*
d. *The posting of signs in English and Inuktitut along the road route to identify when entering or leaving crown land;*
e. *Prior to opening of the road, and annually thereafter, advertise and hold at least one community meeting in the Hamlet of Baker Lake to explain to the community that the road is a private road with non-mine use of the road limited to approved, safe and controlled use by all-terrain vehicle for the purpose of carrying out traditional Inuit activities;*
f. *Place notices at least quarterly on the radio and television to explain to the community that the road is a private road with non-mine use of the road limited to authorized, safe and controlled use by all-terrain vehicles for the purpose of carrying out traditional Inuit activities;*
g. *Record all authorized non-mine use of the road, and require all mine personnel using the road to monitor and report unauthorized non-mine use of the road, and collect*

and report this data to NIRB one (1) year after the road is opened and annually thereafter; and

h. *Report all accidents or other safety incidents on the road, to the GN, KivIA, and the Hamlet immediately and to NIRB annually."*

Agnico Eagle maintains one (1) gatehouse at kilometre 5 of the access road, and second gatehouse at the entrance to the mine site and camp at Meadowbank. Only the gatehouse at kilometre 5 is manned by Agnico Eagle staff who monitors the safety and security of all personnel using the road. All traffic (including public traffic) is required to check-in (via radio or in person) with the employee at the gatehouse prior to proceeding along the road (see Photo 42) from either the mine site or from Baker Lake. The Agnico Eagle employee manning the kilometre 5 gatehouse maintains a daily logbook of all persons travelling the access road for non-mine use, and members of the public travelling along the road are required to sign an indication of having read Agnico Eagle's *All Weather Private Access Road Safety Rules & Procedures for Road Access* policy prior to being granted access to the road (see Photo 43).

Photo 42: Gatehouse at kilometre 5, near Baker Lake

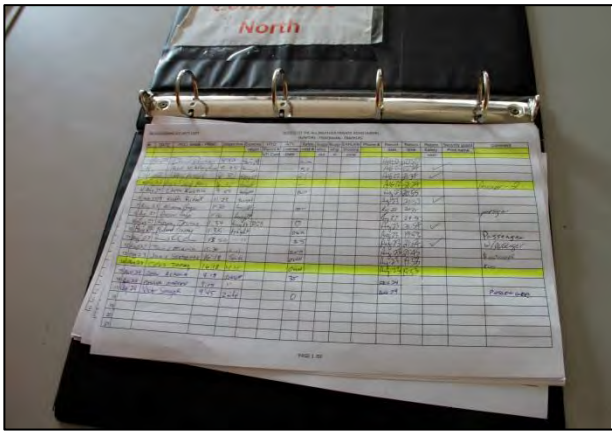

Photo 43: Gatehouse sign-in sheet

It was observed that road signs required as per Condition 32(c) were posted in both English and Inuktitut at the gatehouse at each major bridge crossing on the side of the environmental emergency sea-cans, and at 10 kilometre intervals along the AWAR.

2.3.3 Wildlife and Terrestrial

Condition 56

"Cumberland shall plan, construct, and operate the mine in such a way that caribou migration paths through the Project, including the narrows west of Helicopter Island are protected. Maps of caribou migration corridors shall be developed in consultation with Elders and local HTOs, including Chesterfield Inlet and placed in site offices and upgraded as new information on corridors becomes available. Information on caribou migration corridors shall be reported to the GN, KivIA and NIRB's Monitoring Officer annually."

Condition 59

"Cumberland shall, in consultation with Elders and the HTOs, design and implement means of deterring caribou from the tailing ponds, such as temporary ribbon placement or Inukshuks, with such designs not to include the use of fencing."

The Monitoring Officer observed a map dated 2017 outlining caribou migration corridors posted on a bulletin board at the main camp (near the door to the gym). There were two (2) additional maps with no date from the Government of Nunavut on the bulletin board showing caribou migration routes.

During the site visit, the Monitoring Officer noted wildlife tracks on the North Cell of the tailings facility (see Photo 44).

Photo 44: Wildlife tracks on the North Cell of the Tailings Facility

2.3.4 Noise

Condition 62

"Cumberland shall develop and implement a noise abatement plan…will be developed in consultation with Elders, GN, HC, and EC and include:

a. The use of sound meters to monitor sound levels in and around the mine site, including workers' on-site living/sleeping quarters and any summer camps adjacent to the site, and in the local study area, with the locations and design of the sound meters selected in consultation with HC and EC. Sound meters are to be set up immediately upon issuance of the Project Certificate for the purpose of obtaining baseline data, and monitoring during and after operations;

b. …

c. Restrictions on blasting and drilling when migrating caribou, or sensitive local carnivores or birds may be affected;

d. …

e. …"

During the 2018 2018 there was no discussion on the noise monitoring program for the 2017/2018 year during the site visit. In previous years, Agnico Eagle stated that there are five (5) locations that are monitored for noise each summer; the dominant mine noise sources being activities such

as helicopter and other air traffic, the use of heavy equipment, and blasting during construction and operation.

2.3.5 Air Quality

Condition 71

> *"Cumberland shall, in consultation with EC, install and fund an atmospheric monitoring station to focus on particulates of concern generated at the mine site. The results of air-quality monitoring are to be reported annually to NIRB."*

The NIRB staff viewed the air and partisol monitoring stations at the northern corner of South Camp Island (see Photo 45). Agnico Eagle staff stated that both dustfall and partisol monitoring occurs year-round.

Photo 45: Air and partisol monitoring station near the emulsion station

Condition 72

> *"On-site incinerators shall comply with Canadian Council of Ministers of Environment and Canada-Wide Standards for dioxins and furan emissions, and Canada-wide Standards for mercury emissions, and Cumberland shall conduct annual stack testing to demonstrate that the on-site incinerators are operating in compliance with these standards. The results of stack testing shall be contained in an annual monitoring report submitted to GN, EC, and NIRB's Monitoring Officer."*

The Meadowbank site dual chamber forced air incinerator remains in service for the combustion of all non-hazardous, combustible materials at the site (see Photo 46). During the site visit, Agnico Eagle noted ongoing education is required to ensure that wastes such as metal cans are not incinerated and to ensure wastes are segregated appropriately.

Photo 46: Incinerator at Meadowbank mine

The Monitoring Officer noted during the site visit that Agnico Eagle's updates to their protocol procedures appear to be working ensuring the incinerator temperatures in the secondary chamber reach 1000 ºC for complete combustion and to minimize the formation and release of contaminants. Protocol updates included ensuring the first chamber reaches 700 ºC and new instruments were installed to monitor the temperature in both chambers to ensure the chambers do not drop below the required temperatures.

Condition 74

> *"Cumberland shall employ environmentally protective techniques to suppress any surface dust."*

As in previous years, Agnico Eagle staff noted that dust sampling stations were placed along the AWAR at various distances from both the east and west sides the road in two (2) duplicate transects (see Photo 47) to monitor dust deposition distance from the road. Dust canisters are placed 25, 50, 100, 150, 300, and 1000 metres away from the AWAR.

Mr. Archambault also noted that Agnico Eagle continues to apply TETRA flakes (calcium chloride) along three (3) critical areas on a two (2) km section of the AWAR as agreed upon with the local Hunters and Trappers Organization (see Photo 48). Along each of the three (3) sites, Agnico Eagle continues to conduct additional dust sampling.

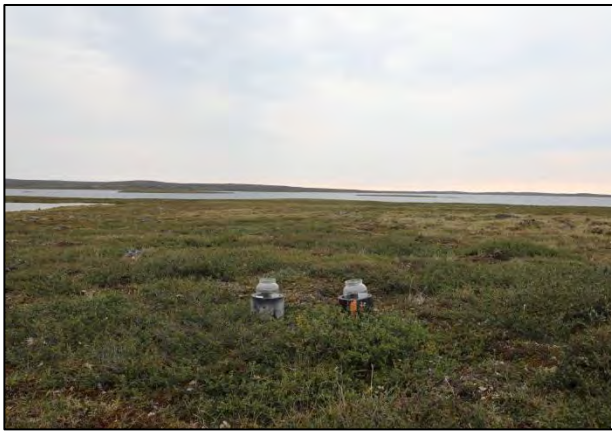

Photo 47: Dust Sampling Station

Photo 48: Dust canister located on the tundra

Agnico Eagle staff also indicated that calcium chloride flakes are applied to the areas around the Meadowbank camp site and from the Baker Lake dock facility to the gatehouse. In addition, water is used as the dust suppressant on the mine access roads around the Meadowbank site and within the pits. However, during the site visit, NIRB staff noted that the use of water as a dust suppressant did not appear to be effective (see Photo 49). Further, no dust suppressants were applied along the AWAR except for the three (3) critical areas as discussed above.

Photo 49: Dust created by vehicles along the AWAR

2.3.6 Other

Condition 81

> *"Beginning with mobilization, and for the life of the Project, Cumberland shall provide full 24 hour security, including surveillance cameras and a security office at the Baker Lake storage facility/marshalling area, and take all necessary steps to ensure the safe and secure storage of any hazardous or explosive components within the Hamlet of Baker Lake boundaries."*

During the site visit to the Baker Lake bulk fuel storage facility/marshalling areas, the Monitoring Officer noted that a security office was located at the shore with Agnico Eagle employees on site. The Monitoring Officer observed that these areas were kept clean with seacans well organized

during the 2018 site visit (see Photo 50). In addition, the 24 hour, 360º security camera was also focused on the cyanide storage facility, which is monitored by security at the site when cyanide is stored at the Baker Lake marshalling facility prior to shipment to the Meadowbank Mine site. The cyanide chemicals are transported within 72 hours of receipt in Baker Lake to the mine site as part of the requirements to be a signatory of and meet compliance with the International Cyanide Management Code.

Photo 50: Baker Lake Marshalling Facility

2.4 Findings and Summary of Meadowbank Site Visit

Based on the observations made during this site visit, all Meadowbank facilities in operation and all sites currently under construction continue to appear to be well managed, and generally are maintained with adequate environmental protection measures and procedures in place. Details provided by Agnico Eagle during the site visit provided the Monitoring Officer with additional information regarding the company's continued efforts to address ongoing water and waste management issues observed at the site.

As with years past, Agnico Eagle appears to be in compliance with a majority of the terms and conditions contained within the Meadowbank Project Certificate No. 004; however, there may be certain situations in which the Proponent has not yet fully met the requirements of the Project Certificate and which require further consideration and attention.

The Monitoring Officer noted that the landfarm and hydrocarbon remediation program undertaken in 2013 appeared to have been successful in treating hydrocarbon contaminated soil as noted by Agnico Eagle staff. This technique is used to treat all of Agnico Eagle's hydrocarbon contaminated soils at the Meadowbank site.

Regarding Condition 8, three (3) groundwater wells appeared to be operational during the 2018 site visit following revisions of the groundwater well program.

Condition 25 requires that the Proponent employ legal deterrents to deter carnivores and/or raptors from the Meadowbank site, while Condition 59 requires that the Proponent consult with Elders and the Hunters and Trappers Organization (HTO) to design and implement deterrence measures to impede caribou from access to the tailings ponds. Agnico Eagle stated that wildlife (including

muskox, caribou, wolves, and birds) had been observed around the site and along the AWAR, and that migratory birds would use the tailings storage facility during the spring time. Wildlife tracks have been noted by the Monitoring Officer at the tailings storage facility during previous site visits and during the 2018 site visit which provide evidence that wildlife are accessing the tailings storage facility.

Overall, there was no evidence of wind-blown material observed around the Meadowbank site and at the ancillary facilities in Baker Lake during the 2018 site visit and the Monitoring Officer observed that the fuel storage facilities appeared to be well maintained and properly set up for the re-fuelling of vehicles.

Condition 74 requires that the Proponent employ environmentally protective techniques to suppress any surface dust. To date, this condition has not been met. The only dust suppressants that have been applied have been at the mine site and along the access road between the Baker Lake facility and the gatehouse. The Proponent has not fully met the requirements of Condition 74, as dust suppression techniques were not being applied along the AWAR from Baker Lake to the mine site. However, the Proponent has initiated a dust sampling program along the road in 2012 to monitor dust deposition on vegetation along the road. Further, the Proponent implemented additional studies in 2016 which still continues to determine the most effective protective techniques to suppress surface dust from vehicles. Results from the ongoing studies viewed during the site visit have been provided in Agnico Eagle's 2017 annual report.

3 WHALE TAIL PIT PROJECT SITE VISIT

3.1 Whale Tail Pit Project Description

The Whale Tail Pit Project involves the mobilization, construction, operation, closure, reclamation, and post-closure monitoring of an open pit gold mine located at the Amaruq property, described by Agnico Eagle as located approximately 150 kilometres (km) north of the Hamlet of Baker Lake and approximately 50 km northwest of the Meadowbank Gold Mine project within the Kivalliq region.

The Whale Tail site would be comprised of a camp, associated mining infrastructure and one (1) open pit. The berm across the Whale Tail Lake to separate the lake into the North Basin and South Basin was constructed in the summer of 2018 with completion proposed for the fall of 2018. The fish out program of the North Basin commenced in August 2018 with dewatering proposed to be completed in January 2019.

Ore would be trucked from the Whale Tail site via an approximately 65 km private haul road at a rate of 9,000 to 12,000 tonnes per day to the existing Meadowbank Gold Mine[1] for milling. Approximately 8.3 million tonnes (Mt) of tailings produced from the milling process would be stored within the existing Meadowbank Gold Mine's Tailings Storage Facility (TSF), with approximately 5.3 Mt stored within the current footprint of the south cell TSF and approximately 3 Mt within the north cell TSF by constructing internal dike structures within the north cell.

Existing ancillary infrastructure used for the Whale Tail Pit Project would include Agnico Eagle's existing marine infrastructure located at Baker Lake and the all-weather access road between Baker Lake and the Meadowbank site, which would support open-water shipping during the construction phase and annual resupply during operations, with the mine product, doré gold bars, to be flown to market directly from site. Figure 4 and Figure 5 provide the proposed location of the Whale Tail Pit Project and the proposed site layout, respectively.

[1] The NIRB previously reviewed the related but distinct Meadowbank Gold Mine project (NIRB File No. 03MN107) in accordance with Article 12, Part 5 of the *Nunavut Agreement*. The Meadowbank Gold Mine project was allowed to proceed pursuant to the NIRB Project Certificate No. 004 which was issued December 30, 2006 following the approval of then Minister of Indian and Northern Affairs of the Meadowbank Gold Mine Project.

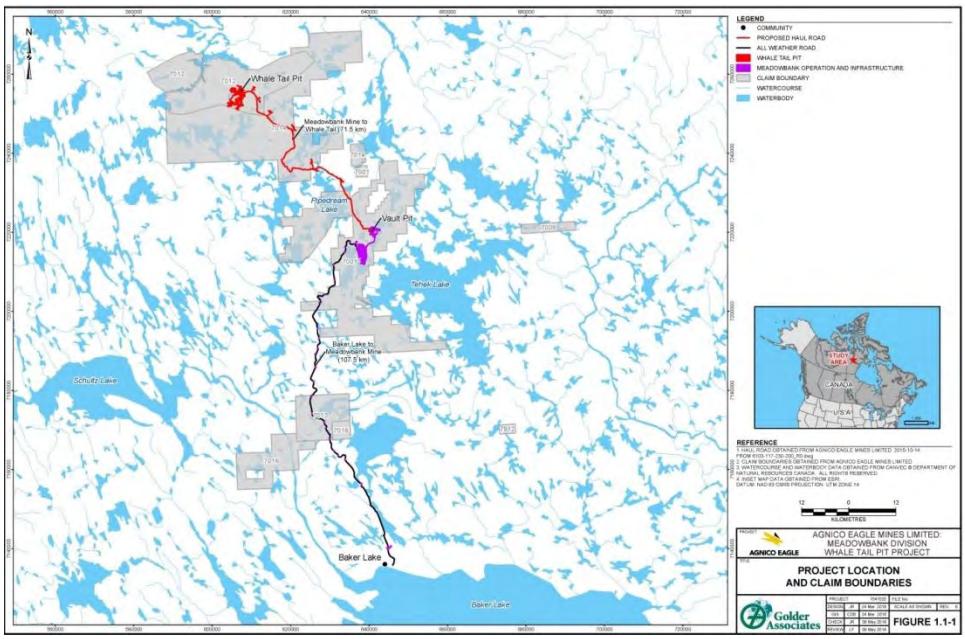

Figure 4: Proposed Location and Claim Boundaries (*from the Whale Tail Pit Project Proposal Description, Volume 1*)

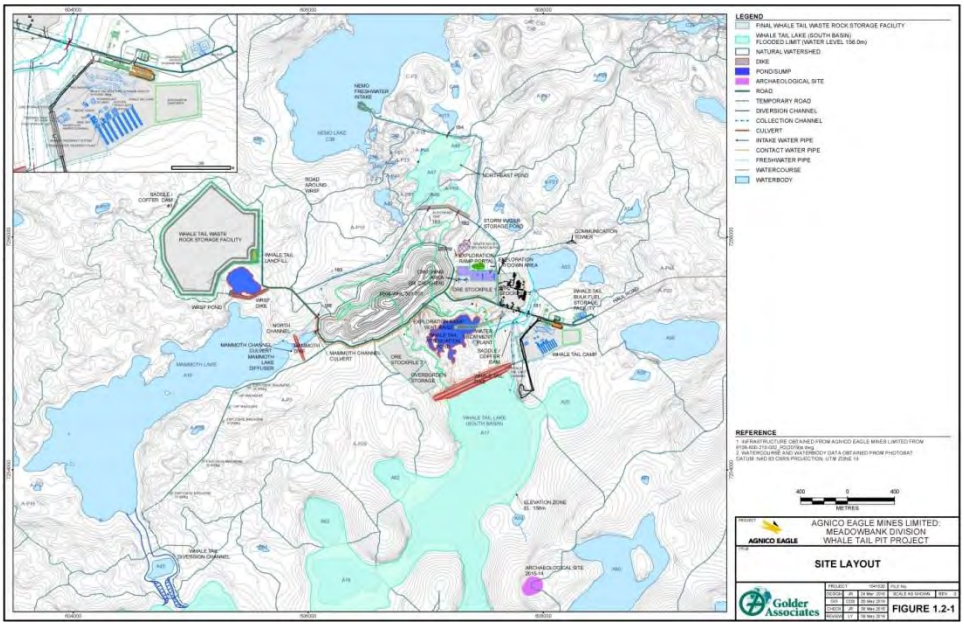

Figure 5: Whale Tail Site Layout (from the Whale Tail Pit Project Proposal Description, Volume 1)

3.2 General Observations for Whale Tail Site

The following are general observations made during the Whale Tail site visit and do not pertain specifically to any particular terms or conditions of the Project Certificate:

3.2.1 General observations along the haul road to the Amaruq site

a. The NIRB staff were driven along the Amaruq haul road to the exploration site and future Whale Tail Pit Project. Heavy construction was ongoing during the trip for the expansion of the haul road from 6 metres to 9 metres in width as recently approved under Project Certificate No. 008 (see Photo 51 and Photo 52).

b. The Monitoring Officer observed that environmental emergency spill kits were not available at all the bridges along the haul road to Amaruq. In questioning Mr. Archambault on this, it was noted that seacans containing booms, shovels, absorbent pads, and other miscellaneous spill response equipment will be located at all the bridges once the road construction has been completed. A few bridges contained spill kits as can be observed in Photo 53.

Photo 51: View of the Amaruq Haul Road from Quarry #10.5

Photo 52: 605 Haul/Dump Truck

Photo 53: Bridge Along Amaruq Haul Road

c. While travelling along the haul road to and from the Amaruq site and the Meadowbank site, the Monitoring Officer observed several species of wildlife, which included a large number of flocking geese, sand-hill cranes, muskox, arctic hare, Peregrine Falcon, and one caribou (see Photo 54).

Photo 54: Caribou along the Amaruq Haul Road

d. One (1) snowmachine crossing is located along the haul road near km 12. There were no signs of extreme slopes or rocks along the side of the AWAR (see Photo 55 and Photo 56).

Photo 55: Snowmachine crossing near km 12

Photo 56: Slope on the other side of the snowmachine crossing near km 12

3.2.2 General observations at the mine site

e. The Whale Tail site was extremely active with development of the site in full construction mode. The berm separating the North Basin with the South Basin was being completed, the fish-out program started a week earlier and the pilings were being put in place for the new mine camp (see Photo 57 through Photo 61) while NIRB staff were at site. Exploration activities were also ongoing with haul trucks moving rock and ore from the underground via the portal (see Photo 62 through Photo 64).

Photo 57: View of the Berm separating the North Basin and South Basin of Whale Tail Lake

Photo 58: Final Construction of the Berm

Photo 59: Fish-Out Program of the North Basin

Photo 60: Construction at Mammoth Lake

Photo 61: Construction of Whale Tail Camp

Photo 62: Movement of Ore from Exploration

Photo 63: Entrance to the underground portal

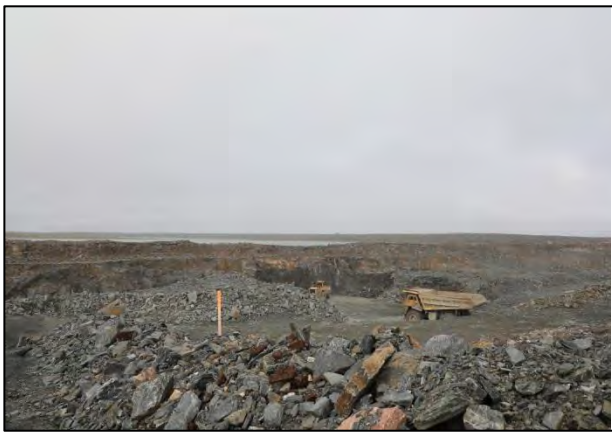

Photo 64: Gravel Pit at Amaruq Site

3.3 Observations based on NIRB's Project Certificate No. 008

Sections 3.3.1 through 3.3.5 relate to those sections of the Whale Tail Project Certificate as indicated, with specific terms and conditions providing a basis for the noted observations.

3.3.1 Water Quality and Waste Management

Condition 15

> *"…the Proponent shall prepare and implement a Groundwater Monitoring Plan that, at a minimum includes:*
>
> - *The collection of additional site-specific hydraulic data (e.g., from new monitoring wells) in key areas during the pre-development, construction and operation phases;*
> - *Definition of vertical and horizontal groundwater flows in the project development areas;*
> - *Delineates monitoring plans for both vertical and horizontal ground water; and*
> - *Thresholds that will trigger the implementation of adaptive management strategies that reflect site-specific conditions encountered at the project site."*

At the time of the site visit, no information was available on whether any additional site-specific hydraulic data were collected and Mr. Thomson noted that the monitoring wells have not been developed for the Whale Tail Pit Project.

3.3.2 Wildlife and Terrestrial

Condition 31

> *"The Proponent shall develop and implement a Road Access Management Plan and maintain traffic monitoring logs along the haul road between the Whale Tail Pit project and the Meadowbank mine. Where traffic exceeds levels predicted within the Environmental Impact Statement, the Proponent shall develop and implement appropriate modifications to its wildlife protection measures."*

During the site visit it was noted that no traffic monitoring logs were being kept along the haul road between the Whale Tail pit and the Meadowbank mine site. Any vehicle entering and leaving the haul road is required to radio in to the operator of the pits. In follow-up correspondence, Agnico Eagle stated that traffic along the road is monitored but not logged and that it is planned for Q4 2018.

As noted earlier in Section 0, caribou and muskox were observed along the Amaruq haul road.

Condition 32

> *"The Proponent shall engage with the Baker Lake Hunters and Trappers Organization and other relevant parties to ensure that safety barriers, berms, and designed crossings associated with project infrastructure, including the haul road, are constructed and operated as necessary to allow for the safe passage of caribou and other terrestrial wildlife."*

As noted in Section 3.2.1, heavy construction was ongoing along the haul road for the expansion to nine (9) metres and it was observed that the berms along the road were still being developed and that no caribou designated crossings were in place or identified.

Condition 36

"Prior to removal or deterrence of raptors, the Proponent will contact the Government of Nunavut – Department of Environment to discuss proposed mitigation options and, if required, will obtain the necessary permits."

During the site visit, Agnico Eagle staff note that studies are ongoing to identify raptor nests and the results of the studies would be reported in the next annual report.

3.3.3 Noise

Condition 4

"The Proponent shall demonstrate consideration for noise reduction when siting and constructing the camp and other project infrastructure."

During the site visit it was noted that the Proponent appeared to be incompliance with this term and condition.

Condition 5

"The Proponent shall:

a) Conduct noise monitoring at least once during each phase of the Project at four (4) locations in the vicinity of the Whale Tail Pit Project and at two (2) locations along the haul road to demonstrate that noise levels remain within predicted levels for all Project areas; and…"

During the site visit, the Monitoring Officer was informed by Mr. Thomson that the noise monitoring stations were installed as prescribed by Condition 5.

3.3.4 Air Quality

Condition 1

"…b) the Proponent shall demonstrate through active and passive monitoring of dustfall, for criteria air contaminant concentrations, incinerator stack testing, and vegetation, soil and snow chemistry sampling that dustfall and emissions of carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), sulphur dioxide (SO_2), suspended particulate matter, mercury, dioxins and furans, and other chemicals remain within predicted levels and,…."

Condition 2

"Prior to commencing construction activities the Proponent shall update the existing Dust Management and Monitoring Plan for the Meadowbank Mine site to address and/or include the following additional items:

- *Align plan requirements with commitments made in the Final Environmental Impact Statement and during the Final Hearing to monitor dust along the existing all-weather access road, the Amaruq haul road and any other roads and trails associated with the Project.*

- *Verify commitments to the utilization of dust suppressants along the all-weather access road, the Amaruq haul road and any other roads and trails associated with the Project, including a description of the type of suppressant to be utilized and the frequency and timing of applications to be made throughout the various seasons of road use.*
- *Outline…"*

It was noted during the site visit that dust monitoring stations were in place along the existing all-weather access road (see Section 2.3.5 for further discussion) and that dust monitoring has also commenced along the Amaruq haul road with the placement of dust monitoring stations at km 18, 36 and 54 (see Photo 65). The monitoring program is similar to the one conducted on the AWAR with the exception that the canisters are placed at four (4) transects instead of five (5); 25, 100, 300, and 1000 meters on the east and west sides of the roads. Transects are not necessarily fully duplicated but duplicates are randomly placed along the stations.

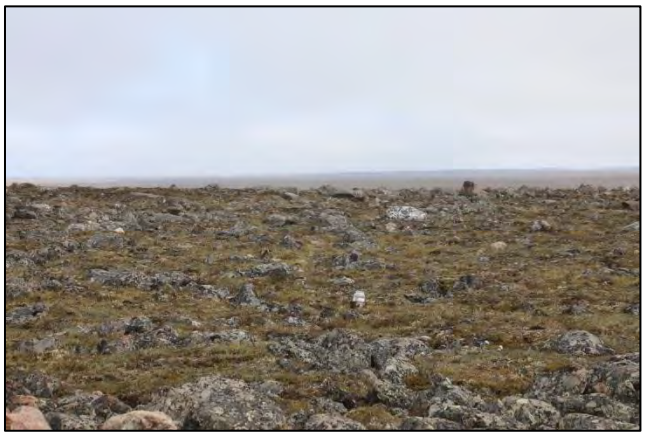

Photo 65: Dust Sampling Station along the Amaruq Haul Road

During the site visit, it was noted that dust suppressants were not being applied to the AWAR nor along the haul road. Agnico Eagle noted that water was the only dust suppressant being used along the haul road.

In follow-up correspondence, Agnico Eagle indicated that the air and partisol monitoring stations have not been installed yet as Agnico Eagle is awaiting delivery of the equipment.

3.3.5 Other

Condition 63

"The Proponent shall conduct additional studies as part of its freshwater aquatic effects analyses to ensure that methylmercury concentrations anticipated to increase during operations in the aquatic environment (including in fish tissue) do not exceed regulatory requirements. In addition, the Proponent shall consider assessing potential risks from consumption of fish containing methylmercury by using Health Canada's hazard quotients as a descriptive tool."

The Monitoring Officer was informed following the site visit that methylmercury studies have been conducted on site and are still ongoing.

3.4 Findings and Summary of Whale Tail Site Visit

The NIRB staff observed a busy site with considerable construction activity underway with all sites appearing to be well managed, and generally maintained with adequate environmental protection measures and procedures in place. Details provided by Agnico Eagle during the NIRB's monitoring visit provided the NIRB staff with information regarding the company's ongoing efforts to ensure compliance with the Project Certificate No. 008 and minimize impacts to the environment. However, it appeared that dust suppressants were not used along the haul road even though it is undergoing expansion. The lack of dust management or frequent application of dust suppressants is a concern. Further, the lack of sufficient spill response equipment/material along the haul road is of concern due to the potential of major spills occurring while the road is under construction. Finally, the traffic on the haul road is not currently being monitored but any vehicle accessing the road is required to radio-in to the operator.

4 SUMMARY

Overall, Agnico Eagle appears to be in compliance with the majority of the terms and conditions contained within the Meadowbank Gold Mine Project Certificate No. 004 and within the Whale Tail Pit Project Certificate No. 008. As noted in previous years, dust suppressants have not been applied the all-weather access road to Meadowbank and it also appears that dust suppressants have not been applied to the haul road or not frequently enough.

Prepared by:	Sophia Granchinho, M.Sc., EP	Reviewed by:	Kelli Gillard, P.Ag.
Title:	Manager, Impact Assessment	Title:	Manager, Project Monitoring
Date:	October 5, 2018	Date:	October 5, 2018

Signature:_____

Signature:_____

NIRB File Nos. 03MN107 & 16MN056

REFERENCES

Agnico Eagle (Agnico Eagle Mines Ltd). 2018. *Meadowbank Gold Project 2017 Annual Report.* Prepared by Agnico Eagle Mines Limited – Meadowbank Division. April 2018.

NIRB (Nunavut Impact Review Board). 2009. *In the matter of an Application by Agnico-Eagle Mines Limited for the Mine development of the Meadowbank Gold Mine Project Proposal in the Kivalliq Region of Nunavut, Project Certificate NIRB [No. 004]*. Prepared by the Nunavut Impact Review Board for the Meadowbank Gold Mine Project. Original issued December 2006. Amendment issued November 2009.

NIRB (Nunavut Impact Review Board). 2016. *In the matter of an application by Agnico Eagle Mines Limited for the Mine Development of the Meadowbank Gold Mine Project Proposal in the Kivalliq Region of Nunavut, Project Certificate NIRB [No. 004]*. Prepared by the Nunavut Impact Review Board for the Meadowbank Gold Mine Project. Original issued December 2006. Second amendment issued August 2016.

Appendix II Public Information Meeting Summary Report, August 13, 2018

Public Information Meeting Summary Report,

for the NIRB's Monitoring of
Agnico Eagle Mines Ltd.'s Meadowbank Gold Mine Project [03MN107]
& Whale Tail Pit Project [16MN056]

Nunavut Impact Review Board
File Nos. 03MN107 & 16MN056
October 2018

Full Report Title:	Public Information Meeting Summary Report. Created for the NIRB's Monitoring of Agnico Eagle Mines Ltd.'s Meadowbank Gold Mine Site Project (NIRB File No. 03MN107) and the Whale Tail Pit Project (NIRB File No. 16MN056)
Report prepared by:	Sophia Granchinho, Manager, Impact Assessment
Contact:	Phone: (867) 857-4829; email sgranchinho@nirb.ca
Photos by:	NIRB Staff
Cover photos:	1) View of Meadowbank Mine Site (2018)

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1 NIRB PUBLIC INFORMATION SESSION

1.1 Overview of Public Information Meeting

To ensure ongoing awareness of the Nunavut Impact Review Board (NIRB) process and to encourage effective participation throughout the monitoring process, the NIRB staff held an information session in Baker Lake on August 13, 2018. Through this information session, the NIRB provided an overview of the following:

- The NIRB's monitoring programs pursuant to Section 12.7.2 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (*Nunavut Agreement*) and s. 135(3) of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (*NuPPAA*);
- An update on the NIRB's Meadowbank Gold Mine Project (Meadowbank Project) monitoring program;
- An update on the NIRB's Whale Tail Pit Project (Whale Tail Project) monitoring program; and
- The ways in which the public can participate within the NIRB's monitoring process.

A summary of the comments and concerns related to the Meadowbank Project and the Whale Tail Project that were received from community members are categorized by the NIRB in Section 2 of this report. In addition to the NIRB staff, industry representatives, including representatives from Agnico Eagle Mines Ltd. (Agnico Eagle), were also in attendance.

1.2 Setup of NIRB Public Information Meeting

The public information session was open to all members of the public with snacks and refreshments provided, and door prizes raffled at the end of the meeting. At the meeting, all in attendance were asked to sign in and identify the community or organization they represented (see Appendix A). To facilitate a better understanding of the monitoring of the Meadowbank Project and Whale Tail Project, the NIRB gave a PowerPoint presentation at the meeting (see Appendix B) that included a discussion of the NIRB process, with a focus on the NIRB's monitoring programs, an update on the Projects, including an overview of the Meadowbank and Whale Tail Project activities and key components, and events and/or issues identified through the project specific monitoring programs.

The presentation concluded with a discussion as to how interested parties and community members could participate in the NIRB's processes. The presentation was shown in both English and Inuktitut, discussed in English, with simultaneous interpretation provided in Inuktitut. The public was encouraged to comment and ask questions relating to the NIRB's process, activities undertaken, project effects, and any concerns related to Meadowbank Project and the Whale Tail Project and current proposals. Both written and verbal comments were accepted at the public information meeting, and verbal comments were recorded by the NIRB staff. The interpreter provided consecutive translations for the comments presented in Inuktitut.

1.3 Meeting Materials

At the public meeting, the following materials were provided by the NIRB:

- The NIRB's PowerPoint presentation (in English and Inuktitut)
- The *Nunavut Agreement* (in English)
- NIRB Environment Assessment Brochures (in English and Inuktitut)
- The NIRB's 2016-2017 Annual Monitoring Report for Agnico Eagle's Meadowbank Gold Project (in English)
- Meadowbank Gold Mine Project Certificate No 004 (in English)
- Whale Tail Pit Project Certificate No. 008 (in English)
- Agnico Eagle's Meadowbank Gold Project 2017 Annual Report (electronic)
- Comment Forms (in English and Inuktitut)

Copies of consultation materials, including the presentation, advertisements and sign-in sheet, can be obtained from the NIRB's online public registry at www.nirb.ca/project/124588 or www.nirb.ca/project/124683.

1.4 Agenda and Venues of Public Information Meeting

The NIRB staff scheduled the public meeting based on consultation with community organizations and travel requirements. The public meeting in Baker Lake was held on August 13, 2018.

1.5 Advertisements

Public notification is an essential tool used to engage the public in effective consultation. The NIRB utilized a number of notification methods to advertise the public information meeting held in Baker Lake. For a sample of all advertisements distributed by the NIRB, please see Appendix C.

Radio
Public service announcement in English and Inuktitut were distributed to the radio station in Baker Lake one (1) week prior to the meeting.

Flyers
Prior to the NIRB visiting the community, local community members were requested to assist with placement of flyers around town, announcing the NIRB meeting in English and Inuktitut. Additionally, flyer placements were verified once staff arrived in each community. Additional posters were placed in key business and community locations if they were not present (e.g., Northern and Co-Op stores, Hamlet offices, Hotels, etc.).

2 MEETING NOTES FROM THE NIRB'S PUBLIC INFORMATION MEETING

The following is a list of the comments and concerns that were raised verbally at the public information session for the monitoring of the Meadowbank Project and the Whale Tail Project (no written comments were received). These comments will help to identify items that need to be addressed or considered throughout the monitoring process.

Please note that all comments have been grouped by topic.

Compliance with Terms and Conditions

- A community member requested information on what terms and conditions Agnico Eagle was not in-compliance.

Aquatic Environment and Wildlife

- A community member noted concern with respect to the road that goes to Meadowbank as the road travels through the caribou migration route. Noted experience with being part of the wildlife biology program.
- A community member asked information on the ice shelf that is observed at one of the pits at the mine site and what the cause is. The member noted that currently water is being added to the ice to keep it from growing and potentially falling on workers in the pit.
- A question was asked by a community member on why wildlife deterrents are being used at the site noting concern that wildlife should not be impacted.
- Another member asked what type of deterrents are used at site.

Monitoring

- A question was asked by a community member on why regulatory authorities do not conduct community meetings to update people on their monitoring programs. The member asked if the NIRB could make a recommendation about this. The community member also asked if regulatory authorities actually go to site to monitor things and what do these other agencies look at.

Photo 1: Community Meeting in Baker Lake

3 SUMMARY AND CONCLUSION

Community members from Baker Lake who attended the evening presentations related to the monitoring of the Meadowbank Project and the Whale Tail Project raised questions, concerns and comments on the monitoring being conducted by the NIRB. The comments and concerns raised were related to wildlife, monitoring and compliance.

There was a general appreciation of the NIRB's process and community members noted that they appreciated the NIRB's presence within the community and to discuss the current projects. However, community members noted that members from the hamlet were not present and that many of the regulators were not present including the Kivalliq Inuit Association, Fisheries and Oceans Canada, Crown-Indigenous Relations and Northern Affairs Canada.

The comments and concerns raised during the public information meeting will aid in the identification of items that need to be addressed or considered throughout the Meadowbank Project and the Whale Tail Project monitoring program.

Prepared by:	Sophia Granchinho, EP	Reviewed by:	Kelli Gillard, P.Ag.
Title:	Manager, Impact Assessment	Title:	Manager, Project Assessment
Date:	October 11, 2018	Date:	October 11, 2018

Signature:

Signature:

Appendix A NIRB's Public Information Meeting Sign-in Sheets

Nunavut Impact Review Board
Agnico Eagle Mines Ltd.'s "Meadowbank Gold Project" &
"Whale Tail Pit Project" Monitoring Program
Community Information Session

SIGN-IN SHEETS

Location: Baker Lake **Date:** August 13, 2018
Time: 7pm **Page No:** 1

Name (Please Print)	Organization or Community	Signature
Winnie Haqpi	Baker Lake	Winnie Haqpi
VIOLA Haqpi	Baker Lake	Viola Haqpi
SARAH SILOA	Baker Lake	
Randy Mercer	Rankin Inlet	
SIMEON MIKKUNGWAK	MLA BAKER LAKE	Simeon Mikk
SAMSON OKKAQ		
Mike HUGHSON	BAKER LAKE	
Joan Lee	Baker Lake	Joan Lee
RAYMOND OWINGUYAK	Baker Lake Raymond Owinguyak	Raymond Owinguyak
EDWIN EVO	Baker Lake	Edwin Evo
Richard AKsarniq	BL HTO	
Rob ARSENAULT	D.O.E.	R. Arsenault
Paula Hughson	Baker Lake	P. Hughson
[illegible]		
Dianne Scottie	Baker Lake	
Martha Toralu	BL NU	
Samson Toralu	BL NU	
JAMES KAILUK		
MORGAN ANDY	BL NU	

Nunavut Impact Review Board
Agnico Eagle Mines Ltd.'s "Meadowbank Gold Project" &
"Whale Tail Pit Project" Monitoring Program
Community Information Session

SIGN-IN SHEETS

Location: Baker Lake **Date:** August 13, 2013

Time: 7pm **Page No:** 2

Name (Please Print)	Organization or Community	Signature
EVA ELYTOOK	Baker Lak	Eva Elytook
Hugh Nateela	HTO	Hugh Nateela
Hugh Ikoe	GN	
Beau Farrag		
THOMAS ELYTOOK	KIA REP.	
emma leith	AEM	
Karen Yip	Agnico Eagle	
Rey, Jean Simailak Peter T. Kaalaaq	Baker Lake	
Rhoda Higinio	Rhoda Higinio	
Eli Higinio		
Silas Kenaloyak	SK	
CRAIG SIMAILAK	BLCS	
Rebecca Walker	Teacher JBSS	
nc merry		
Mark Kingilik		Mark Kingilik
Dorothy Kakegak	AEM. worker	
Dennis Kuksook	INUK	

Appendix B NIRB's PowerPoint Presentation

ᓄᓇᕗᒻ ᐊᖏᑎᓕᕆᓕᕐᓂᖅ ᑲᑎᒪᓕᕐᓗᒃ
Nunavut Impact Review Board

Update on the Meadowbank Gold Project Monitoring Program & the Whale Tail Pit Project

ᐅᓴᒥᒧᑦᑐᖅᑐᖅᓯᓚᑦ ᐊᐅᖅᑎᓂᓵᖅᑐᒥᑦ ᒧᓗᒧᒪᑦ ᐱᓕᕆᐊᖃᖅ ᖃᐅᔨᒪᐊᖅᑕᕐᓂᖓᒧᑦ ᑐᕌᖅᓱᒪᔪᖅ ᐊᒻᒪᓗ Whale Tail ᓄᓇᒥᑦ ᐃᓗᐳᑦᑐᕐᓯᒪᔪᖅ ᐱᓕᕆᐊᖅ

August 2018
ᐊᑎᓕ 2018

ᑭᑐᐅᑦ ᐊᖏᑎᓕᕆᓕᕐᓂᖅ?
What is the Nunavut Impact Review Board?

ᓄᓇᕗᒻ ᐊᖏᑎᓕᕆᓕᕐᓂᖅ ᑲᑎᒪᓕᕐᓗᒃᑐᑦ ᑎᒥᖓᖅᑎᑕᐅᔪᓚᑦᓯᓗ ᐃᓄᓗᕆᒡᓄᑦ ᒪᓕᒐᖓᖅᑎᑕᐅᔪᓚᕐᖅ ᐱᓕᕆᐊᖃᖅᑐᓂᓗ ᐊᖏᑎᐅᑦ ᐊᒃᑐᖅᑕᐅᓂᖓᓄᑦ ᖃᐅᔨᓴᖅᑎᓂᖅᓱᒃ ᐱᓕᕆᐊᖓᓂᖅᑎᑕᐅᔪᓚᕐᖅ

ᓯᖏᒃ ᑕᒪᐅᖏᓱᖁᓯᒪᓕᕆᑦ ?

- ᓄᓇᕗᑦ ᐊᐢᑎᓕᓚᐅᔨᑦ ᐱᓕᓚᐊᖏᑦ
- ᖃᐅᔨᓴᖅᑕᐅᔪᑦ ᐱᓕᓚᐊᓚᓴᐅᔪᑦ
- ᐊᐳᖅᑎᖓᓄᖅᑐᒥ ᔪᓕᒧᑦ ᐅᓴᖅᑕᓚᐊᖅᓘᐅᒃ
- ᐱᓯᖏᔪᓕᖅ ᖃᓄᖏᔪᓂᓕ ᓄᓇᒥᑦ ᐃᓕᓴᕐᑐᖅᓯᒪᔪᖅ ᐱᓕᓚᐊᖅ
- ᐊᐢᑎᓕᓚᐅᔨᑦ ᐱᓕᓚᐊᖏᑦ, ᐊᐳᖅᑎᓄᖅᑐᒥ ᔪᓕᒥᒃ ᐱᔪᑎᖃᖅᑐᑦ
- ᑭᑐᑐᐃᓄᐃᑦ ᐃᓕᐅᖃᕆᐅᓂᖏᑦ

Why are we here?

- Overview of the NIRB
- Monitoring programs
- The Meadowbank Gold Project
- The Whale Tail Pit Project
- Highlights from the NIRB's Meadowbank Monitoring Program
- Public Participation

What does the NIRB do?
ᓯᓚᓚᖃᕐᓂᖅᓴᐅᑦ ᓄᓇᕗᒻᒥ ᐊᐢᑎᓕᓚᐅᔭᖅᑯᑦ ᑲᑎᒪᔨᖏᑦᑕ?

Application for project
ᑐᖅᓯᖁᐅᔨᖏᓂᖅ ᐱᓕᓚᐊᖏᔪᒃ

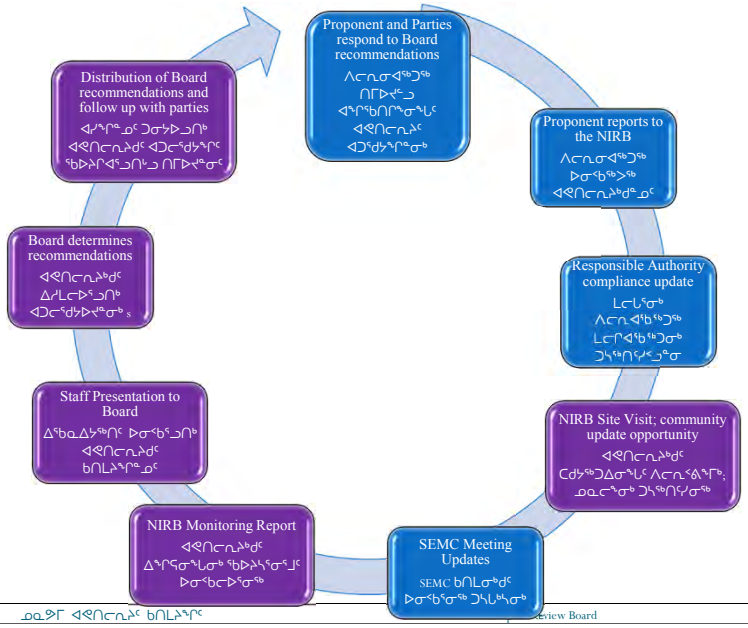
Identify impacts
ᐃᓕᑦᖅᓯᓂᖅ ᐊᖅᑐᖅᓯᓂᐅᔨᓂᖅ

Decide if project should proceed or not
ᐃᓯᒪᓕᐅᔨᔪᓄᓂ ᐱᓕᓚᐊᖏᑦ ᑲᔪᓯᓂᐊᖏᒪᖓᔾᔪᑎᒃ ᑲᔪᓯᓂᐊᖏᑭᒪᖓᔾᔪᑎᒍᓂᑦ

Develop conditions to minimize negative impacts
ᐱᓱᑦᓕᐊᓂᖅᑎᖏᓄᓂ ᖃᓄᐃᖏᓱᖁᓯᒪᓕᕆᓂᖅᑎᑦᑎᓂᒃ ᒥᑭᒃᑲᓯᓂᖅᑎᓂᒃᓴᓪᓗᒍᑦ ᐊᖅᑐᖅᓯᓂᑦ

Monitor effects of project
ᖃᐅᔨᔪᓕᐊᖅᑕᕐᓴᓄᑦ ᖃᐅᔨᓄᑦᖃᖅᑎᑎᖅᓂᑦ ᐱᓕᓚᐊᖏᑦ ᐱᔪᑦ

NIRB Monitoring
ᐊᖏᑎᓕᕆᔨᒋᑦ ᐃᖏᕐᕋᓂᖏᓐᓄᑦ ᖃᐅᔨᓴᖅᓂᖅ



NIRB's Project Specific Monitoring Programs
ᓄᓇᕗᑦ ᐊᖏᑎᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᑦ, ᐅᓴᖃᑕᓕᐊᕐᓇᑦ ᖃᐅᔨᓴᖅᓂᖓᖏᑦ ᐱᓚᓕᐊᓂᖓᖏᑦ

- ᓱᐅᓕᑯ ᐅᓴᖃᑕᓕᐊᕐᓇᒃ ᑕᐃᒪᒧᑦ (2005)
- ᑐᐊᓕ (2006)
- ᐊᐅᖅᑎᓐᓄᖅᑐᖅ (2006)
- ᒥᐊᓕ ᑯᓚᓂ (2012)
- ᑕᓯᖁᐊᖏᒥ ᐅᓴᖃᖕᓂᐅᐊᕐᓇᒃ (2015)
- Back River (2017)
- Whale Tail ᓄᓇᒥᑦ ᐃᓗᑦᑐᖅᓯᒪᔪᖅ ᐱᓕᕆᐊᖅ (2018)

- ᐊᖏᑎᓕᕆᔨᑯᓂ ᐱᓕᕆᔨᑦ ᑎᑯᐊᖅᑕᐅᔪᓐᓃᑦ ᑲᒪᔭᒃᖁᒥᓂᒃ ᐅᓴᖃᑕᓕᐊᖅᑐᓂ

- Jericho Diamond Mine (2005)
- Doris North (2006)
- Meadowbank (2006)
- Mary River (2012)
- Meliadine (2015)
- Back River (2017)
- Whale Tail Pit (2018)

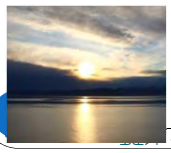
- Each has a staff person dedicated as a "Monitoring Officer"

The NIRB's Monitoring Programs

- The purpose of a monitoring program is to:
  - Monitor environmental and socio-economic effects of the project
  - Monitor compliance to authorizations and approvals
  - Conduct annual reporting and provide information to parties
  - Assess accuracy of predictions

ᓄᓇᕗᑦ ᐊᐸᑎᓕᓵᔨᑦ ᑲᑎᕆᖏᑦ ᖃᐅᔨᓴᖅᓯᒪᑦ ᐱᓕᓵᖏᑦ

- ᓄᓇᕗᑦ ᐊᐸᑎᓕᓵᔨᑦ ᐅᑯᓂᖏᑦ ᖃᐅᔨᓴᖅᑭᑲᑦ:
  - ᐅᓴᖅᑕᓵᐊᐃᐅᕐᓂ ᐊᒃᑐᕐᓂᖏᑦ ᐊᐸᑎᒍᑦ ᐊᒻᒪᓗ ᐃᓄᓕᕐᓂᒍᑦ ᓄᓇᕗᒥ
  - ᐱᓕᓵᐊᓵᖅᑯᐅᕐᓂᓗ ᐊᖏᕈᑎᐅᓕᕐᓂᓗ ᐱᖓᓕᐊᖅᑯᐅᕐᓂ ᖃᐅᔨᓴᖅᓗᑎᑦ
  - ᐅᑭᐅᑕᒪᑦ ᐱᖓᓕᐊᕐᓂ ᐅᓴᖅᑕᓵᐊᓂᖅ, ᑐᓴᖅᑕᐅᑦᓗᑎᑦ ᓄᓇᓕᒃᓄᑦ
  - ᖃᐅᔨᓴᖅᑕᑦᓗᑎᑦ ᓂᓵᐅᑎᖅᐅᕐᓂᑦ ᑐᑭᑦᑎᓗᑎᑦᓗ



Meadowbank Gold Mine Project

ᐊᐳᖅᑎᓐᓇᖅᑐᒥ ᔪᓚᒧᑦ ᐅᓴᖅᑕᓵᐊᖏᓚᒃ ᐱᓕᓕᐊᓂᖓᓚ

- ᑎᓯᐱᓚ 2006, ᐊᐸᑎᓕᓵᔨᒃᑯᑦ ᑐᓂᓯᔾᔨᑦ ᐱᓕᓵᐊᖏᓪᓗᒧᑦ ᓇᓚᐅᐃᑯᑕᖏᑦ
- 2007-ᒥᑦ, ᐊᓱᓐᑯᑯᒃᑯᑦ ᐱᓴᖓᒪᑦ ᐊᐳᖅᑎᓐᓇᐸᖅᑐᒥᑦ ᔪᓚᒧᑦ ᐅᓴᕐᓂᓂᐊᖏᓚᒃ.
- 2009-ᒥᑦ, ᐊᐸᑎᓕᓵᔨᒃᑯᑦ ᐃᖏᑭᐊᖅᓯᔾᔨᑦ ᐱᓕᓵᐊᖏᓪᓗᒧᑦ ᓇᓚᐅᐃᑯᑎ [004]
  - ᐃᖏᑭᐊᖅᓯᓂᖅ ᖃᓄᐃᙱᓚᓂᖅ 32 ᒪᓕᒃᓴᒍ ᓄᓇᒋᕐᓂᖏᓪᓗᒧᑦ ᐊᖓᕐᖃᑎᒌᒍᑎᑎ 12.8.2

- In December 2006, NIRB issued Project Certificate No. 004
- In 2007, Agnico Eagle Mines acquired the Meadowbank Gold Mine.
- In 2009, NIRB amended the Project Certificate [004]
  - Amendment to Condition 32 pursuant to NLCA 12.8.2

Meadowbank Gold Mine Project
ᐊᐳᖅᑎᵒᓇᖅᑐᒥ ᔪᓗᒧᑦ ᐅᓴᖅᑕᓂᐊᕐᕆᖅ ᐱᓕᕆᐊᓂᖏᓐ

- 2016-ᒥᑦ, ᐊᕐᕈᑎᑕᓂᓵᒃᑯᑦ Vault ᐃᓗᑦᑐᖅᓯᒪᔨᖏᑦ ᐊᖏᑎᕆᑕᐊᖅᑎᑦᑐᒪᓂᖏᓐᓄᑦ ᓴᓱᒪᓴᐅᓂᖅᓯᒪᒥᑦ ᑐᓴᓯᖅᐅᓯᖅᑐᑦ
  - ᐃᓄᑕᓂᓵᑐᖅᑲᑯᵒᓄᑦ ᒥᓂᑦᑕᐅᑉ ᐱᓴᖏᓐ ᐊᕐᕈᑎᑕᓂᓵᒃᑯᑦ ᐃᒪᵒᓴᖅᑐᖅᑕᖏᓐ
  - ᐱᑕᓂᐊᖏᒧᑦ ᓇᓗᓇᐃᑯᑎᐅᑉ ᒥᖅᓴᓄᑦ ᑲᑎᒪᔨᖏᓐᓂᒧᑦ ᐱᑕᓂᐊᖏᒧᑦ ᓇᓗᓇᐃᑯᑎ ᓴᓱᐅᑎ 004
- In 2016, NIRB recommended that the Vault Pit Expansion Project proposal be approved
  - Minister of INAC accepted the NIRB's recommendation
  - Project Certificate No. 004 amended in August 2016

9

Meadowbank Gold Mine Project Location
ᐊᐳᖅᑎᵒᓴᖅᑐᒥᑦ ᔪᓗᒧᑦ ᐱᑕᓂᐊᑉ ᐃᓂᖏᓐ

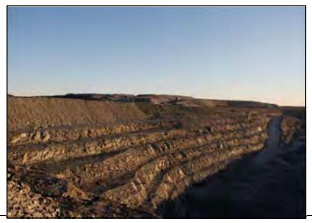
- ᐊᐳᖅᑎᵒᓇᖅᑐᖅ ᖃᐅᓂᑐᐊᑉ ᓴᓂᐊᓂ, 70km, ᐊᖏᓴᓂᖃᖅᑐᖅ
  - ᐱᑕᓂᕕᖅ
  - ᒥᕕᖅ
  - ᐅᓴᖅᑕᓂᓵᐊᓂᖏᓐᓄᑦ ᐃᒡᓗᔪᐊᑦ
- ᐱᖏᓴᓂᑦ ᓄᓇᒥ ᐊᑦᓭᑕᖅᑐᑦᔪᐊᑦ ᐅᓴᖅᑕᖏᕕᖅ
  - ᐳᐊᑕᑦ
  - ᔪᓂ ᐃᒪᖏᓂ
  - ᑭᐅᑦ
- Mine site 70 km north of Baker Lake
  - Camp
  - Airstrip
  - Mining infrastructure
- Three open pits
  - Portage
  - Bay Goose (closed)
  - Vault

10

Meadowbank Gold Mine Project Location
ᐊᐳᖅᑎᓐᓂᖅᑐᒥᑦ ᔪᓗᒧᑦ ᐱᓕᓇᐊᑦ ᐃᓂᖏᑦ

- ᖃᐅᓂᑐᐊᖏᑦ ᖃᑕᐅᔭᕐᕕᐊᖃᖅᖢᓴᒃ ᐊᒪᓗ ᐅᒥᐊᖏᕐᕕᐊᓂᒃ ᑐᓕᕆᒃ
  - ᐅᖅᓯᐊᓗᓂᒃ ᖃᑕᐅᔭᖏᕐᕕᐃᑦ
  - ᓯᐅᐅᓂᒃ ᐅᖏᐊᒪᑐᓕᕆᒃ
- 110 km ᑕᑭᑎᒥᕐᖅ ᐅᑭᐅᓗᒃᑕᒥ ᐊᑐᑭᓇᖅᑐᖅ ᐊᑦᖏᑎᑦ, ᖃᐅᓂᑐᐊᖏᑦᑕ ᐅᐳᖅᑎᓐᓇᖅᑐᒪᑦ

- Baker Lake bulk fuel storage facility/marshalling area
  - Fuel tank farm
  - Laydown area
- 110 km all-weather road linking Baker Lake to Meadowbank site



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ᓄᓇᕗᒻ ᐊᐢᕐᑎᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᑦ — Nunavut Impact Review Board

Layout of the Meadowbank Mine Site

ᐊᐳᖅᑎᓇᖅᑐᒥ ᐅᓴᖏᓐᓂᐊᖏᖅᑐᑦ ᐊᖏᕈᓯᒪᓂᕐᒃ

12

ᓄᓇᕗᒻ ᐊᐢᕐᑎᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᑦ

Agnico Eagle's Project Activities at Meadowbank 2017-2018
ᐊᓗᓂᑯᑦ ᐱᓕᕆᐊᖑᓕᓂ ᐊᐳᖅᑎᓄᓐᓀᖅᑐᑦ 2017-2018-ᒥᑦ

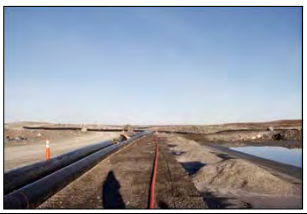
- ᐊᐅᓪᓴᖅᑎᑎᓂᐅᓕᐅᖅᑐᑦ ᐊᓚᒐᓄ ᐅᓴᖅᑕᕐᕿᐅᓕᐅᖅᑐᑦ Portage-ᒥᑦ ᐊᓚᒐᓄ Vault-ᒥᑦ
- ᐊᐅᓪᓴᖅᑎᑎᓂᐅᓂᑦ Goose-ᒥᑦ ᓄᓇᒥᑦ ᐃᓄᑦᑐᖅᓯᒪᔨᖏᒥᑦ ᐃᓯᓕᓕᐅᖅᑐᖅ 2015-ᒥᑦ
- ᓴᓇᓴᐅᓐᓕᓕᐊᓂᖓᓗ 6-ᒋᓴᖓᓂᓕᖅᑐᖅ ᐃᒪᕐᒃᖅᑎᑎᑕᐃᓕᓂᕐᒧᑦ ᓯᒥᐅᑐᐃᓂᖅ
- ᓴᓇᓴᐅᓐᓕᓕᐊᓂᖓᓗ ᑐᓴᓕᐊᓂᑦ ᓚᒃᑲᒥᑦ ᐱᖓᓴᓯᐊᓂᓕᖅᑐᖅ ᐃᒪᕐᒥᐅ ᑯᐱᑎᑎᓂᑦ Saddle Dam 3, 4 ᐊᓚᒐᓄ 5

- Ongoing operation and mining at Portage and Vault Pits
- Operations at Goose Pit ended in 2015
- Construction of the Phase 6 of the Central Dike
- Ongoing construction of Phase 2 and Phase 3 of Saddle Dam 3, 4 and 5

Agnico Eagle's Project Activities at Meadowbank 2017-2018
ᐊᓗᓂᑯᑦ ᐱᓕᕆᐊᖑᓕᓂ ᐊᐳᖅᑎᓄᓐᓀᖅᑐᑦ 2017-2018-ᒥᑦ

- ᐊᖓᑎᐅᐸᑦ ᖃᐅᔨᓴᖅᑕᐅᓂᖓᓗ ᒪᓕᑲᓂᓄᑦ ᒪᓕᑦᑎᐊᖏᓐᓄᑦᑕ ᓕᐃᓴᓇᓄᑦ ᐊᔪᖑᓪᓗᑎᓄᑦᓗ
- ᐃᓕᓴᔪᖑᓐᓄᑦ ᐅᑎᖅᑎᑕᐅᓂᖓᓗ ᑲᔪᓯᔭᑎᓄᑦ
- ᑲᔪᓯᔪᓕᒥᐅ ᐅᓴᖅᓂᓂᐊᖅᓯᓄᑦᓗ

- Ongoing environmental monitoring to ensure compliance with permits and licences
- Ongoing remediation activities
- Ongoing exploration



Whale Tail Pit Project
Whale Tail ᓄᓇᒥᑦ ᐃᓗᑦᑐᖅᓯᒪᔪᖅ ᐱᓕᕆᐊᖅ

- ᓴᐅᐊᕆ 2018-ᒥᑦ, ᑲᓇᑕᒥᑦ ᒥᓂᑕᑎᕐᐅᔨᑦ ᓵᒪᒪᖅᓴᓕᐅᖅᑐᑦ Whale Tail ᓄᓇᒥᑦ ᐃᓗᑦᑐᖅᓯᒪᔪᖅ ᐱᓕᕆᐊᖅ
- ᐃᒡᓗ 2018-ᒥᑦ, ᐊᐅᑎᓕᕆᔨᖅᑯᑦ ᑐᓂᓯᓕᐅᖅᑐᑦ ᐱᓕᕆᐊᖅᓯᒪ ᓵᓚᐅᐃᖅᑑᑎᒃ ᑲᑎᕐᐅᑎᓕᒃ 008 Whale Tail ᓄᓇᒥᑦ ᐃᓗᑦᑐᖅᓯᒪᔪᖅ ᐱᓕᕆᐊᖅ

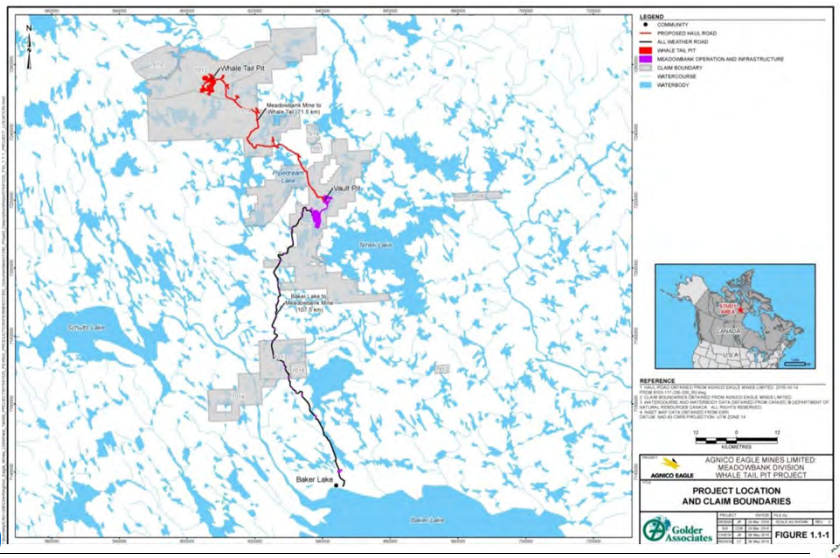
- In February 2018, the Federal Ministers approved the Whale Tail Pit Project
- In March 2018, NIRB issued Project Certificate No. 008 for the Whale Tail Pit Project

Whale Tail Pit Project
Whale Tail ᓄᓇᒥᑦ ᐃᓗᑦᑐᖅᓯᒪᔪᖅ ᐱᓕᕆᐊᖅ

- ~150 kilometres (km) north of the hamlet of Baker Lake and approximately 50 km northwest of Meadowbank Gold Mine Project
- Whale Tail Pit Project located at the Amaruq Property
  - Open pit gold mining
  - Supporting infrastructure at Amaruq Property
  - Use of existing infrastructure at Meadowbank
  - Access roads

- ~150 ᑭᒋᒥᑕᓂᖅ ᐅᐊᖏᓇᖏᓱᓂᑐᖅ ᖃᐅᓂᑐᐊᑦ ᐊᒻᒪᓗ 50 ᑭᒋᒥᑕᑦᓗᐊᑦ ᐅᐊᖏᓇᖅᓯᓯᖏᓂᑦ ᐱᖏᓱᖏᓇᖅᓯᓯᖏᓱᓂᑐᖅ ᐊᐳᖅᑎᖏᓵᓇᖅᑐᑦ ᔪᓗᒥᒃ ᐅᔾᔨᖅᓂᐊᖅᓯᒪᓂᖅ
- Whale Tail ᓄᓇᒥᑦ ᐃᓗᑦᑐᖅᓯᒪᔪᖅ ᐱᓕᕆᐊᖅ ᐊᒪᑕᖅ-ᒥᑦᑐᖅ
- ᐅᖅᑯᐃᖏᓱᓕᔨᖅ ᓄᓇᒥᑦ ᔪᓗᒥᒃ ᐅᔾᔨᖅᓂᐊᖅᓯᓂᖅ
- ᐱᖁᑯᑎᒋᐅᔨᑦ ᐊᑐᖅᑕᐅᖅᑲᑕᖅᑐᑦ ᐊᒪᑕᖅ-ᒥᑦᑐᑦ
- ᐊᑐᖁᓗᓂ ᑕᐃᒪᐅᔨᓂᖅ ᐱᖁᑯᑎᓂᖅ ᐊᐳᖅᑎᖏᓵᓇᖅᑐᑦ
- ᐊᖁᖁᑎᑦ

Whale Tail Pit Project Location
Whale Tail ᓄᓇᒥᑦ ᐃᓗᖅᑐᖅᓯᒪᔨᑦ ᐃᓂᖏᑦ

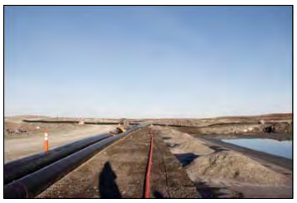


Agnico Eagle's Project Activities at Whale Tail 2017-2018
ᐊᖏᓂᔪᖅᑎᑦ ᐱᓕᕆᐊᖃᕐᓂᑦ Whale Tail-ᒥᑦ 2017-2018-ᒥᑦ

- ᐊᖏᓂᔪᖅᑎᑦ ᑐᖅᓯᕐᕋᐅᓕᕋᐅᖅᑐᑦ ᐳᒥᑦ-ᓂᖅ ᐊᒻᒪᓗ ᐱᔨᖃᖓᓕᕆᐅᓂᓂᖅ ᓴᓇᕈᑦᓕᐊᒥᐊᕈᒪᔨᓗᑎᒃ
  - ᐃᓄᐃᑦ ᐊᖅᑐᖅᑕᐅᓂᖃᕐᓂᓄᑦ ᐃᑲᔪᐊᑎᓄᑦ ᐊᖏᓕᕆᖅᑕᐅᓕᕋᐅᖅᑐᖅ ᓯᓂ 2017-ᒥᑦ
  - ᓄᓇᕗᒻᒥ ᐃᒪᓕᖅᓱᖅᑎᑦ ᑐᓂᓯᓕᐅᖅᑐᖅ Type A ᐃᒪᖏᑦ ᓕᐃᖏᓐᓯᒥᖅ ᒪᐃ 2018-ᒥᑦ
  - ᐃᖏᓗᑐᓕᖅᓂᖏᑦ ᐱᖏᑯᖅ-ᒥᑦ ᐱᔨᖃᖓᓕᕆᓂᑎᓂᖅ ᐅᖅᑐᑎᕆᐅᑎ ᑐᓂᔭᐅᔨᖅ ᓯᓂ 2018-ᒥᑦ
- Agnico Eagle applied for permits and authorizations to commence construction
  - IIBA signed in June 2017
  - Type A Water Licence issued by the NWB in May 2018
  - Fisheries Act Authorization *Draft* issued June 2018

Agnico Eagle's Project Activities at Whale Tail 2017-2018
ᐊᖏᓂᔪᓂᑦ ᐱᓕᕆᐊᖑᒋᑦ Whale Tail-ᒥᑦ 2017-2018-ᒥᑦ

- ᐸᓕᐃ ᓄᖅᔭᐊᓂᕐ, ᐊᖏᓂᔨ ᐃᔨ ᐅᔾᕋᖅᓂᐊᖅᑐᓕᕆᔨᓂᑦ ᖃᓄᐹᓕᐊᒋᐊᖅᑐᑦ Whale Tail-ᒥᑦ ᐃᒪᖃᖅᖅᑎᑦᑎᑦᑕᐃᓕᐸᒥᒃ
- Late July, AEM initiated construction of the Whale Tail Dike



NIRB's Monitoring of the Meadowbank Project
ᐊᖑᑎᓕᕆᔨᓂᑦ ᐃᖏᕐᕋᓂᖅᓱᒃᑕ ᐊᐅᖅᑎᓭᖅᑐᑦ ᖁᑲᐅᔪᕐᕋᖅᓱᒃᑐ

- ᐊᑲᔪᑕᒧᑦ ᐅᓂᐸᑲᖅ (ᐃᐅᓐᕈ 2018)
- ᐅᖁᑲᐅᓯᖏᓐᓂᒃ ᑲᑎᖅᓯᐃᓗᓂᓂ ᐊᑲᔪᑕᒧᑦ ᐅᓂᐸᑲᒥ (ᔨᓂ 2018)
- ᐅᔾᕋᖅᓂᐊᕐᕕᒃ ᑕᑯᔾᖅᑐᕐᓗᔪ ᓄᓇᓕᖓᓗ ᑐᓴᖅᑎᓯᓗᓂᓂ (ᐊᑎᓯ 2018)
- ᐅᐸᓗᒥᓕᖅᑐᐃᓂᖅᓱᒃ ᑲᑎᒪᔨᓄᓂᑦ (ᐅᖅᑐᐃᑦ 2018-ᒥᑦ)

- Annual Report (April 2018)
- Comments on Annual Report (June 2018)
- Site Visit and Community Info Session (August 2018)
- Update to the Board (October 2018)

2017 Site Visit Observations
2017 ᐱᓕᕆᔨᖏᑦ ᑕᑯᖃᖅᑐᖅᓯᒪᔨᓗᓂ ᖃᐅᔨᓴᓕᕆᓂᖅ

- ᐱᓕᕆᐊᖅᐱᐊᓂᓂᖅ hydrocarbon-ᖅᐱᓂᕿᖅᑕᐅᔪᖅ
- ᓂᕿᔪᑎᓂᒃ ᖃᑭᓯᑎᕿᑎᓂᖅ ᐃᓐᖏᕐᖃᖅᑕᐅᔭᕆᐊᖃᖅᖃᑐᖅ
- ᐃᒪᖃᖅᐅᓯᖏᖅᑎᑦ ᐱᓕᕆᐊᖃᖅᕿᓂᖅ ᐅᖃᖅᓯᐊᓗᐃᑦ ᑐᖅᓯᐊᓗᐃᑦ ᐊᕐᓯᖅᖃᖅᓯᒪᓂᖅ
- ᐱᔭᕆᐊᖃᖅᕿᓂᖅ ᐳᔪᖃᖅᑕᓴᖃᖅᑎᑎᑕᐃᓕᒪᔪᐊᑎ ᒥᒃ (ᖃᖅᓄᐃᖏᑦᑐᔭᕆᐊᖃᖅᕿᓂᖅ 74)

- Successful treatment of hydrocarbons
- Wildlife deterrents needs to be replaced
- Well maintenance of fuel storage facilities
- Requirements of dust suppression (Condition 74)

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ᐃᖅᔪᓂᑎᑦ ᐃᔪᓕᕆᔨᐅᓂᖏᓐᓄᑦ ! Your Input is Valuable!

ᖃᓄᖅ ᐃᓕᐅᖃᑕᐅᔪᒃᓭᖅᐱᑦ ?

- ᐊᒃᓂᑯ ᐅᔭᖅᑕᕆᐊᑦ ᑎᑎᖅᓱᒪᔭᖏᑦ ᑎᑎᖅᕿᓕᖅᓗᑦ
- ᐃᓱᒪᒋᔭᑎᑦ ᐱᓕᕆᐊᕆᔨᑯᑎᑦ ᑎᑎᕎᓗᑦ ᑐᓂᑕᑭᑦ ᐊᐸᑎᓕᕆᓕᑯᓂᑦ
- ᓄᓇᕗᒥ ᐊᐸᑎᓕᕆᔨᑦ ᑎᑎᕎᐃᖏᓐᓄ ᐅᖃᓄᐃᑯᑦ ᐅᖃᓗᐃᑦᑕᖅᓗᑦ ᑐᓴᕆᐊᖃᖅᑕᕆᑦ, ᐱᓕᕆᔨᑦ ᐃᓕᐅᖃᐊᖅᑐᑦ

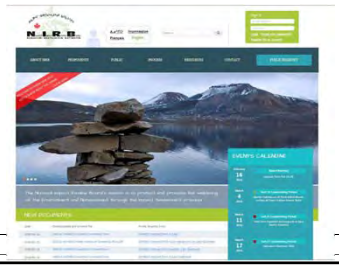
How can you get involved?

- Review Agnico Eagle's annual reports
- Submit written comments and questions
- Phone the NIRB's office toll-free to talk about the project with our staff

How can you learn more about NIRB's assessments?
ᖃᐅᔨᖅ ᐃᓕᓴᐅᓂᑭᓇᖅᐳᑦ ᑕᒪᐃᓂᖏᑦ ᓄᓇᕗᑦ ᐊᕐᕌᑎᓕᕆᔨᓂᑦ ᑲᑎᒪᔨᖏᑦᑐᖅ ᖃᐅᔨᓴᖅᑭᑦᑐᖅᓯᒪᔪᓂᒃ?

- Land Use Planning
  - Search for projects and documents
  - Access Land Use Plans
- Compliance
  - Active projects and deadlines

- Public Registry
  - Search for project or document
  - Register to receive notifications
- Calendar
  - Active projects and deadlines



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Thank you - Matna!
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Questions?
ᐊᐱᖅᓯᑎᒃᑲᓪᓚᖅ?

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Appendix C Radio Announcement

July 30, 2018

Re: Public Service Radio Announcement

Hello Baker Lake Radio Station,

The Nunavut Impact Review Board (NIRB) will be holding a community information session in Baker Lake on August 13, 2018 to discuss the **Meadowbank Gold Mine Monitoring Program and the Whale Tail Project Monitoring Program** and we would greatly appreciate your assistance in helping us make this event a success.

We kindly ask to please air this announcement once or twice a day in English and Inuktitut if possible, starting August 7, 2018 and continuing the announcements through August 13, 2018.

If you have any questions, please call Sophia Granchinho at 1-867-857-4829. We look forward to seeing you soon.

Matna,

Sophia Granchinho
Nunavut Impact Review Board

Public Service Announcement

The Nunavut Impact Review Board (or "NIRB") is holding a Community Information Session in Baker Lake to give community members an update on the monitoring of the Meadowbank Gold Mine Project and the Whale Tail Pit Project.

The Nunavut Impact Review Board will be at the Baker Lake Community Hall on Monday, August 13, 2018 and the public meeting will start at 7:00 p.m. with a presentation and a chance for community members to ask questions and share comments about the NIRB's ongoing Monitoring Program for the Meadowbank Gold Mine and the Whale Tail Pit Project.

Stop by for coffee or tea, and share your thoughts. Door prizes will be given away and the Nunavut Impact Review Board staff will be listening to your questions and comments.

All members of the public are welcome to attend these meetings and Inuktitut-English interpretation will be provided.

Appendix III Compliance with the Meadowbank Gold Mine Project Certificate No. 004

Term & Condition (NIRB Project Certificate No. 004)	Reporting Requirements	Compliance Achievement
Regulatory Requirements (General)		
3. Cumberland must obtain all required federal and territorial permits and other approvals, and shall comply with the requirements of such regulatory instruments.	n/a	Complete and in compliance
4. Cumberland shall take prompt and appropriate action to remedy any noncompliance with environmental laws and regulations and/or regulatory instruments, and shall report any non compliance as required by law immediately and report the same to NIRB annually	Annually	Summary of non-compliance provided in the 2017 Annual Report.
5. Cumberland shall meet with respective licensing authorities prior to the commencement of construction to discuss the posting of adequate performance bonding. Licensing authorities are encouraged to take every measure to require that sufficient security is posted before construction begins. This bonding should not duplicate other amounts of security required (eg. the NWB).	n/a	Complete and in compliance
Monitoring Records		
6. All monitoring information collected pursuant to regulatory requirements for the Meadowbank Project shall contain the following information: a. The person(s) who performed the sampling or took the measurements including any accreditations; b. The date, time and place of sampling or measurement, and weather conditions; c. Date of analysis; d. Name of the person(s) who performed the analysis including accreditations; e. Analytical methods or techniques used; and f. Results of any analysis.	Annually	Ongoing and in compliance
7. Cumberland shall keep and maintain the records, including results, of any monitoring, data, or analysis, for a minimum of the life of the Project, including closure and post-closure monitoring. This time period shall be extended if requested by NIRB, GN, CIRNAC, DFO, EC or the NWB.	Annually	Ongoing and in compliance
Water Quality and Waste Management		
8. Cumberland shall, within 30 days of re-opening of the camp, re-sample existing groundwater monitoring wells and combining the sampling data with existing rounds of groundwater sampling data, re-evaluate the salinity, major ion concentrations, and dissolved metal load of groundwater flowing to the mine pits and incorporate the results into the water quality monitoring and treatment program. At the time samples are taken Cumberland shall also assess the condition of existing groundwater monitoring wells and replace any defective wells. Cumberland shall continue to undertake semi-annual groundwater samples and re-evaluate the groundwater quality after each sample collection. Cumberland shall report the results of each re-evaluation to NIRB's Monitoring Officer, CIRNAC and EC, and incorporate the results of the additional data into the water license application to the NWB.	Annually	Agnico Eagle provided a summary of the 2017 groundwater monitoring program in Appendix G8 of the 2017 Annual Report
9. Cumberland shall provide detailed plans for water treatment for the tailings (reclaim pond) discharge, and on a contingency basis for the attenuation pond discharge(s) and for the pits, including estimates of treatment efficiency for each parameter of concern and the description of pH adjustments in the water license application to the NWB.	n/a	Complete and part of NWB Type "A" water licence
10. Cumberland shall provide details of the camp sewage treatment, including the type of treatment to be used and the expected treatment capabilities, in the water license application to the NWB.	n/a	Complete and part of NWB Type A water licence
11. Cumberland shall provide details regarding the effluent outfall configuration, including discharge characteristics, the likely behavior of the plume(s), and bathymetric information for Wally Lake in the water license application to the NWB.	n/a	Complete and part of NWB Type A water licence

Term & Condition (NIRB Project Certificate No. 004)	Reporting Requirements	Compliance Achievement
12. Cumberland shall provide details of a comprehensive water use and water management plan for the Baker Lake marshalling area, including monitoring of the discharge from the marshalling area sump, in the water license application to the NWB.	n/a	Complete and part of NWB Type "A" water licence
13. Cumberland shall not permit the water discharged into Wally Lake and Third Portage Lake to exceed receiving environment discharge criteria established by the NWB or as otherwise required by law.	n/a	Ongoing and in compliance
14. Cumberland shall not remove dewatering dikes until the quality of water contained within them is of sufficient quality to meet receiving environment discharge criteria established by the NWB or as otherwise required by law.	n/a	*At end of mine life*
15. Cumberland shall within two (2) years of commencing operations re-evaluate the characterization of mine waste materials, including the Vault area, for acid generating potential, metal leaching and non metal constituents to confirm FEIS predictions, and re-evaluate rock disposal practices by conducting systematic sampling of the waste rock and tailings in order to incorporate preventive and control measures into the Waste Management Plan to enhance tailing management during operations and closure. The results of the re-evaluations shall be provided to the NWB and NIRB's Monitoring Officer.	n/a	In its 2016 annual report, Agnico Eagle provided a summary of the results of the NPAG versus PAG materials
16. N/A-Missed Number	n/a	n/a
17. Cumberland shall undertake a detailed technical review of all dike and pitwall designs at the final design stage, and submit the final dike designs for water depths of greater than 10 metres for an expert analysis and Cumberland shall include the detailed technical review and the expert analysis in the application to the NWB for a water license.	n/a	Complete and part of NWB Type "A" water licence
18. Cumberland shall commit to a pro-active tailings management strategy through active monitoring, inspection, and mitigation. The tailings management strategy will include the review and evaluation of any future changes to the rate of global warming, compliance with regulatory changes, and the ongoing review and evaluation of relevant technology developments, and will respond to studies conducted during the mine operation.	n/a	Ongoing and in compliance
19. Cumberland shall provide for a minimum of two (2) metres cover of tailings at closure, and shall install thermistor cables, temperature loggers, and core sampling technology as required to monitor tailing freezeback efficiency. Cumberland shall report to NIRB's Monitoring Officer for the annual reporting of freezeback effectiveness.	Annually	In its 2017 annual report, Agnico Eagle provided a summary of the instrumentation installed including a description of the results from the 2017 reporting period.
20. Prior to construction, Cumberland shall identify mitigation measures that can be taken if groundwater monitoring around the tailings facility demonstrates that contamination from tailings has occurred through the fault. Upon drawdown of the North arm of Second Portage Lake, Cumberland shall conduct further tests to assess the permeability of any faults and provide the results to regulators. If doubt remains Cumberland shall seal the fault and conduct further permeability testing and monitoring	n/a	Complete and part of NWB Type "A" water licence
21. Cumberland shall fund and install a weather station at the mine site to collect atmospheric data, including air temperature and precipitation.	Results to be submitted annually	Ongoing and in compliance
22. Prior to the commencement of the Project, Cumberland shall fund and install an on site lab that has the capability to monitor parameters at a type and at a frequency acceptable to the NWB and EC at all site discharge points. The results of these analyses, as well as any other water quality monitoring required by regulatory authorities shall be used in the submission of a receiving water assimilative capacity water quality assessment study of concern to regulators. The lab shall be certified for environmental water quality analysis purposes with standards to include the calibration of water quality monitoring instruments. Cumberland shall file proof of application to become accredited upon the request of the NWB.	n/a	A small laboratory is on site
23. For the purposes of monitoring quality assurance and quality control ("QA/QC"), Cumberland shall ensure that water quality monitoring performed at locations within receiving waters that allow for an assimilative	Results to be submitted annually	Agnico Eagle provided a summary of the quality assurance and

Term & Condition (NIRB Project Certificate No. 004)	Reporting Requirements	Compliance Achievement
capacity assessment of concern to regulators, be carried out by an independent contractor and submitted to an independent accredited lab for analysis, on a type and frequency basis as determined by the NWB. Results of analysis shall be provided to the NWB and NIRB's Monitoring Officer.		quality control conducted for all water quality monitoring in the 2017 annual report.
24. Cumberland shall identify an area and design for a landfill for disposal of operational and closure non-salvageable materials, including a list of any non salvageable materials, and a procedural manual for preparation of location and placements of these materials, and incorporate the design into the final Waste Management Plan as instructed by the NWB	n/a	1) Hazardous Materials Management Plan, version 3, October 2013 provided 2) Landfill Design and Management Plan, version 3, April 2017 provided
25. Cumberland shall manage and control waste in a manner that reduces or eliminates the attraction to carnivores and/or raptors. Cumberland shall employ legal deterrents to carnivores and/or raptors at all landfill and waste storage areas. The deterrents are to be developed taking into consideration Traditional Knowledge and in consultation with the HTO, EC and CIRNAC and incorporated into the final Waste Management Plan prior to filing the Plan with the NWB.	n/a	1) Waste Management Plan provided 2) Landfill Design and Management Plan, version 3, April 2017 provided
26. Cumberland shall ensure that spills, if any, are cleaned up immediately and that the site is kept clean of debris, including wind-blown debris.	n/a	Spill Contingency Plan, version 6, March 2016 provided
27. Cumberland shall ensure that the areas used to store fuel or hazardous materials are contained using safe, environmentally protective methods based on practical, best engineering practices.	n/a	Spill Contingency Plan, version 6, March 2016 provided
28. Cumberland shall become a signatory to the International Cyanide Management Code, communicate this to shippers, and do so prior to Cumberland storing or handling cyanide for the Project.	n/a	Agnico Eagle received full ICMC certification in March 2016
Project Alternatives and Planned Changes		
29. Cumberland shall report to NIRB if and when Cumberland develops plans for an expansion of the Meadowbank Gold Mine, and in particular if those plans affect the selection of Second Portage Lake as the preferred alternative for tailings management.	n/a	Agnico Eagle provided a summary of the Vault Pit Expansion into Phaser Lake within the 2016 Annual Report which was repeated in the 2017 Annual Report.
30. Cumberland shall meet with EC and the DFO to ensure that the information required for the application to add the northwest arm of Second Portage Lake as a tailings impoundment area under Schedule 2 of the Metal Mining Effluent Regulations, including the No Net Loss Plan to offset losses expected as a result of all other Project infrastructure, is complete and the application can be processed according to law.	n/a	Updated No Net Loss Plan, October 2012 provided and Habitat Compensation Monitoring, 2011 provided
All-Weather Private Access Road		
31. Cumberland shall provide detailed stream crossing design criteria, including consideration of the DFO Operational Statement for Clear-span bridges for all water crossings identified to have fish presence, final crossing designs, site specific mitigation procedures, an effects monitoring program, and a maintenance and closure plan for all water course crossings, to the DFO and the NWB for review and approval.	In addition to DFO and NWB, Include CIRNAC and GN on submissions	Complete and part of DFO permits and NWB water licence
32. (*amended*) Agnico Eagle shall operate the all-weather road as a private access road, and implement all such measures necessary to limit non-mine use of the road to authorized, safe and controlled use by all-terrain-vehicles for the purpose of carrying out traditional Inuit activities. The measures Agnico Eagle shall undertake include, but are not limited to: a. Maintaining a gate and manned gatehouse at kilometre 5 of the Private Access Road; b. In consultation with the Hamlet of Baker Lake, the local HTO, and the KivIA, update the All-weather Private Access Road Management Plan to set out the criteria and processes to authorize and ensure safe and controlled non-mine use of the road by all-terrain-vehicles for the purpose of carrying out traditional Inuit activities, and measure to limit all other non-mine use of the road. The updated Plan is to be	Annually for 32e, 32f, 32g and 32h	32a to 32d: Complete and in compliance 32g: A summary of the non-mine authorized road use was provided in the 2017 Annual Report. 32f; 32f and 32h: Agnico Eagle provided a summary of the consultation conducted with

Term & Condition (NIRB Project Certificate No. 004)	Reporting Requirements	Compliance Achievement
submitted to the GN, CIRNAC, and KivIA for approval no later than one (1) month after the approval of revised Condition 32. c. The posting of signs in English and Inuktitut at the gate, each major bridge crossing, and each 10 kilometres of road, stating that unauthorized public use of the road is prohibited; d. The posting of signs in English and Inuktitut along the road route to identify when entering or leaving crown land; e. Prior to opening of the road, and annually thereafter, advertise and hold at least one community meeting in the Hamlet of Baker Lake to explain to the community that the road is a private road with non-mine use of the road limited to approved, safe and controlled use by all-terrain-vehicles for the purpose of carrying out traditional Inuit activities. f. Place notices at least quarterly on the radio and television to explain to the community that the road is a private road with non-mine use of road limited to authorized, safe and controlled use by all-terrain-vehicles for the purpose of carrying out traditional Inuit activities. g. Record all authorized non-mine use of the road, and require all mine personnel using the road to monitor and report unauthorized non-mine use of the road, and collect and report this data to NIRB one (1) year after the road is opened and annually thereafter; and h. Report all accidents or other safety incidents on the road, to the GN, KivIA, and the Hamlet immediately, and to NIRB annually.		respect to the AWAR for the 2017 monitoring period and noted that no incident involving non-mine authorized use occurred in 2017.
33. Cumberland shall update the Access and Air Traffic Management Plan to: a. include an All-weather Private Access Road Management Plan, including a right-of-way policy developed in consultation with the KivIA, GN, CIRNAC and the Hamlet of Baker Lake, for the safe operation of the all-weather private access road; and b. to facilitate monitoring of the environmental and socio-economic impacts of the private road and undertake adaptive management practices as required, including responding to any concerns regarding the locked gates.	n/a	Agnico Eagle provided an updated AWAR Transportation Management Plan dated March 2017 that replaces the Access and Air Traffic Management Plan as part of the 2016 Annual Report.
34. Cumberland shall, in consultation with the Hamlet of Baker Lake, KivIA, and the Royal Canadian Mounted Police, facilitate the hiring of a full-time road safety, search and rescue position to respond to safety matters arising from mine and unauthorized non-mine use of the all-weather private access road, including consulting with Baker Lake and Chesterfield Inlet Elders to incorporate Traditional Knowledge into search and rescue operations.	n/a	Complete and in compliance
35. Cumberland shall reclaim the all-weather private access road at the end of the mine life to prevent any future use of the road, including scarification of the road and restoration of the natural hydrology, topography, and vegetation, subject only to Cumberland and/or its successor seeking NIRB Article 12 approval for the road to be maintained and operated beyond the life of the mine.	n/a	*At end of mine life*
36. Cumberland shall ensure the placement of local area marine mammal monitors onboard all vessels transporting fuel or materials for the Project through Chesterfield Inlet.	n/a	Only one marine mammal monitor was hired for the period of July 24 to July 28. The 2017 Annual Report notes that approximately 36 barges arrived in Baker Lake for the 2017 year.
37. Cumberland will contract only Transport Canada certified shippers to carry cargo for the Project, and will require shippers transporting cargo through Chesterfield Inlet to carry the most up-to-date emergency response/spill handling equipment as recommended and accepted by the Government of Canada with the crew trained to deploy the equipment, including practice drills deploying spill equipment in remote locations within the Inlet.	n/a	Ongoing and in compliance

Term & Condition (NIRB Project Certificate No. 004)	Reporting Requirements	Compliance Achievement
38. Cumberland shall make every reasonable effort to minimize the number of ships and barges transporting cargo for the Project, and require shippers transporting cargo for the Project through Chesterfield Inlet to be operated in accordance with safe shipping management policies, including using Canadian Hydrographic Service published detailed marine charts and nautical instructions, and be fitted with modern state-of-the-art navigation equipment.	n/a	Ongoing and in compliance
39. Within three (3) months of contracting with a shipping company to transport cargo to the Project through Chesterfield Inlet and prior to the commencement of shipping, Cumberland shall advertise and hold a community information meeting in Chesterfield Inlet to fully discuss the shipping program for the Project. Thereafter, Cumberland shall annually advertise and hold a community information meeting in Chesterfield Inlet to report on the Project and to hear from Chesterfield Inlet residents and respond to concerns. A consultation report shall be submitted to NIRB's Monitoring Officer within one month of the meeting.	Annually with consultation report submitted within one month of meeting	Meetings were held in Chesterfield Inlet and Baker Lake in 2017 with summaries provided in the 2017 Annual Report
40. Cumberland shall gather Traditional Knowledge from the local HTOs and conduct a minimum of a one-day workshop with residents of Chesterfield Inlet to more fully gather Traditional Knowledge about the marine mammals, cabins, hunting, and other local activities in the Inlet. Cumberland shall report to KivIA and NIRB's Monitoring Officer annually on the Traditional Knowledge gathered including any operational changes that resulted from concerns shared at the workshop.	Copy DFO on result; Report annually	Meetings were held in Chesterfield Inlet and Baker Lake in 2017 with summaries provided in the 2017 Annual Report
41. Subject to vessel and human safety considerations, Cumberland shall require shippers carrying cargo to the Project through Chesterfield Inlet to follow the following mitigation procedures in the event that marine mammals are in the vicinity of the shipping activities: a. Wildlife will be given right of way; b. Ships will maintain a straight course, constant speed, and will avoid erratic behaviour; and c. When marine mammals appear to be trapped or disturbed by vessel movements, the vessel will stop until the mammals have moved away from the area.	n/a	Ongoing and in compliance
42. Cumberland shall ensure all fuel transfer operations take place in accordance with the Arctic Waters Pollution Prevention Act and relevant oil transfer guidelines	n/a	Ongoing and in compliance
43. Lightering activities at Helicopter Island are not approved, except in case of emergency only, and in such case Cumberland shall explain why all other methods were not practical, meaning technically, logistically, and financially not feasible	n/a	Ongoing and in compliance
44. Within one (1) month of contracting with a shipper, Cumberland shall submit a comprehensive Spill Contingency and Emergency Response Plan to regulatory authorities.	Copies of plan should be submitted to EC, TC, GN, DFO, and NWB Transport Canada - Marine Safety will require an Oil Pollution Emergency Plan for any Oil Handling Facility operated by Cumberland	Spill Contingency Plan, version 6, March 2016 provided Emergency Response Plan, version 12 submitted as part of the 2017 Annual Report Oil Handling Facility: Oil Pollution Emergency Plan, version 8, April 2018
45. Cumberland shall carry, and require contracted shippers to carry adequate insurance to fully compensate losses arising from a spill or accident, including but not limited to the loss of resources arising from the spill or accident. Any claims are to be reported to proper officials with a copy to NIRB's Monitoring Officer.	n/a	No claim was reported for the 2017 year.
Fish and fish-habitat		
46. Cumberland shall apply for Fisheries Act approval for the freshwater intake pipe for the Project, and submit for DFO approval a detailed plan of the proposed intake, including siting, design of intake screens in	n/a	Complete and part of DFO permits and NWB water licence

Term & Condition (NIRB Project Certificate No. 004)	Reporting Requirements	Compliance Achievement
accordance with the DFO Freshwater End-of-Pipe Fish Screen Guidelines, construction and operation considerations, fish and fish habitat impacts, and mitigation and monitoring plans		
47. Cumberland shall develop an adaptive approach to managing the water flow from Third Portage Lake, including the consideration of alternatives to deepening the easternmost channel; submission of detailed design of the easternmost channel modifications; a monitoring program for channel erosion, verification of the maintenance of water levels in Third Portage Lake, and the success of fish habitat enhancements; and contingencies in the event of channel failure, for approval by the DFO.	n/a	Complete and part of DFO permits and NWB water licence
48. Term and condition deleted (*see Project Certificate amendment 2*)	n/a	n/a
49. Agnico Eagle Mines Ltd. shall develop, implement and report on the fish-out programs for the dewatering of Second Portage Lake, Third Portage Lake, Vault Lake and Phaser Lake. This must be done in consultation with the DFO, Elders and the HTOs, and in a manner that optimizes the acquisition of northern fisheries science and augments baseline fisheries data to support monitoring programs and the final design of fish habitat compensation for the Project.	Results of the fish-out programs should be provided in the annual report to the NIRB.	A summary of the fish-out program for Phaser Lake was provided in the 2016 Annual Report
50. Cumberland shall, in consultation with the DFO, undertake to prevent the barge landing facility from infilling of fish habitat, including considering using geotextile material in a manner that is capable of maintaining bottom substrate for benthic invertebrates and fish	n/a	Complete and part of DFO permits and NWB water licence
51. Cumberland shall engage the HTOs in the development, implementation and reporting of creel surveys within waterbodies affected by the Project to the GN, DFO and local HTO.	n/a	NOT IN COMPLIANCE. Agnico Eagle suspended the creel surveys in 2016.
52. Cumberland shall enforce a no-fishing policy for employees while working on the job site	n/a	Ongoing and in compliance
53. Agnico Eagle Mines Ltd. shall, in consultation with the HTOs and DFO, develop a Fish Habitat Monitoring Plan, including augmenting baseline fisheries data in the period prior to operation, with the clear objective of demonstrating the success of the No Net Loss Plan approved by the DFO. The Fish Habitat Monitoring Plan should include Phaser Lake.	The updated plan should be provided to the NIRB for review at least 30 days prior to commencement of construction activities. Results from the fisheries baseline data to be provided in the annual report to the NIRB.	Fish Habitat Offsetting Plan: Phaser Lake Addendum, version 1 submitted as part of the 2016 Annual Report
Wildlife and Terrestrial		
54. Cumberland shall provide an updated Terrestrial Ecosystem Management Plan, to the GN, EC and CIRNAC, within three (3) months of the issuance of the Project Certificate including: a. Updated terrestrial ecosystem baseline data; b. Details of the method and rationale for conducting monitoring surveys prior to the commencement of construction; c. Statistical validation to support the conclusions drawn from monitoring impacts of the mine and infrastructure on wildlife; d. A detailed analysis of the method of distinguishing between cow/calf groups from other caribou group observations; e. Details of a comprehensive hunter harvest survey to determine the effect on ungulate populations resulting from increased human access caused by the all-weather private access road, including establishing preconstruction baseline harvesting data, to be developed in consultation with local HTOs, the GN-DOE and the Nunavut Wildlife Management Board; f. Details of annual aerial surveys to be conducted to assess waterfowl densities in the regional study area during the construction phase and for at least the first three (3) years of operation, with the data analyzed and compared to baseline data to determine if significant effects are occurring and require mitigation. g. Details of an annual breeding bird plot surveys and transects along the all-weather road to be conducted during the construction phase and for at least the first three (3) years of operation.	TEMP should be a stand-alone document which provides direction and methods in regard to how the wildlife monitoring should be conducted. Baseline data collected should be submitted in the annual Wildlife Summary Monitoring Report.	54: Terrestrial Ecosystem Management Plan, version 5 submitted June 2018. 54e: NOT IN COMPLIANCE. Agnico Eagle suspended the Hunter Harvest Survey in 2016. 54f: In compliance. Agnico Eagle suspended the waterbird nest survey program in 2013 along the mine site and along the AWAR due to low densities of waterbird nests identified. 54g: The most recent PRISM plot survey was conducted in 2015

Term & Condition (NIRB Project Certificate No. 004)	Reporting Requirements	Compliance Achievement
h. Details of a monitoring program, including recording the locations and frequency of observing caribou and carnivores and any actions taken to avoid contact with or disturbance, and a specific mitigation plan for Shortearred owls and any other species of special concern pursuant to Schedule 3 of the Species at Risk Act located in the local study area or along the all-weather private access road.		with the next survey planned for 2019. 54h: 2017 Wildlife Monitoring Summary Report submitted as part of the 2017Annual Report.
55. Cumberland shall provide the following analysis in the March 2007 Wildlife Summary Monitoring Report: a. Further review and analysis of the size of the regional study area; b. A summary of the involvement of Inuit in the monitoring program; c. A detailed report of the natural variability of VECs in the region; d. A detailed analysis on distribution and abundance of cows, bulls, and calves; e. Results of the 2006 monitoring program, including field methodologies and statistical approaches used to support conclusions drawn; f. Any proposed changes to the TEMP survey methodologies, statistical approaches or proposed adaptive management stemming from the results of the monitoring program.	Annual Wildlife Monitoring results submitted must include baseline monitoring; effects monitoring; and compliance monitoring.	2017 Wildlife Monitoring Summary Report submitted as part of the 2017Annual Report.
56. Cumberland shall plan, construct, and operate the mine in such a way that caribou migration paths through the Project, including in the narrows west of Helicopter Island, are protected. Maps of caribou migration corridors shall be developed in consultation with Elders and local HTOs, including Chesterfield Inlet and placed in site offices and upgraded as new information on corridors becomes available. Information on caribou migration corridors shall be reported to the GN, KivIA and NIRB's Monitoring Officer annually.	Annually	Caribou telemetry data provided within the 2017 Wildlife Monitoring Summary Report
57. Cumberland shall participate in a caribou collaring program as directed by the GN-DOE	n/a	Agnico Eagle is participating in the GN DoE satellite-collaring program.
58. Cumberland shall, in consultation with Elders and the HTOs and subject to safety requirements, design the lighting and use of lights at the mine site to minimize the disturbance of lights on sensitive wildlife and birds	n/a	Complete and in compliance
59. Cumberland shall, in consultation with Elders and the HTOs, design and implement means of deterring caribou from the tailing ponds, such as temporary ribbon placement or Inukshuks, with such designs not to include the use of fencing	n/a	Complete and in compliance
60. Whenever practical, Cumberland shall implement a stop work policy when wildlife in the area may be endangered by the work being carried out	n/a	Ongoing and in compliance
61. In consultation with EC, Cumberland shall incorporate into the Terrestrial Ecosystem Management Plan and the Air Traffic Management Plan a commitment for aircraft to maintain (whenever possible) a cruising altitude of at least 610 metres during point to point travel when in areas likely to have migratory birds, and 1000 metres vertical and 1500 metres horizontal distance from observed concentrations of migratory birds, and use flight corridors to avoid areas of significant wildlife importance	n/a	Part of TEMP

Term & Condition (NIRB Project Certificate No. 004)	Reporting Requirements	Compliance Achievement
62. Cumberland shall develop and implement a noise abatement plan to protect people and wildlife from significant mine activity noise, including blasting, drilling, equipment, vehicles and aircraft. The noise abatement plan will be developed in consultation with Elders, GN, HC, and EC and include: a. The use of sound meters to monitor sound levels in and around the mine site, including workers' on-site living /sleeping quarters and any summer camps adjacent to the site, and in the local study area, with the locations and design of the sound meters selected in consultation with HC and EC. Sound meters are to be set up immediately upon issuance of the Project Certificate for the purpose of obtaining baseline data, and monitoring during and after operations; b. The establishment of strict standards for noise levels, such as the World Health Organization's Community Noise Guidelines threshold level for sleep disturbance; c. Restrictions on blasting and drilling when migrating caribou, or sensitive local carnivores or birds may be affected; d. The use of noise attenuation devices for equipment and vehicles; e. The use of temporary solid fences or berms around noisy machines or sites when practical; and f. Require (with the exception of take off and approach for landing), a minimum flight altitude of 610 metres above ground when flights to and from the mine site are passing sensitive wildlife and bird areas.	Annually	Noise Monitoring and Abatement Plan, version 3 submitted June 11, 2018 The noise monitoring program results were provided in the 2017 annual report.
Socio-economic		
63. Within six (6) months of the issuance of a Project Certificate, the GN and CIRNAC shall form a Meadowbank Gold Mine Socio-Economic Monitoring Committee ("Meadowbank SEMC") to monitor the socio-economic impacts of the Project and the effectiveness of the Project's mitigation strategies. The monitoring shall supplement, not duplicate, the monitoring required pursuant to the IIBA negotiated for the Project, and on the request of Government or NPC, could assist in the coordination of data collection and tracking data trends in a comparable form to facilitate the analysis of cumulative effects. The terms of reference shall focus on the Project, include a plan for ongoing consultation with KivIA and affected local governments and a funding formula jointly submitted by GN, CIRNAC and Cumberland. The terms of reference shall be submitted to NIRB for review and subsequent direction within six (6) months of the issuance of a Project Certificate. Cumberland is entitled to be included in the Meadowbank SEMC.	Within six (6) months of issuance of a Project Certificate	Draft terms of reference provided April 29, 2008.
64. Cumberland shall work with the GN and CIRNAC to develop the terms of reference for a socio-economic monitoring program for the Meadowbank Project, including the carrying out of monitoring and research activities in a manner which will provide project specific data which will be useful in cumulative effects monitoring (upon request of Government or NPC) and consulting and cooperating with agencies undertaking such programs. Cumberland shall submit draft terms of reference for the socio-economic monitoring program to the Meadowbank SEMC for review and comment within six (6) months of the issuance of a Project Certificate, with a copy to NIRB's Monitoring Officer.	Annually	Agnico Eagle has retained Stratos Inc. to develop a socio-economic monitoring report with the draft presented to the committee in June 2017.
65. Cumberland shall include in its socio-economic monitoring program for the Meadowbank Project the collection and reporting of data of community of origin of hired Nunavummiut	Annually	Summary of workforce at Meadowbank provided within the 2017 Annual Report.
Human Health		
66. Cumberland shall establish a nursing station and hire a registered on-site nurse.	n/a	Temporary nursing station established 2008 and a permanent station was established in 2011
67. Cumberland shall develop and implement a program to monitor contaminant levels in country foods in consultation with HC. A copy of the plan shall be submitted to NIRB's Monitoring Officer	n/a	Studies were completed in 2014 and then 2017. Results of the Wildlife Screening Level Risk Assessment and Human Health

Term & Condition (NIRB Project Certificate No. 004)	Reporting Requirements	Compliance Achievement
		Risk Assessment for the Consumption of Country Foods were provided in appendices attached to the 2017 Annual Report.
68. Cumberland shall, in consultation with Elders, local HTOs and the Meadowbank Gold Mine SEMC, demonstrate that they are working toward incorporating Inuit societal values into mine operation policies.	n/a	Ongoing
69. Cumberland shall carry out the Project to minimize the impacts on archeological sites, including conducting proper archeological surveys of the Project area (including the all-weather road and all quarry sites). Cumberland shall provide to the GN an updated baseline report for archeological sites in the Project area, including: a. referencing of sites as directed by the GN, b. the process used for age determinations of archeological sites, and c. the specific measures being taken to avoid listed sites, and d. the monitoring that will take place, to the GN prior to the commencement of construction.	n/a	No additional impact assessments were conducted at Meadowbank in 2017. Agnico Eagle conducted archaeological impacts assessment and mitigation within the Amaruq exploration project at the Whale Tail zone and along the proposed exploration road in 2016.
70. Cumberland shall report any archeological site discovered during the course of construction, including a burial site, immediately and concurrently to the GN and KivIA. Upon discovering an archeological site, Cumberland shall take all reasonable precautions necessary to protect the site until further direction is received from the GN. In the event that it becomes necessary to disturb an archaeological site, Cumberland shall consult with Elders, GN and KivIA to establish a site specific mitigation plan, and obtain all necessary authorizations and comply with all applicable laws	n/a	Complete unless new archaeological sites are discovered at Meadowbank. A 2010 archaeological study report was submitted as part of the 2011 Annual Report.
Air Quality		
71. Cumberland shall, in consultation with EC, install and fund an atmospheric monitoring station to focus on particulates of concern generated at the mine site. The results of air-quality monitoring are to be reported annually to NIRB	Annually	The results of the 2017 air quality and dust monitoring program conducted by Agnico was provided in the 2017 annual report. Air Quality and Dusftall Monitoring Plan, version 3 submitted June 2018
72. On-site incinerators shall comply with Canadian Council of Ministers of Environment and Canada-Wide Standards for dioxins and furan emissions, and Canada-wide Standards for mercury emissions, and Cumberland shall conduct annual stack testing to demonstrate that the on-site incinerators are operating in compliance with these standards. The results of stack testing shall be contained in an annual monitoring report submitted to GN, EC and NIRB's Monitoring Officer	Stack testing changed to every other year following discussions with ECCC (2012).	Results of the 2017 stack testing were provided in the 2017 annual report.
73. Cumberland shall undertake to conserve the Project's use of energy, monitor the Project's green house gas emissions, and continuously review and, if possible, consider for adoption new technologies to ensure greenhouse gases meet the latest Canadian standards or criteria.	n/a	Ongoing and in compliance
74. Cumberland shall employ environmentally protective techniques to suppress any surface road dust	n/a	NOT IN COMPLIANCE No dust suppressants applied to the AWAR.

Term & Condition (NIRB Project Certificate No. 004)	Reporting Requirements	Compliance Achievement
Accidents and malfunctions		
75. Cumberland shall provide a complete list of possible accidents and malfunctions for the Project. It must consider the all-weather road, shipping spills, cyanide and other hazardous material spills, and pitwall/dikes /dam failure, and include an assessment of the accident risk and mitigation developed in consultation with Elders and potentially affected communities	n/a	A list of possible accidents and malfunctions were included in the following management plans: i) *Hazardous Materials Management Plan, v3, October 2013;* ii) *Spill Contingency Plan, v6, March 2016;* ii) *Emergency Response Plan, v12, January 2018;* v) *Oil Pollution Emergency Plan v8, May 2018;* v) *OMS Manual for TSF v7, March 2017;* vi) *OMS Manual for the dewatering dikes v7; March 2018.*
76. Cumberland shall develop an "Early Warning Monitoring Program" along the east boundary of the Project's local study area (mine and road) including the location where Third Portage Lake flows into Tehek Lake. The "Early Warning Monitoring Program" shall discuss how the communities of Baker Lake and Chesterfield Inlet will be actively involved and shall be submitted to NIRB's Monitoring Officer for review prior to Project construction. If adverse effects from the project to any VEC are detected along this boundary, then Cumberland shall notify the NIRB's Monitoring Officer for determination as to whether and to what extent additional monitoring is required.	Results to be provided annually	Related to the AEMP and CREMP programs
77. Cumberland shall as soon as possible, review and coordinate its Emergency Response Plan with the emergency response plans of the Hamlets of Baker Lake and Chesterfield Inlet	n/a	Ongoing and in compliance
Abandonment and Reclamation		
78. Cumberland shall file a complete Closure and Reclamation Plan developed to comply with INAC's policy of full cost of restoration and any related NWB requirements such that the Inuit and taxpayers are not liable for any cost associated with the cleanup, modification, decommission, or abandonment	n/a	Updated Closure and Reclamation Plan, December 2012 provided Interim Closure and Reclamation Plan, January 2014 provided
79. In addition to the NWB's requirements, the final Closure and Reclamation Plan shall require Cumberland to: a. Ensure that mine facilities and infrastructure are abandoned in such a manner that: i. The Project site is physically stable and any requirements for long term maintenance and monitoring are minimized; ii. Threats to public safety and wildlife are eliminated; and iii. Affected areas are returned to the original undisturbed conditions to the fullest extent possible. b. Prevent continuing impacts from contaminants and wastes on the environment including those associated with acid rock drainage; c. Remove all hazardous materials and waste and as much salvageable waste as practicable from the Project area; and d. Enter into written arrangements with its abandonment and reclamation contractors to ensure all site debris is cleaned up off the lands, including wind-blown debris	n/a	Updated Closure and Reclamation Plan, December 2012 provided Interim Closure and Reclamation Plan, January 2014 provided

Term & Condition (NIRB Project Certificate No. 004)	Reporting Requirements	Compliance Achievement
80. Cumberland shall file annually with NIRB's Monitoring Officer an updated report on progressive reclamation and the amount of security posted, as required by KivIA, INAC, and/or the NWB.	Annually	A summary of the progressive reclamation completed in 2016 and previous years were provided in the 2017 Annual Report.
Other		
81. Beginning with mobilization, and for the life of the Project, Cumberland shall provide full 24 hour security, including surveillance cameras and a security office at the Baker Lake storage facility/marshalling area, and take all necessary steps to ensure the safe and secure storage of any hazardous or explosive components within the Hamlet of Baker Lake boundaries	n/a	Ongoing and in compliance
82. Cumberland shall monitor the ingress/egress of ship cargo at Baker Lake and report any accidents or spills immediately to the regulatory agencies as required by law and to NIRB's Monitoring Officer annually	Annually	A summary of the 2016 ingress/egress was provided in the 2017 annual report. No spills occurred during the 2017 monitoring period.
83. Cumberland shall ensure that the explosive mix-truck is only used to mix diesel and ammonia nitrate to form an explosive only at the blast site, and that when the explosive mix-truck is not in use it is stored with the strictest setback requirements as required or recommended by NRCan	n/a	Ongoing and in compliance
84. To the extent permitted by the IIBA, and when the assets are no longer required by Cumberland, Cumberland shall offer the Hamlet of Baker Lake the first right of refusal to purchase salvageable mine assets located within the Hamlet of Baker Lake boundaries	n/a	*At the end of mine life*
85. Cumberland shall develop a detailed blasting program to minimize the effects of blasting on fish and fish habitat, water quality, and wildlife and terrestrial VECs. The Blasting Program shall be developed in consultation with the DFO and GN, and shall: a. comply with the *Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters* (Wright and Hopky, 1998) as modified by the DFO for use in the north; b. including a monitoring and mitigation plan to be developed in consultation with the DFO, and obtain DFO approval of the blasting program prior to the commencement of blasting; c. restrict blasting when migrating caribou, or sensitive local carnivores or birds may be negatively affected; and d. minimize the use of ammonium nitrate to reduce the effects of blasting on receiving water quality.	n/a	The results of the 2017 blast monitoring program were provided in the 2017 annual report.
Duty to Comply		
86. Cumberland shall comply with all Terms and Conditions of this approval, and any non-compliance constitutes a violation of the approval and is grounds for NIRB's reconsideration and recommendation to the Minister under Article 12, Part 8 of the NLCA	n/a	n/a

Appendix IV Compliance with the Whale Tail Pit Project Certificate No. 008

Appendix D-1: Board Guidance on General Regulatory and Administrative Responsibilities

Term & Condition (NIRB Project Certificate No. 008)	Reporting Requirements	Compliance Achievement
General Regulatory Requirements		
5. The Proponent must obtain all required federal and territorial permits and other approvals, and shall comply with the requirements of such regulatory instruments.	n/a	Complete and in compliance
6. The Proponent shall take prompt and appropriate action to remedy any occasion of non-compliance with environmental laws and regulations and/or regulatory instruments, and shall report any non-compliance as required by law immediately. A description of all instances of non-compliance and associated follow up is to be reported annually to the NIRB.	Annually	To be reported in the next monitoring period.
7. The Proponent shall meet with respective licensing authorities prior to the commencement of construction to discuss the posting of adequate performance bonding. Licensing authorities are encouraged to take every measure to require that sufficient security is posted before construction begins.	n/a	Complete and in compliance
Monitoring Records		
8. All monitoring information collected pursuant to the Project Certificate and various regulatory requirements for the Project shall, if appropriate, given the type of monitoring conducted, contain the following information: a) The name of the person(s) who performed the sampling or took the measurements including any relevant accreditations; b) The date, time and place of sampling or measurement, and weather conditions; c) The date of analysis; d) The name of the person(s) who performed the analysis including any relevant accreditations; e) A description of the analytical methods or techniques used; and f) A discussion of the results of any analysis.	Annually	Ongoing and in compliance
9. The Proponent shall make significant monitoring results and/or summaries of significant results available in English, Inuinnaqtun, and Inuktitut, to the extent feasible.	Annually	To be reported in the next monitoring period.
10. The Proponent shall keep and maintain the records, including results, of all Project-related monitoring data and analysis for the life of the Project, including closure and post-closure monitoring.	Annually	To be reported in the next monitoring period.
11. The Proponent shall maintain the Environmental Impact Statement and the environmental monitoring programs developed for the Project, with predictions updated as new baseline data is collected. If the results of monitoring programs necessitate updates to effects predictions, the Proponent shall update the associated management programs and plans as required to address or reflect the updated assessment of effects.	As information is updated	Ongoing and in compliance
12. The Proponent shall establish a publically-accessible Project-specific web portal or web page to make available in a central location all significant non-confidential monitoring and reporting information submitted to regulatory authorities pursuant to the Project Certificate and other territorial or federal permits issued for the Project. For clarity, posting on the Project-specific site does not replace any reporting obligation of the Proponent pursuant to the Project Certificate or any territorial or federal permit.	n/a	Information on the compliance with this condition to be reported in the next monitoring period.
On-going Engagement in Project Monitoring, Modelling, Management and Reporting		
13. The Proponent is encouraged to provide on-going opportunities for consultation and comment on any substantive revisions to the Project-specific monitoring program, modelling, studies, management plans, management measures, and reporting under the Project Certificate.	Annually	To be reported in the next monitoring period.

Term & Condition (NIRB Project Certificate No. 008)	Reporting Requirements	Compliance Achievement
14. To the extent feasible, the NIRB will provide an opportunity for comment on any substantive revisions to the Project-specific monitoring, modelling, studies, management plans, management measures, and reporting provided by the Proponent under the Project Certificate.	Annually	To be reported in the next monitoring period.

Appendix D-2: Whale Tail Project Specific Terms and Conditions

Term & Condition (NIRB Project Certificate No. 008)	Reporting Requirements	Compliance Achievement
Air Quality		
1. The Proponent shall: a) Develop and implement an Air Quality Monitoring and Management Plan that includes clear objectives and that specifies air quality monitoring thresholds that will trigger adaptive management responses and actions; b) In the implementation of the Plan, the Proponent shall demonstrate through active and passive monitoring of dustfall, for criteria air contaminant concentrations, incinerator stack testing, and vegetation, soil and snow chemistry sampling that dustfall and emissions of carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), sulphur dioxide (SO_2), suspended particulate matter, mercury, dioxins and furans, and other chemicals remain within predicted levels and, where applicable, within levels or limits established by all applicable guidelines and regulations; c) If exceedances occur, the Proponent shall provide an explanation for the exceedance, a description of planned mitigation, and shall conduct additional monitoring to evaluate the effectiveness of mitigative measures; and d) The Proponent shall also develop, implement, and report on the quality assurance and quality control protocols used to ensure data reliability and proper functioning of equipment.	The Plan should be submitted to the Nunavut Impact Review Board (NIRB) 30 days prior to commencement of construction, and the Proponent shall report on its development and implementation of this Plan and associated monitoring results annually to the NIRB.	Air Quality and Dustfall Monitoring Plan, version 3 submitted June 1, 2018. Monitoring results to be provided in the next monitoring period.
2. Prior to commencing construction activities the Proponent shall update the existing Dust Management and Monitoring Plan for the Meadowbank Mine site to address and/or include the following additional items: ▪ Align plan requirements with commitments made in the Final Environmental Impact Statement and during the Final Hearing to monitor dust along the existing all-weather access road, the Amaruq haul road and any other roads and trails associated with the Project. ▪ Verify commitments to the utilization of dust suppressants along the all-weather access road, the Amaruq haul road and any other roads and trails associated with the Project, including a description of the type of suppressant to be utilized and the frequency and timing of applications to be made throughout the various seasons of road use. ▪ Outline the specific triggers, thresholds, and adaptive management measures that will apply if monitoring indicates that dust deposition is higher than predicted.	The Proponent shall report annually to the NIRB with a summary of its dust management activities	NOT IN COMPLIANCE Updated Dust Management and Monitoring Plan with the required additional items have not been submitted. Monitoring results to be provided in the next monitoring period.
Climate and Meteorology		
3. The Proponent shall maintain a Greenhouse Gas Emissions (GHG) Reduction Plan which includes: ▪ An estimate of the Project's GHG baseline emissions; ▪ A description of monitoring measures to be undertaken, including the methods, frequency, parameters, and a description the analysis that will be carried out on the monitoring data generated; and ▪ A description of mitigative and adaptive strategies planned, and taken, to reduce project-related greenhouse gas emissions over the Project lifecycle.	The Plan should be submitted to the NIRB within 60 days of the issuance of the Project Certificate, with results submitted annually thereafter or as may otherwise be required by the NIRB.	Greenhouse Gas Reduction Plan, version 1 submitted May 16, 2018. Results to be provided in the next monitoring period.
Noise and Vibration		
4. The Proponent shall demonstrate consideration for noise reduction when siting and constructing the camp and other project infrastructure.	Site design plans with reference to noise dispersion modelling shall be submitted to	Noise Monitoring and Abatement Plan, version 3 submitted June 11, 2018.

Term & Condition (NIRB Project Certificate No. 008)	Reporting Requirements	Compliance Achievement
	the NIRB 30 days prior to the commencement of construction activities.	
5. The Proponent shall: a) Conduct noise monitoring at least once during each phase of the Project at four (4) locations in the vicinity of the Whale Tail Pit Project and at two (2) locations along the haul road to demonstrate that noise levels remain within predicted levels for all Project areas; and b) If monitoring identifies an exceedance, the Proponent shall provide an explanation for the exceedance, a description of planned mitigation, and shall conduct additional monitoring to evaluate the effectiveness of mitigative measures.	Results of all noise monitoring undertaken by the Proponent for the Project shall be provided to the NIRB on an annual basis.	Noise Monitoring and Abatement Plan, version 3 submitted June 11, 2018. Monitoring results to be provided in the next monitoring period.
Terrestrial Environment (Geology and Geochemistry)		
6. The Proponent shall: a) Conduct detailed hydrodynamic modelling during operations and closure to evaluate the mixing of the Waste Rock Storage Facility seepage into Mammoth Lake post-closure; and b) Based on the results of the modelling implement monitoring programs and adaptive management strategies that minimize the need for active intervention, including long-term treatment of mine contact water.	The Proponent shall provide a summary of activities undertaken to address the requirements of this term and condition in annual report(s) to the NIRB.	Water Management Plan, version 3 submitted September 7, 2018. To be reported in the next monitoring period.
7. Prior to commencement of mining of the Whale Tail deposit, and in consultation with applicable regulatory agencies, including Natural Resources Canada, the Proponent shall as part of a Mine Waste Rock and Tailings Management Plan that reflects site-specific geological and geochemical conditions: a) Develop and implement monitoring programs for the Tailings Storage Facility and the Waste Rock Storage Facility at the Whale Tail Pit; b) Establish thresholds that will trigger the requirement for the Proponent to implement adaptive management strategies to minimize the potential for impacts from these Facilities; and c) Identify the adaptive management strategies that will be used by the Proponent to minimize the potential for impacts from these Facilities.	The Plan should be submitted to the NIRB at least 60 days prior to the start of construction ofthe Waste Rock Storage Facility, with subsequent updates or revisions to the Plan submitted annually thereafter or as may otherwise be required by the NIRB for the life of the Project.	Mine Waste Rock Management Plan, version 2 submitted May 18, 2018 and version 3 submitted September 7, 2018.
8. The Proponent shall submit a detailed Acid Rock Drainage and Metal Leaching Management Plan that includes the following items: ▪ Waste rock segregation and testing, ▪ Thermal monitoring of waste rock; ▪ Seepage management and monitoring; ▪ A schedule for reporting of results and periodic updating of predictions for the WRSF pond quality; ▪ Planning for optimal cover conditions; ▪ Contingency measures that may be implemented if required; ▪ Plans for comparing monitoring results from receiving waters to model predictions; and ▪ The identification of thresholds that will trigger management actions if trends analysis indicates water quality objectives may be exceeded.	The Plan should be submitted to the NIRB at least 30 days prior to the start of construction, with subsequent updates or revisions to the Plan submitted annually thereafter or as may otherwise be required by the NIRB for the life of the Project.	Operational ARD-ML Sampling and Testing Plan, version 2 submitted June 4, 2018.
Geological Features, Soils and Permafrost		
9. The Proponent shall undertake the additional site-specific geotechnical investigations required to identify sensitive land features and to inform final engineering design prior to the construction of project components such as the waste rock storage facility and quarries.	Results from these studies should be submitted to the NIRB at least 30 days prior to the start of construction of these facilities, with results or updates submitted annually thereafter as applicable.	Site Specific Geotechnical Studies submitted June 4, 2018.
10. In consultation with applicable regulatory agencies such as Indigenous and Northern Affairs Canada and Natural Resources Canada, the Proponent shall undertake additional site-specific permafrost monitoring, mapping and thermal analysis to:	Results of these studies should be submitted to the NIRB at least 30 days prior to the start of construction of these	NOT IN COMPLIANCE Permafrost conditions on the Project site were estimated based

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▪ Document permafrost conditions, including seasonal thaw and amount of ground ice; ▪ Inform the detailed design of project infrastructure such as the Whale Tail pit, water management structures, mine site and haul roads, waste rock storage facility, tailings storage facility; and ▪ Ensure the integrity of such infrastructure is maintained after construction.	facilities, with subsequent updates submitted annually thereafter.	on thermistor data up to October 2017 and previous works. No results from studies following the release of the Project Certificate has been provided.
11. The Proponent shall develop and implement an Erosion Management Plan to prevent or minimize erosion and its resulting effects from project-related land disturbance.	The Plan should be submitted to the NIRB at least 30 days prior to the start of construction, with updates submitted annually thereafter or as may otherwise be required by the NIRB.	Erosion Management Plan, version 1 submitted June 4, 2018.
12. As part of the Closure and Reclamation Plan, the Proponent shall develop and implement a program to: a) Progressively reclaim disturbed areas within the project footprint, with an emphasis on restoring the natural aesthetics of the area through re-contouring to the extent practicable; and b) In a manner that demonstrates that the Proponent has considered the aesthetic values of local communities (e.g. information regarding the acceptability of the topography and landscape of the project areas following progressive reclamation efforts).	The Proponent shall provide a summary of its progressive reclamation efforts and associated feedback received from communities with respect to aesthetic values solicited by the Proponent as part of its public engagement processes in its annual reporting to the NIRB.	To be reported in the next monitoring period.
13. The Proponent shall explore the feasibility of topsoil/organic matter salvage as part of project development and provide updates to the Closure and Reclamation Plan based on this investigation.	The Proponent shall provide a summary of its management of topsoil in annual reports to the NIRB.	
Hydrogeology and Groundwater Quantity and Quality		
14. The Proponent shall develop and implement a Thermal Monitoring Plan to identify potential changes in talik distribution and flow paths that may result from the development of project infrastructure, including the Whale Tail pit, dikes, and water impoundments.	The Plan should be submitted to the NIRB at least 60 days prior to the start of construction of these facilities, with subsequent updates submitted annually thereafter or as may otherwise be required by the NIRB.	Thermal Monitoring Plan, version 1 submitted May 18, 2018.
15. Subject to the additional direction and requirements of the Nunavut Water Board, the Proponent shall prepare and implement a Groundwater Monitoring Plan that, at a minimum includes: ▪ The collection of additional site-specific hydraulic data (e.g., from new monitoring wells) in key areas during the pre-development, construction and operation phases; ▪ Definition of vertical and horizontal groundwater flows in the project development areas; ▪ Delineates monitoring plans for both vertical and horizontal ground water; and ▪ Thresholds that will trigger the implementation of adaptive management strategies that reflect site-specific conditions encountered at the project site.	The required Groundwater Monitoring Plan should be submitted to the NIRB at least 30 days prior to the start of construction, with subsequent plan revisions or updates submitted annually thereafter.	Groundwater Monitoring Plan, version 1 submitted June 4, 2018.
16. Within two years of commencing operations, the Proponent shall: a) Conduct additional analyses to determine the approximate fill time for the Whale Tail Pit at closure; b) Undertake a hydrogeological characterization study to assess the potential for arsenic and phosphorous diffusion from submerged Whale Tail pit walls; c) If the results of the characterization study indicate a moderate to high potential for arsenic and/or phosphorous diffusion, perform detailed hydrodynamic modelling of the flooded pit lake prior to closure to evaluate meromictic conditions and flooded pit water quality; and d) Add these required activities to the site Groundwater Monitoring Plan.	An updated Groundwater Monitoring Plan that outlines the Proponent's plans to fulfill this term and condition should be submitted to the NIRB at least 30 days prior to the start of construction, with subsequent plan revisions or updates submitted annually thereafter.	Groundwater Monitoring Plan, version 1 submitted June 4, 2018.

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Surface Water Hydrology, Surface Water Quality and Sediment Quality		
17. The Proponent shall: a) Monitor the effects of project activities and infrastructure on surface water quality conditions; b) Ensure the monitoring data is sufficient to compare the impact predictions in the Environmental Impact Statement (EIS) for the Project with actual monitoring results; c) Ensure that the sampling locations and frequency of monitoring is consistent with and reflects the requirements of the Water Quality and Flow Plan and the Core Receiving Environmental Monitoring Program; and d) On an annual basis, the Proponent will compare monitoring results with the impact assessment predictions in the EIS and will identify any significant discrepancies between impact predictions and monitoring results.	The plan should be submitted to the NIRB at least 30 days prior to the start of construction, with results submitted annually thereafter.	Water Quality and Flow Plan, version 3 submitted May 18, 2018 Results to be reported in the next monitoring period.
18. The Proponent shall, reflecting any direction from the Nunavut Water Board, maintain a Site Water Monitoring and Management Plan designed to: ▪ Minimize the amount of water that contacts mine ore and wastes; ▪ Appropriately manage all contact water and discharges to protect local aquatic resources; and ▪ Implement water conservation and recycling to maximize water reuse and minimize the use of natural waters. The Plan should include monitoring that demonstrates contact water (runoff and shallow groundwater) from the ore storage and waste rock storage areas is captured and managed, as per the Waste Rock Facility Management Plan.	The plan should be submitted to the NIRB at least 60 days prior to the start of construction, with results submitted annually thereafter.	Agnico Eagle noted that the Water Quality and Flow Plan, version 3 submitted May 18, 2018 applies to this T&C. Results to be reported in the next monitoring period.
19. The Proponent shall, reflecting any direction from responsible authorities such as the Nunavut Water Board, Fisheries and Oceans Canada and Environment and Climate Change Canada, maintain a Core Receiving Environment Monitoring Program (CREMP) designed to: ▪ Determine the short and long-term effects in the aquatic environment resulting from the Project; ▪ Evaluate the accuracy of Project effect predictions; ▪ Assess the effectiveness of mitigation and management measures on Project effects; ▪ Identify additional mitigation measures to avert or reduce environmental effects due to Project activities; ▪ Comply with Metal Mining Effluent Regulations requirements, should an Environmental Effects Monitoring program be triggered; ▪ Reflect site-specific water quality conditions; ▪ Include details comparing the watershed features in the Whale Tail watershed to those watersheds used as reference lakes; and ▪ Evaluate the mixing and non-mixing portion of the pit. The CREMP should include sufficient sampling and monitoring programs to appropriately characterize the receiving environment to ensure that adequate data is available to assess impact predictions made within the Environmental Impact Statement for the Whale Tail Pit Project.	The updated plan should be submitted to the NIRB at least 60 days prior to the start of construction, with results submitted annually thereafter.	Whale Tail Pit Addendum to CREMP submitted May 18, 2018. Results to be reported in the next monitoring period.
Freshwater Aquatic Environment		
20. Unless otherwise authorized, the Proponent shall maintain an appropriate setback distance between project quarries and borrow pits from fish-bearing or permanent waterbodies as required to prevent acid rock drainage or metal leaching into such waterbodies.	Throughout quarry development and operation, the Proponent shall, on an annual basis, provide information regarding quarry setback distances maintained and/or mitigation measures implemented by the Proponent in fulfillment of this term and condition in	Fulfillment of this term and condition to be reported in the next monitoring period.

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	the Proponent's annual report to the NIRB.	
21. The Proponent shall ensure that all project infrastructures in watercourses are designed and constructed in such a manner that they do not unduly prevent or limit the movement of water or fish species in fish bearing streams and rivers, unless otherwise authorized by Fisheries and Oceans Canada.	Throughout the life of the Project, the Proponent shall report on how the Proponent has maintained and/or implemented mitigation measures in fulfillment of this term and condition in the Proponent's annual report to the NIRB.	Fulfillment of this term and condition to be reported in the next monitoring period.
22. The Proponent shall engage with Fisheries and Oceans Canada to develop project specific thresholds, mitigation and monitoring for any blasting activities that would exceed the requirements of Fisheries and Oceans Canada's *Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters*.	If project-specific thresholds, mitigation and monitoring requirements are developed, the Proponent shall identify these requirements in the annual report provided to the NIRB.	Fulfillment of this term and condition to be reported in the next monitoring period.
23. The Proponent shall, reflecting any direction from Environment and Climate Change Canada and Fisheries and Oceans Canada: a) Conduct additional analysis to support the conclusions that a change in trophic status in Mammoth Lake would not impact fish productivity; b) Undertake additional site-specific studies to assess the predicted trophic change on lake ecosystem productivity to monitor potential changes to downstream environments; and c) Monitor actual loadings/concentrations in the receiving environment, identify trends in downstream chemistry and productivity, and track trophic status of Mammoth Lake	The Plan for undertaking these additional studies and associated monitoring should be submitted to the NIRB at least 30 days prior to operations, with updates submitted annually thereafter or as may otherwise be required by the NIRB. A report on the results of these studies and associated monitoring should be provided at least 30 days prior to closure.	Whale Tail Pit Addendum to CREMP submitted May 18, 2018 provided. Compliance achievement is unclear and the NIRB requested that DFO confirm if Agnico Eagle is in-compliance with the submission of the Plan.
24. The Proponent shall engage Fisheries and Oceans Canada, and other interested parties to further assess: ▪ Whether the increased surface area of Whale Tail Lake is a viable offset to habitat losses resulting from development of the Project; and ▪ Whether Whale Tail end pit would support fish in the post closure scenario. Results of this assessment should be incorporated into the Habitat Compensation Plan and/or the Conceptual Fisheries Offsetting Plan as appropriate.	The updated information should be submitted to the NIRB at within 60 days of the issuance of the Project Certificate.	Whale Tail Fisheries Habitat Offsetting Plan, version 1 submitted May 18, 2018. Compliance achievement is unclear and the NIRB requested that DFO confirm if Agnico Eagle is in-compliance with the submission of the Plan.
Vegetation		
25. The Proponent shall: a) Ensure that equipment and supplies brought to the project sites are clean and free of soils that could contain plant seeds or organic matter not naturally occurring in the area b) Ensure that vehicle tires and treads are inspected prior to initial use in project areas; c) Incorporate protocols for monitoring for the potential introduction of invasive vegetation species (e.g. surveys of plant populations in previously disturbed areas) into relevant monitoring and management plans for the terrestrial environment; and d) Ensure any introductions of non-indigenous plant species must be promptly reported to the Government of Nunavut Department of Environment.	At least 30 days prior to first shipment of equipment and supplies to the site, the Proponent's mitigation plans, protocols, monitoring and inspection program required in fulfillment of this term and condition shall be provided to the NIRB for review. Subsequently, information regarding inspections, monitoring results, and any reports as referenced above shall be included in the Proponent's annual report to the NIRB.	NOT IN COMPLIANCE. Information not provided as outlined in the term and condition.
26. The Proponent shall include revegetation strategies within its Mine Closure and Reclamation Plan that support progressive reclamation, and promote natural revegetation and recovery of disturbed areas	Within three (3) years from the commencement of construction,	

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compatible with the surrounding natural environment. These strategies should include exploration of the feasibility and practicality of topsoil/organic matter salvage through Project development. Consideration for the results of similar reclamation efforts at other northern projects, including the Meadowbank Gold Mine Project, must be demonstrated.	information regarding the revegetation strategies developed and implemented by the Proponent in fulfillment of this Term and Condition shall be included in the Proponent's annual report to the NIRB. Subsequently, information regarding the Proponent's progress in fulfillment of this Term and Condition shall be provided annually in the Proponent's annual report to the NIRB.	
Terrestrial Wildlife and Wildlife Habitat		
27. The Proponent shall participate in a Terrestrial Advisory Group with the Government of Nunavut, the Baker Lake Hunters and Trappers Organization, the Kivalliq Inuit Association, and other parties as appropriate to continually review and refine mitigation and monitoring details within the Terrestrial Ecosystem Management Plan. Additional caribou collar data, results from associated studies, and other monitoring data as available should be considered for incorporation as appropriate.	Finalized Terms of Reference for the Terrestrial Advisory Group shall be provided to the NIRB within six (6) months of issuance of the Project Certificate. A summary of outcomes from Terrestrial Advisory Group meetings shall be provided to the NIRB on an annual basis in the Proponent's Annual Report.	NOT IN COMPLIANCE Finalized Terms of Reference not provided.
28. The Proponent shall maintain a Terrestrial Ecosystem Management Plan (TEMP) throughout all phases of the Project. The Plan shall include detailed monitoring, mitigation, and adaptive management measures for wildlife, with consideration for each Project activity predicted to affect wildlife, and with inclusion of specific triggers for mitigation and adaptive management intervention. The TEMP shall demonstrate consideration for all relevant commitments made by the Proponent throughout the Nunavut Impact Review Board's review of the Project. Updates to the TEMP may be required when there are significant changes in project development plans, monitoring results indicating biologically-meaningful changes, significant updates to the scientific understanding of management methods relevant to wildlife at the project site, Inuit Qaujimajatuqangit, Traditional Knowledge, changes in climatic conditions that might subject wildlife to unexpected impacts, or as otherwise necessary.	The Proponent shall submit a revised TEMP to the NIRB within one (1) year of issuance of the Project Certificate, with subsequent versions provided as appropriate. Results of the TEMP shall be reported to the NIRB annually.	TEMP, version 5 submitted June 1, 2018. Results of the TEMP to be provided in the next monitoring period.
29. The Proponent shall, in collaboration with the Government of Nunavut, collect additional caribou collar data and conduct analyses of this data to quantify the zone of influence and associated effects of project components on caribou movement for a study area that includes the Whale Tail mine site, the haul road, the Meadowbank Gold Mine and its All-Weather Access Road.	A summary of the analyses and associated effects shall be provided annually in the Proponent's annual report to the NIRB.	Results to be provided in the next monitoring period.
30. The Proponent shall collect additional data on caribou group sizes in proximity to the Project, and shall work with the Terrestrial Advisory Group to refine appropriate caribou group size thresholds that trigger additional mitigation. Initially, the group size thresholds should be set at 110 (fall), 25 (winter and summer), and 12 (spring).	The Proponent shall ensure modifications to the group size thresholds are incorporated into the Terrestrial Ecosystem Management Plan and that this Plan along with a summary of consultation with the Terrestrial Advisory Group are submitted on an annual basis or as thresholds are otherwise modified in the Proponent's annual report to the to the NIRB.	Information to be provided in the next monitoring period.

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31. The Proponent shall develop and implement a Road Access Management Plan and maintain traffic monitoring logs along the haul road between the Whale Tail Pit project and the Meadowbank mine. Where traffic exceeds levels predicted within the Environmental Impact Statement, the Proponent shall develop and implement appropriate modifications to its wildlife protection measures.	The Road Access Management Plan shall be provided to the NIRB 90 days prior to operations commencing. An annual summary of the monthly maximum, minimum and average traffic levels shall be provided to the NIRB in the Proponent's annual report.	Awaiting plan.
32. The Proponent shall engage with the Baker Lake Hunters and Trappers Organization and other relevant parties to ensure that safety barriers, berms, and designed crossings associated with project infrastructure, including the haul road, are constructed and operated as necessary to allow for the safe passage of caribou and other terrestrial wildlife.	Summaries of engagement with the Baker Lake Hunters and Trappers Organization regarding implementation of this condition shall be provided to the NIRB along with details of the selected crossings in the Proponent's annual report to the NIRB.	Summaries to be provided in the next monitoring period.
33. The Proponent shall provide wildlife incident reports to the appropriate authorities in a timely fashion. Wildlife incident reports should include the following information: a) Locations (i.e., latitude and longitude), species, number of animals, a description of the animal activity, and a description of the gender and age of animals if possible; b) Prior to conducting project activities, the Proponent should map the location of any sensitive wildlife sites such as denning sites, calving areas, caribou crossing sites, and raptor nests in the project area, and identify the timing of critical life history events (i.e., calving, mating, denning and nesting); and c) Additionally, the Proponent should indicate potential impacts from the project, and ensure that operational activities are managed and modified to avoid impacts on wildlife and sensitive sites	A summary regarding all wildlife incidents reported, including a reference to whether compensation was or will be provided by the Proponent for direct mortalities, as well as a description of any other steps taken in fulfillment of this term and condition shall be included in the Proponent's annual report to the NIRB.	Summaries to be provided in the next monitoring period.
Birds and Bird Habitat		
34. The Proponent will maintain a Migratory Birds Protection Plan for the Project in consultation with Environment and Climate Change Canada and other interested parties. The plan should include and/or demonstrate that the Proponent give consideration to the following: ▪ Information obtained from baseline characterization of migratory bird and vegetation communities within the predicted flood area; ▪ Results of field tests and/or the thorough literature review of the effectiveness of preferred deterrence prior to actual flooding; and ▪ Details regarding monitoring the effectiveness of mitigation measures during flooding.	Results of implementation of the Migratory Birds Protection Plan shall be reported to the NIRB on an annual basis in the Proponent's annual report.	Results to be provided in the next monitoring period.
35. The Proponent shall ensure that the mitigation and monitoring strategies developed for Species at Risk are updated as necessary to maintain consistency with any applicable status reports, recovery strategies, action plans, and management plans that may become available through the duration of the Project.	Information regarding development, implementation and monitoring of the measures developed by the Proponent in fulfillment of this term and condition shall be included in the Proponent's annual report to the NIRB.	Monitoring results to be provided in the next monitoring period.
36. Prior to removal or deterrence of raptors, the Proponent will contact the Government of Nunavut – Department of Environment to discuss proposed mitigation options and, if required, will obtain the necessary permits.	The Proponent shall include summaries of any mitigation measures implemented and permits obtained in fulfillment of this term and condition in the Proponent's annual report to the NIRB.	Summaries to be provided in the next monitoring period.

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Marine Environment including Marine Wildlife and Habitat		
37. The Proponent shall maintain a Shipping Management Plan in coordination and consultation with applicable regulatory authorities and the Kivalliq Inuit Association, and the Hunters and Trappers Organizations of the Kivalliq communities.	The updated plan should be submitted to the NIRB at least 90 days prior to the start to commencement of shipping activities, with subsequent updates submitted annually thereafter in the Proponent's annual report or as may otherwise be required by the NIRB.	Shipping Management Plan, version 2 submitted April 18, 2018
38. The Proponent shall ensure that marine shipping activities avoid sensitive wildlife habitat and species along the shipping route and use a routing south of Coats Island as the primary shipping route, subject to vessel and human safety considerations.	Confirmation that the requirements of this term and condition are being effectively implemented by shipping companies contracted by the Proponent should be submitted as part of annual reporting to the NIRB.	Summaries to be provided in the next monitoring period.
39. The Proponent shall ensure that, subject to vessel safety requirements, a setback distance of at least 500 metres is maintained from colonies and aggregations of seabirds and marine mammals during Project shipping transiting through Hudson Strait, Hudson Bay, and Chesterfield Inlet.	Confirmation that the requirements of this term and condition are being effectively implemented by shipping companies contracted by the Proponent should be submitted as part of annual reporting to the NIRB.	Summaries to be provided in the next monitoring period.
40. The Proponent shall develop and implement a ship-based marine mammal monitoring program, as part of a Marine Mammal Management and Monitoring Plan, in consultation with Fisheries and Oceans Canada, communities, and other interested parties. The Proponent shall report any accidental contact by project vessels with marine mammals or seabird colonies to applicable responsible authorities including Fisheries and Oceans Canada and Environment and Climate Change Canada.	The Plan should be submitted to the NIRB at least 90 days prior to commencement of shipping activities, with subsequent updates submitted annually thereafter. Confirmation that the requirements of the Plan are being effectively implemented by shipping companies contracted by the Proponent should be provided with annual reporting.	Appendix B of the Shipping Management Plan. Summaries to be provided in the next monitoring period.
41. The Proponent shall provide notification to communities regarding scheduled ship transits throughout the regional study area, including Hudson Bay and Chesterfield Inlet.	The Proponent shall provide a summary of public consultation undertaken to address this term and condition in its annual report to the NIRB.	Summaries to be provided in the next monitoring period.
42. The Proponent shall design monitoring programs to ensure that local users of the marine area along the shipping route have the opportunity to provide feedback and input in relation to monitoring and evaluating potential project-induced impacts and changes in marine mammal distributions. The Proponent shall demonstrate how feedback received from community consultations has been incorporated into the most appropriate mitigation or management plans.	The Proponent shall provide a summary of public consultation undertaken to address this term and condition in its annual report to the NIRB.	Summaries to be provided in the next monitoring period.
43. The Proponent shall contract only certified vessels to carry cargo for the Project, and will ensure shippers are aware of the requirements of the Shipping Management Plan, the Risk Management and Emergency Response Plan, and the Oil Pollution Emergency Plan.	Evidence of meeting the requirements of this term and condition should be submitted as part of annual reporting to the NIRB.	Summaries to be provided in the next monitoring period.
Economic Development and Business Opportunities		
44. The Proponent is strongly encouraged to continue to participate in the work of the Kivalliq Socio-Economic Monitoring Committee along with other agencies and the communities of the Kivalliq region,	Information regarding the Proponent's efforts in fulfillment of this term and	Summaries to be provided in the next monitoring period.

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and to identify areas of mutual interest and priority for inclusion into a collaborative monitoring framework that includes socio-economic priorities related to the Project, communities, and the Kivalliq region as a whole.	condition shall be included in the Proponent's annual report to the NIRB.	
45. The Proponent shall work in collaboration with other socio-economic stakeholders including, the Government of Nunavut, Indigenous and Northern Affairs Canada, the Kivalliq Inuit Association, and communities of the Kivalliq region, to establish a socio-economic working group for the Project to develop and oversee a Kivalliq Projects Agnico Eagle Socio-Economic Monitoring Program. The working group will develop a Terms of Reference, which outlines each member's roles and responsibilities with regards to, where applicable, project specific socio-economic monitoring throughout the life of the projects. The Proponent shall work with the other parties to use the updated Kivalliq Projects Socio-Economic Monitoring Program to monitor the predicted impacts outlined in the projects' respective environmental impact statements as well as regional concerns identified by the Kivalliq Socio-Economic Monitoring Committee. The Proponent shall work in collaboration with all other socio-economic stakeholders such as the Government of Nunavut, Indigenous and Northern Affairs Canada, Kivalliq Inuit Association, and the communities of the Kivalliq region in developing this program, which should include a process for adaptive management and mitigation in the event unanticipated impacts are identified.	The Terms of Reference for this multi-party, multi-project Working Group are to be provided to the NIRB upon completion, and within one (1) year of issuance of the Project Certificate. The Proponent shall produce annual joint "Agnico Eagle Kivalliq Projects" Socio-Economic Monitoring reports throughout the life of the Projects that are submitted to the NIRB and discussed with the wider Kivalliq Socio-Economic Monitoring Committee. Details of the Kivalliq Projects Socio-Economic Monitoring Program are to be provided to the NIRB upon finalization, and within one (1) year of issuance of the Project Certificate.	TOR and Kivalliq Projects Socio-Economic Monitoring Program due March 2019
46. The Proponent should develop a Project-specific Whale Tail Pit Socio-Economic Monitoring Program designed to: ▪ Monitor for project-induced effects, including the impacts predicted in the Environmental Impact Statement through indicators presented in the Whale Tail Pit Socio-Economic Monitoring Plan; ▪ Reflect regional socio-economic concerns identified by the Kivalliq Socio-Economic Monitoring Committee (KivSEMC); ▪ Work in collaboration with all other socio-economic stakeholders such as the Kivalliq Inuit Association, the Government of Nunavut, and Indigenous and Northern Affairs Canada, and the communities of the Kivalliq region to develop the program; and ▪ Include a process for adaptive management and mitigation to respond if unanticipated impacts are identified.	Details of the Whale Tail Pit Socio-Economic Monitoring Program should be submitted to the NIRB within one (1) year of issuance of the Project Certificate. The Proponent should produce annual Whale Tail Pit socio-economic monitoring reports throughout the life of the Project that are submitted to the NIRB and shared with the wider KivSEMC.	Kivalliq Projects Socio-Economic Monitoring Program due March 2019.
47. The Proponent should undertake an analysis of the risk of temporary mine closure, giving particular consideration to how communities in the Kivalliq region may be affected by temporary closure of the mine, including consideration of the measures that can be taken to mitigate the potential for adverse effects (e.g. development of programs that provide transferable skills, identification of employment options that can include transfers amongst Agnico Eagle operations, etc.) This analysis is required to be updated as necessary to reflect significant changes to the Project or the socio-economic conditions in the region that may increase the risks and potential effects of temporary mine closures.	This initial results of the Proponent's analysis should be provided to the NIRB within six (6) months of the issuance of the Project Certificate. Any updates to the analyses should be provided to the NIRB within three (3) months following completion of updated analyses by the Proponent.	Analysis of the Risk of Temporary Mine Closure submitted September 11, 2018.
Employment, Education and Training		
48. The Proponent is strongly encouraged to submit staff schedule forecasts that should, at a minimum, include the following: ▪ Title of positions required by department and division; ▪ Quantity of positions available by project phase and year;	The Staff Schedule should be submitted to the NIRB six (6) months prior to each phase of the Project (construction, operations, closure).	Staff Schedule submitted June 2018.

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▪ Transferable skills, both certified and uncertified which may be required for, or gained during, employment within each position; ▪ The National Occupational Classification code for each individual position. The Proponent should also identify and register all trades occupations, journeypersons, and apprentices working with the Project and make this information available to the Government of Nunavut to assist in delivery of training initiatives and programs.		
49. The Proponent shall make best efforts to collaborate with the Government of Nunavut's Career Development Officer, Regional Manager of Career Development, and Director of Career Development. Semi-annual calls, at a minimum, should be initiated by the Proponent to address: ▪ Hiring procedures and policies ▪ Issues regarding employee recruitment and retention ▪ Agnico Eagle policies regarding career pathways and opportunities for advancement ▪ Internal and/or partnered training and development of employees ▪ Long-term labour market plans to facilitate training in communities	Summary information addressing the Proponent's fulfillment of this term and condition shall be included in the Proponent's annual report to the NIRB.	Summaries to be provided in the next monitoring period.
50. The Proponent will report the results of its Labour Market Analysis (LMA) and Inuit Work Barrier Study (WBS) to the Kivalliq Socio-Economic Monitoring Committee upon completion in 2018, which should integrate the findings into its ongoing work identifying gaps between the Kivalliq labour market and mining market needs, and how to activate latent labour pool in the Kivalliq region to maximize labour "capture" from mining for the region. The Proponent shall report the results and implications of the LMA and WBS within its first year's Annual Report to the Nunavut Impact Review Board (NIRB), and show how the results have been integrated into an updated Socio-Economic Monitoring Plan for the Whale Tail Pit Project. The Proponent will participate in the work of the Kivalliq Socio-Economic Monitoring Committee along with other agencies and the communities of the Kivalliq region and to identify areas of mutual interest and priority for incorporation into a collaborative monitoring framework that includes socio-economic priorities related to the Project, communities, and the Kivalliq region as a whole. The Proponent will work in collaboration with other socio-economic stakeholders including, the Government of Nunavut, Indigenous and Northern Affairs Canada, the Kivalliq Inuit Association, and communities of the Kivalliq region to establish a socio-economic working group for the Project to develop and oversee a Kivalliq Projects Agnico Eagle Socio-Economic Monitoring Program. The working group should develop a Terms of Reference which outlines each member's roles and responsibilities with regards to, where applicable, project-specific socio-economic monitoring throughout the life of the Projects. The Terms of Reference for this multi-party, multi-project Working Group are to be provided to the NIRB upon completion, and within one year of issuance of the Project Certificate. The Proponent will work with the other parties to use the updated Kivalliq Projects Socio-Economic Monitoring Program to monitor the predicted impacts in the Projects' respective environmental impact statements as well as regional concerns identified by the Kivalliq Socio-Economic Monitoring Committee. The Proponent is encouraged to work in collaboration with all other socio-economic stakeholders such as the Government of Nunavut, Indigenous and Northern Affairs Canada, Kivalliq Inuit Association, and the communities of the Kivalliq region in developing this program, which should include a process for adaptive management and mitigation in the even unanticipated impacts are identified. The Proponent shall produce annual joint "Agnico Eagle Kivalliq Projects" Socio-Economic Monitoring reports throughout the life of the Projects that are submitted to the NIRB and discussed with the wider Kivalliq Socio-Economic Monitoring Committee. Details of the Kivalliq Projects Socio-Economic Monitoring Program are to be provided to the NIRB upon finalization, and within one year of issuance of the Project Certificate.	The Terms of Reference for this multi-party, multi-project Working Group are to be provided to the NIRB upon completion, and within one (1) year of issuance of the Project Certificate. Details of the Kivalliq Projects Socio-Economic Monitoring Program are to be provided to the NIRB upon finalization, and within one (1) year of issuance of the Project Certificate. The Proponent shall produce annual joint "Agnico Eagle Kivalliq Projects" Socio-Economic Monitoring reports throughout the life of the Projects that are to be submitted as part of the Proponent's annual report to the NIRB.	TOR and Kivalliq Projects Socio-Economic Monitoring Program due March 2019

Term & Condition (NIRB Project Certificate No. 008)	Reporting Requirements	Compliance Achievement
51. The Proponent shall develop a conceptual Socio-economic Closure Plan that: ▪ Links the socio-economic closure plans for Meadowbank and Whale Tail; ▪ Identifies regular update and multi-party review requirements; ▪ Shows evidence of consideration of socio-economic lessons learned from other northern mine closure experiences; ▪ Includes evidence of consultation with Kivalliq communities and governance bodies on socio-economic objectives/goals related to closure planning; ▪ Emphasizes plans, policies, and programs to increase transferable skills of Inuit workers, including into trades and other skilled positions; and ▪ Includes all plans, policies and programs related to socioeconomic factors in a temporary closure situation.	The conceptual socio-economic closure plan will be provided to the NIRB within one (1) year of issuance of the Project Certificate, and updated as needed prior to closure with information provided in the Proponent's annual report to the NIRB.	Conceptual socio-economic closure plan due March 2019
52. The Proponent should develop and maintain an easily referenced listing of formal certificates and licences that may be acquired via on-site training or training during project employment. The listing shall indicate which of these certifications and licences would be transferable to a similar job site within Nunavut.	The initial listing should be provided to the NIRB within six (6) months of the Project Certificate being issued. Updates to the list should be included in the Proponent's annual reports submitted to the NIRB and shared with the wider Kivalliq Socio-Economic Monitoring Committee throughout the life of the Project.	NOT IN COMPLIANCE. No initial listing provided.
Population Demographics		
53. Provided the collection and sharing of such information is consistent with and not limited by any Inuit Impact and Benefit Agreement with the Kivalliq Inuit Association and that employees are willing to voluntarily provide this information, the Proponent should collect and provide project-specific data concerning employee community of residence and number of employees that relocated from the year prior (where available, to and from, for Arviat, Baker Lake, Chesterfield Inlet, Coral Harbour, Naujaat, Rankin Inlet and Whale Cove). The details of this process will be captured in the terms of reference for the project specific Whale Tail Pit Socio-Economic Monitoring Committee.	Summaries of this information should be included in the annual Whale Tail Pit socio-economic monitoring reports submitted to the NIRB and shared with the wider Kivalliq Socio-Economic Monitoring Committee throughout the life of the Project.	Summaries to be provided in the next monitoring period.
Traditional Activity and Knowledge		
54. The Proponent should ensure that the development of all project monitoring plans and associated reporting and updates are undertaken with active engagement of Kivalliq communities, land users, and harvesters. The Proponent should work with the Kivalliq Inuit Association, the local Hunters and Trappers Organizations and the Kivalliq Socio-Economic Monitoring Committee to report on the collection and integration of Inuit Qaujimaningit through its monitoring programs for the Project.	To the extent that the sharing of such information is consistent with, and not limited by, any confidentiality or other agreements, summaries addressing the Proponent's fulfillment of this term and condition should be included in the Proponent's annual report to the NIRB.	Fulfillment information of this term and condition to be provided in the monitoring period.
Heritage Resources		
55. The Proponent shall conduct archaeological surveys prior to land disturbance related to the Project and report survey results to applicable parties, including the Government of Nunavut – Department of Culture and Heritage.	Evidence of meeting the requirements of this term and condition should be submitted as part of the Proponent's annual reporting to the NIRB.	Fulfillment information of this term and condition to be provided in the monitoring period.
56. The Proponent shall report any archaeological site discovered during the construction, operation, and closure phases to the Government of Nunavut – Department of Culture and Heritage and the Kivalliq Inuit Association. Upon discovering an archeological site, the Proponent shall:	Evidence of meeting the requirements of this term and condition should be submitted as part of the Proponent's annual reporting to the NIRB.	Fulfillment information of this term and condition to be provided in the monitoring period.

Term & Condition (NIRB Project Certificate No. 008)	Reporting Requirements	Compliance Achievement
a) Take all reasonable precautions necessary to protect the site until further direction is received from the Government of Nunavut – Department of Culture and Heritage; and b) If it becomes necessary to disturb an archaeological site, the Proponent shall consult with the Government of Nunavut – Department of Culture and Heritage, the Kivalliq Inuit Association, and potential impacted communities to establish a site specific mitigation plan, and obtain all necessary authorizations and comply with all applicable laws.		
Individual and Community Wellness		
57. The Proponent shall update its Occupational Health and Safety Plan to include sexual health and well-being information in its employee orientation programming. In addition, the Proponent shall undertake an education program to inform workers of the range of health services available onsite.	The updated plan shall be provided to the NIRB, once completed within six (6) months of issuance of the Project Certificate. Summaries of the education programs undertaken and any future updates or modifications to the Occupational Health and Safety Plan and the education program shall be included in the Proponent's annual report to the NIRB.	NOT IN COMPLIANCE Update plan has not been provided.
58. The Proponent is encouraged to form a subcommittee which includes Government of Nunavut representatives to reach consensus decisions on health related issues that the Proponent or the Government of Nunavut bring forward (e.g. programs and services to address sexually transmitted infections, a process for the treatment and transport of workers that may require medical services beyond that which the mine provides, monitoring and reporting on the impacts of the Project on health services within the potentially impacted communities and particularly, Baker Lake. etc.)	Information regarding the Proponent's fulfillment of this term and condition shall be included in the Proponent's annual report to the NIRB.	Fulfillment information of this term and condition to be provided in the monitoring period.
59. The Proponent is encouraged to work with the Kivalliq Inuit Association to establish cross-cultural training initiatives, which promote respect and consideration for the importance of Inuit Qaujimajatuqangit to the Inuit identity and to make this training available to Project employees and on-site sub-contractors. The Proponent should actively monitor the implementation of these initiatives, including the following items: ▪ Descriptions of the goals of each program offered; ▪ Language of instruction; ▪ Schedules and location(s) of when each program was offered; ▪ Uptake by employees and/or family members where relevant, noting Inuit and non-Inuit participation rates; and ▪ Completion rates for enrolled participants, noting Inuit and non-Inuit participation rates.	Summaries of the cross-cultural training initiatives implemented by the Proponent in fulfilment of this term and condition should be submitted as part of the Proponent's annual reporting to the NIRB.	Summaries to be provided in the next monitoring period.
Community Infrastructure and Public Services		
60. The Proponent shall engage with the Government of Nunavut to develop a process to ensure that any conditions first treated at the mine site and requiring ongoing care is appropriately accommodated in a timely manner at community health centres as required.	Evidence of meeting the requirements of this term and condition should be submitted as part of the Proponent's annual reporting to the NIRB.	Fulfillment information of this term and condition to be provided in the monitoring period.
61. The Proponent, in collaboration with the Government of Nunavut and the Nunavut Housing Corporation, is encouraged to investigate measures and programs designed to assist Project employees with pursuing home ownership or accessing affordable housing options in the Kivalliq region. The Proponent should provide access to financial literacy, financial planning, and personal budgeting as part of the regular Life Skills Training and/or Career Path Program.	Evidence of meeting the requirements of this term and condition should be submitted as part of the Proponent's annual reporting to the NIRB.	Fulfillment information of this term and condition to be provided in the monitoring period.

Term & Condition (NIRB Project Certificate No. 008)	Reporting Requirements	Compliance Achievement
62. The Proponent should work with the Government of Nunavut to develop an effects monitoring program that identifies Project-related pressures to community infrastructure such as airport and transportation infrastructure, policing, health and social services, in Baker Lake and all the point-of-hire communities of the Kivalliq Region.	Evidence of meeting the requirements of this term and condition should be submitted as part of the Proponent's annual reporting to the NIRB.	Fulfillment information of this term and condition to be provided in the monitoring period.
Human Health and Ecological Risk Assessment		
63. The Proponent shall conduct additional studies as part of its freshwater aquatic effects analyses to ensure that methylmercury concentrations anticipated to increase during operations in the aquatic environment (including in fish tissue) do not exceed regulatory requirements. In addition, the Proponent shall consider assessing potential risks from consumption of fish containing methylmercury by using Health Canada's hazard quotients as a descriptive tool.	A summary of the results of these additional studies, including the assessment of the potential risk to people from consumption of fish, shall be included in the Proponent's annual report to the NIRB.	Summaries to be provided in the monitoring period.
Cumulative Effects		
64. Within its annual reporting, the Proponent is encouraged to include detailed updates on the status of ongoing exploration programs associated with the Project and associated implications for future phase developments of the Amaruq property.	Status updates in fulfillment of this Term and Condition shall be included in the Proponent's annual report to the NIRB.	Fulfillment information of this term and condition to be provided in the monitoring period.

Responses to Nunavut Impact Review Board's 2017-18 Recommendations

AGNICO EAGLE

December 14th, 2018

Erin Reimer
Technical Advisor I
P.O. Box 534
Arviat, NU
X0C 0E0

Re: Agnico Eagle's responses to Nunavut Impact Review Board's 2017-18 Recommendations for the Meadowbank Gold Project and the Whale Tail Pit Project with Board's

Dear Erin Reimer,

As requested, the following information are intended to address the recommendations outlined in the *2017-18 Annual Monitoring Report for the Meadowbank Gold Project and the Whale Tail Pit Project with Board's Recommendations* dated November 7, 2018.

Should you have any questions or require further information, please do not hesitate to contact us at the below.

Regards,
Agnico Eagle Mines Limited – Meadowbank Division

Regards,

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1 MEADWOBANK MINE SITE (03MN107)

1.1 Spill Management – Condition 26

Concern: In review of Agnico Eagle's 2017 annual report, and similar to the concern expressed by the Kivalliq Inuit Association and the Crown-Indigenous Relations and Northern Affairs Canada, it is noted that even though there was a slight decrease in the number of reportable spills from 2016 to 2017, the number of spills still remain high for the 2017 monitoring period. In addition, it is noted that the number of non-reportable spills have increased since 2014. No discussion was provided by Agnico Eagle on the possible reasons for why the number of non-reportable spills continue to rise even though additional training has been implemented based on the Spill Reduction Action Plan.

Recommendation 1: The Board requests that Agnico Eagle provide a written submission explaining the conditions which contributed to the increase in spills on site for 2017 (both reportable and non-reportable spills) and provide a discussion on what is being done at site to reverse this trend. The Board recommends that Agnico Eagle increase its spill reporting frequency to occur each quarter, to improve the ability to determine the effectiveness of its spill reduction efforts.

The requested information should be provided to the Board within 30 days following the issuance of this recommendation.

Agnico Eagle's Response:

As stated in the 2017 Annual report, 442 spills (reportable and non-reportable) occurred on the Meadowbank Mine Site and the Amaruq Exploration Access Road (AEAR).

Agnico acknowledges that the overall number of spills have increased but also would like to mention that the totals reported in the 2AM-MEA1526 Meadowbank 2017 Annual report included spills along the AEAR, that were also reported under the 8BC- AEA1525 AEAR 2017 Annual report. Thus, double accounting was included within the tabulations of Meadowbank reporting.

To be consistent with previous years, only spills on the Meadowbank Mine site, AWAR and Bake Laker infrastructures should be used for comparison. Refer to Table below for a spills summary from 2011-2017.

Table 1. Total reportable and non-reportable spills for the Meadowbank, AWAR and Baker Lake Infrastructures from 2011 to 2017.

Year	*Number Reportable Spills*	*Number Non-Reportable Spills*	*Total*
2011	*12*	*68*	*80*
2012	*16*	*82*	*98*

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2013	*7*	*85*	*92*
2014	*9*	*63*	*72*
2015	*18*	*148*	*166*
2016	*34*	*374*	*408*
2017	*28*	*383*	*411*

Data from 2017 shows a decrease of 18% in reportable spills and a slight increase of 2% in overall non-reportable spills for the Meadowbank site.

Moving forward, Agnico will ensure data is presented in future annual reports in a manner to prevent confusion and help the review process.

Agnico Eagle is already reporting spills on a monthly basis via the NWB Monthly report required under Water License 2AM-MEA1526 and quarterly via the KIA Production Lease Report. If required by NIRB, the report can be provided to the Inspector as well.

Agnico notes that emphasis on spill reporting and proper data collection was put forward in 2016, and as showed effective in identifying areas of focus and improvements. By continuing education and awareness within our sites, we are confident that the overall environmental impacts are limited.

As stated in the 2016 Annual report, the general awareness on spill management and reporting with management and operations were expanded by meeting equipment users and stakeholders. Increased focus on reporting, identifying and notifications assisted in finding opportunities of reduction and also contributed to the increase noted above. This process enabled proactive maintenance to be done on equipment identified and reduce the overall quantities of material spilled. Mandatory spill training is included in the Meadowbank site induction and the Environmental Department is working in a collaborative approach to ensure field personnel are reminded consistently on best practices in spill management. Refresher training is also being developed.

Furthermore, Agnico continues to reference the Spill Reduction Action Plan started in 2016. Key Performance Indicators (KPI) were developed to monitor reported spills. Spill Frequency is calculated and reported to the daily management meeting. The Spill Frequency is the ratio of the total number of spill to date in the year over the number of days in the current year. The total number of spill to date includes the spills internally reported as well as the spills reported to the regulators. This KPI is used to follow trends related to spill increase or reduction, and to guide corrective actions when required. As well, "bad actors" identified through the data collected on spill reports are now mentioned within the daily management meetings.

All internal reported spills and to regulators are managed according to our spill contingency plan. Spills are contained and cleaned, contaminated material is disposed to

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the appropriate area, such as the onsite landfarm and the clean-up actions are monitored by the Environment team.

Recommendation 2: The Board requests that, within future annual reporting, Agnico Eagle present the number of reportable and non-reportable spills (from 2011 onward) in a table or graph for ease of review.

Agnico Eagle is to include the requested information commencing in its 2018 Annual Report submission to the NIRB.

Agnico Eagle's Response:
Agnico Eagle acknowledge the NIRB recommendation and will include the information in the 2018 Annual Report, as mentioned in NIRB Recommendation 1 above.

1.2 Placement of local area marine monitors – Condition 36

Concern: Term and Condition 36 for Project Certificate No. 004, Amendment 2 requires that Agnico Eagle place/hire local area marine mammal monitors onboard all vessels transporting fuel or materials for the Project through Chesterfield Inlet. Even though approximately 36 ships with fuel and goods arrived in Baker Lake from Chesterfield Inlet in 2017, only one (1) marine mammal monitor was hired for the period between July 25 to July 28, 2017. Agnico Eagle did not provide a reason on why marine mammal monitors were not hired for the other ships that were travelling through Chesterfield Inlet.

Recommendation 3: The Board requests that Agnico Eagle provide a written explanation of why local marine mammal monitors were not utilized for all vessels transporting fuel or materials for the Project during the 2017 season, with a description of any alternative monitoring and mitigation employed by the Proponent and its effectiveness. Confirmation of planned efforts to achieve full compliance with Term and Condition 36 of Project Certificate No. 004 amendment 02 in the future must also be provided.

The requested information should be provided to the Board within 30 days following the issuance of this recommendation.

Agnico Eagle's Response:
Agnico eagle has tried to maximize the use of wildlife monitors based from the community of Chesterfield Inlet as per previous barge seasons. Although the 2017 Annual report shows only monitoring reports from July 25th to 28th, monitors were present all through the off-loading season. Unfortunately, monitoring record sheets were lost/destroyed in the transfer process and during the change-over between wildlife monitors.

Monitors were present from July 25th to August 12th for the first phase and from September 6th to 17th and September 27th to October 2nd for the second set of transfers. For multiple reasons (sickness, family related matters, personal issues, alternative work), the hired

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monitors had to be replaced during the seasons, creating gaps in monitoring. This should have been stated in the Annual report. A total of 4 monitors were used during the 2017 season.

Agnico Eagle remains committed to meet compliance with Condition 36 and is intending to seek out monitors from the Chesterfield Inlet when possible. With availability of possible monitors being challenging in that area, Agnico would, alternatively, hire monitors from other local communities to ensure the condition is met.

Agnico Eagle will also ensure better training is given to the hired monitors to prevent further issues with records sheets being lost and/or destroyed. Agnico Eagle will continue to put all the necessary effort and find alternative solutions to comply with Condition 36.

1.3 Participation in Surveys –Conditions 51 and 54

Concern: In 2016 and 2017, Agnico Eagle suspended the harvest data collection for both the Creel Surveys (fish harvesting) and the Hunter Harvest Survey (HHS) due to decrease in participation rates. This issue of non-compliance was brought up by the Board in 2017 as Agnico Eagle noted that the HHS would be implemented during the fall migration of 2017. However, the study was not implemented in 2017 and no reason other than participant fatigue and the overall need for renewal was noted. In response to the Board's 2017 Recommendations, Agnico Eagle noted that it would be exploring other ways to gather harvest data in consultation with stakeholders. This appears to contradict the information that was provided in the 2017 Annual Report as it gives the impression that Agnico Eagle will not implement the Creel Surveys and the HHS in 2018 as required by Term and Conditions 51 and 54 of Project Certificate No. 004, Amendment 2. The NIRB is concerned that both the Creel and Hunter Harvest surveys are not being completed and the NIRB and other agencies are not seeing results and a gap in available knowledge is developing which needs to be addressed. This is important as Agnico Eagle is proposing additional development in the region and plans to be in the region for the long term.

Further, as requested by the Board in its 2017 Recommendations, a plan that includes a clear indication of timelines, next steps in development of the Creel Surveys and the Hunter Harvest Surveys, measures for success, contingency planning and limitations on the effectiveness of the current studies employed at the Meadowbank Project was not provided by Agnico Eagle.

Recommendation 4: The Board requires that Agnico Eagle provide clarification on when and how it will meet the objectives of both Term and Conditions 51 and 54 of Project Certificate No. 004, Amendment 2 moving forward.

The requested information should be provided to the Board within 30 days following the issuance of this recommendation.

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Agnico Eagle's Response:

A Hunter Harvest Study (HHS) committee was planned to be initiated in 2018 as stated in the 2017 Annual report. The intention to have a community led program was slower to implement then originally planned. Third party projects presented within the community created confusion and dispersed availability of resources within the proposed HHS committee.

Research alternatives were also assessed and discussions held with ARCTIConnexion and ELOKA, for example, to develop a program that would be led and managed by the community stakeholders and make harvest data collecting more efficient. This would have ensured that data within the program would have been shared and accessible for all participants and make data collecting silos, where every party collects data without sharing, obsolete. Unfortunately, limited resource availability made moving forward in this path impossible in 2018.

Agnico Eagle has also contracted consultants to assess alternative methods of collecting data for the HHS and feasibility of re-starting the study in 2018 but the tight timeline for implementation combined with multiple similar projects within the community on data collection (community base water monitoring programs, watershed studies, MWMB Harvester recruitment) caused resources to be spread. Thus Agnico Eagle decided to hold it's HHS strategy to not add confusion and impact community based projects.

Agnico Eagle is already started planning the 2019 HHS, ultimately, if alternatives are not satisfactory, the pre-exiting HHS would be re-started in time for Caribou migration. This would ensure also consistency in data collected.

Recommendation 5: The Board requests that Agnico Eagle provide an action plan regarding development of the Creel Surveys and the Hunter Harvest Surveys, with a clear indication of timelines, measures for success and contingency planning. The submission should highlight any identified limitations on the effectiveness of studies currently employed at the Meadowbank Gold Mine Project with a discussion of the feasibility of alternative studies and mechanisms designed to ensure that a gap in available knowledge is not developing.

The action plan should be provided to the Board within 30 days following the issuance of this recommendation.

Agnico Eagle's Response:

Agnico will refer to comments and responses for recommendation 4 above, the creel survey will be included within the same processes to meet compliance of the Project Certificate.

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1.4 Suppression of surface dust –Condition 74

Concern: Term and Condition 74 of Project Certificate No. 004, Amendment 2 directs the Proponent to employ environmentally protective techniques to suppress any surface road dust. As noted in previous NIRB annual reports, in review of annual reports and during site visits (see Appendix I for the 2018 site visit report), Agnico Eagle has limited its dust suppression techniques to haul roads at the mine site, between the Meadowbank gatehouse (at the airstrip) and Exploration Camp site, between the Baker Lake marshalling facility and the Baker Lake gatehouse and the airstrip. Agnico Eagle utilizes calcium chloride at most of the aforementioned sites; however, it uses water on the mine site haul roads (including the Vault road) and the airstrip. Dust suppression is only applied at five (5) key areas identified by the community of Baker Lake along the all-weather access road (AWAR) between Baker Lake and Meadowbank, and monitoring results in 2017 indicated that rates of dustfall were effectively reduced in those locations.

In its response to the Board's 2017 recommendations Agnico Eagle noted that six (6) locations were identified to have high priorities for dust suppression. As such, clarification is required to determine whether it is five (5) or six (6) locations that have been identified along the AWAR as high priorities for dust suppression. In addition, Agnico Eagle maintained that it is meeting Term and Condition 74 of Project Certificate No. 004, Amendment 2 and that the approach where chemical suppressants are used in an intermittent fashion along a long-distance roadway in priority areas only is similar to other project sites in Nunavut. No references to the other project sites were provided to be able to compare methodologies.

The NIRB acknowledges the efforts made by Agnico Eagle to suppress dust around the Meadowbank and Exploration Camp sites, and further recognizes the dustfall monitoring program conducted along the AWAR since 2012 and the additional studies that are ongoing since 2016. With the exception of continuing the dustfall monitoring along the AWAR and applying dust suppressants along the high priority areas, Agnico Eagle has not indicated any further commitment to apply dust suppressant to the whole AWAR in the future. Term and Condition 74, requires the application of dust suppression measures along all project roads including the AWAR [emphasis added]. The Proponent has not fully met the requirements of Condition 74, as dust suppression techniques were not being applied along the AWAR from Baker Lake to the mine site. The NIRB stresses that Term and Condition 74 applies to all mine roads including the AWAR. The NIRB notes that Agnico Eagle has been in non-compliance with this condition since the Project entered operations, as no dust suppression measures have been employed along the AWAR from Baker Lake to the mine site with the exception of the five (5) areas since 2017 as identified by the community to be of importance.

Recommendation 6: The Board reminds Agnico Eagle that Term and Condition 74 of Project Certificate No. 004, Amendment 2 applies to the suppression of dust on all surface roads including the all-weather access road (AWAR). As such, Agnico Eagle must provide a plan of action on how it will meet the objectives of Term and Condition 74 along the AWAR moving forward, with a clear indication of timelines and discussion of proposed alternative management measures should Agnico Eagle be unable to meet this condition.

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The action plan should be provided to the Board within 30 days following the issuance of this recommendation.

Agnico Eagle's Response:
It is Agnico Eagle belief that the dust suppressing efforts in areas identified by community stakeholders and extensive monitoring studies completed and ongoing on the different projects roads, meets the intent of Condition 74 of the Project Certificate.

Dust suppressant is applied throughout the summer months and monitoring results indicated that rates of dustfall were effectively reduced in those locations.

Constant wildlife monitoring also ensures that dust related impacts would be identified during dust sensitive season.

Thus, Agnico Eagle intents to continue active monitoring as per the Air Quality and Dustfall Monitoring plan and continue dust control measures as stated in the 2017 annual report.

Recommendation 7: The Board requests that Agnico Eagle provide clarification regarding its references to other project sites in Nunavut which use the same/similar approach to applying chemical suppressants in a discontinuous fashion along a long-distance roadway.

The requested information should be provided to the Board within 30 days following the issuance of this recommendation.

Agnico Eagle's Response:
The reference to other sites in Nunavut using discontinuous chemical dust suppressant was related to the Meliadine Division, which, previously was using a partial strategy for dust management. It is our understanding that this is not the case anymore. The reference was also included to ensure successful product alternatives deployed within our Nunavut sites would be assessed globally.

Concern: In 2017 the Board made two (2) additional recommendations to Agnico Eagle related to dust suppressants and monitoring: 1) provide a submission which describes its assessment of the effectiveness of dust suppression efforts using water to date and demonstrates its consideration for the use of alternative dust suppressants (e.g., TETRA flakes, Dust Stop®, EnviroKleen®) and more frequent application; and 2) report on the quality assurance and quality control protocols used to ensure data reliability and proper functioning of the dust monitoring equipment used for the dust sampling program along the all-weather access road. In response to these recommendations, Agnico Eagle noted that the monitoring data indicated that dust is effectively being controlled onsite, that application of alternative dust suppressants is not considered onsite and that the dust sampling methodology along the all-weather access road is more effective compared to the methods employed at other mine sites.

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Recommendation 8: The Board requests that Environment and Climate Change Canada review and comment on the information provided by Agnico Eagle in response to the NIRB's 2017 Annual Report related to dust, including whether it agrees with Agnico Eagle's conclusions that alternative dust suppressants at the mine site are not required and that the dust methodology using canisters on the ground along the all-weather access road is more effective compared to other methodologies currently used. Limitations on the effectiveness of the current dust suppression employed for the Meadowbank Project (including the all-weather access road) should also be discussed.

The Board respectfully requests that Environment and Climate Change Canada provide a response to this recommendation within 30 days' receipt of the Board's correspondence to Environment and Climate Change Canada.

Agnico Eagle's Response:
Agnico Eagle look forward to see ECCC response to this recommendation.

Recommendation 9: The Board requests that Environment and Climate Change Canada confirm whether it agrees with Agnico Eagle's conclusion that based on the dust monitoring results to date along the all-weather access road, it is unlikely that Final Environmental Impact Statement predictions are being exceeded and that impacts to valued ecosystemic components (vegetation community productivity and wildlife) from dust dispersion are not occurring beyond the smallest assumed zone of influence (100 metres).

The Board respectfully requests that Environment and Climate Change Canada provide a response to this recommendation within 30 days' receipt of the Board's correspondence to Environment and Climate Change Canada.

Agnico Eagle's Response:
Agnico Eagle look forward to see ECCC response to this recommendation.

1.5 Air Quality

Concern: In the review of the available 2017 Incinerator Daily Report Logbook, the NIRB noted that there were several recorded temperatures below 1000ºC temperature in the secondary chamber (October 3, October 4, November 16, and December 1) with the lowest temperature recorded as 251°C. In its 2017 Annual Report, Agnico Eagle noted that for 2017 there were no recorded temperatures below 1000°C in the secondary chamber and considers that maintenance work conducted at the incinerator between 2014 and 2016 was effective in improving efficiency of the unit. This contradicts the available record and Agnico Eagle should clarify the discrepancies.

Finally, it is noted that Agnico Eagle indicated within the 2016 Annual Report that it will revise the Incinerator Management Plan with the operators and continue to sensitize the employees to the importance of good waste segregation. However, this does not appear to have been done as

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Agnico Eagle notes in the 2017 Annual Report that the Incinerator Waste Management Plan will be updated to reflect the stack testing schedule.

Recommendation 10: The Board requests that Agnico Eagle provide an explanation for the incinerator having not achieved the recommended temperature of 1000ºC and above in 2017, and whether additional steps have since been undertaken to ensure that the incinerator stays above 1000ºC in the secondary chamber.

The requested information should be provided to the Board within 30 days following the issuance of this recommendation.

Agnico Eagle's Response:

Agnico recognizes that the statement included in the 2017 Annual report, stating that there were no recorded temperatures below 1000ºC, was incorrect. After revalidating data, Agnico has noted that there *are 6 times during 2017 where the temperatures did not reach 1000°C in the secondary chamber. This represents 1.72% of the total burn, which can be considered as minor given the fact the incinerator is in full operation daily during the year. Agnico is still in the opinion that the maintenance performed at the incinerator between 2014 and 2016 has been effective. See Table 2 below showing lower temperatures incidences.*

Table 2. 2017, dates of recorded daily average temperatures below 1000°C for the Meadowbank Incinerator

Date	*Temperature secondary chamber (°C)*	*Comments*
July 19, 2017	*990*	
July 31, 2017	*894*	
October 3, 2017	*621*	*Mechanical issues with burner*
October 4, 2017	*68*	*Log indicate 0 minutes for burn time. Incinerator was not in operation.*
November 16, 2017	*543*	
December 1, 2017	*251*	

In 2017, Agnico has continued to conduct weekly visits, proceeded to regular inspections at the incinerator and provided advice to the operator, if needed. Toolbox meetings were also conducted to stress the importance of maintaining a proper and detailed log of the Incinerator. Staff on site are also reminded regularly on proper waste segregation through departmental toolbox meetings and site wide communications.

The Energy and Infrastructure group, responsible for operating the incinerator, has also implemented training sessions on the operation of the equipment as part of the

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integration of new employees assigned to the incinerator. Regular preventive and corrective maintenances are done throughout the year to meet the required temperatures. If any issues are observed, repairs will be done to ensure compliance of the incinerator.

Agnico will ensure that improvements are done towards ensuring that incinerator maintains consistently the required temperature all year long. Modifications could include additional information on the log sheets (time of readings, for example) to enable better referencing in troubleshooting issues.

Recommendation 11: The Board requests that Agnico Eagle provide regulatory authorities with an updated Incinerator Management Plan for review.

The updated Incinerator Management Plan should be provided within 60 days to the Board and regulatory authorities following the issuance of this recommendation.

Agnico Eagle's Response:
In March 2017, the Incinerator Management Plan was updated and provided in Appendix I1 of the 2016 Annual Report. The update (section 3.1) included clarification on stack testing frequency following an exceedance as detailed in the Annual Report. The sentence in the 2017 Annual report regarding the management plan update should have been removed, as it was complete via the 2016 Annual Report.

Agnico continues to sensitize employees to the importance of good waste segregation and have tried to focus on making sure employees understand the requirements of the Management Plan and the importance of a good data recording and incinerator functioning.

Also, on October 2, 2018, an updated Incinerator Management plan was submitted to the NWB for approval, to include composter activities. As per NWB notification, parties had until November 2, 2018 to provide their comments. The management plan was approved by the NWB on November 28, 2018.

1.6 Appendix D, the Annual Report and the PEAMP

Concern: The NIRB notes that Agnico Eagle's 2017 Annual Report provided a detailed analysis of results from its 2017 monitoring program and that it compared observed impacts noted in 2017 to predictions made within the Final Environmental Impact Statement (FEIS). Agnico Eagle's evaluation focused on the valued ecosystemic components (VECs) that had been identified in the FEIS, including the aquatic environment, the terrestrial and wildlife environment, noise quality, air quality, permafrost and socio-economics. The NIRB acknowledges that Agnico Eagle has worked to improve upon its reporting of findings within its post-environmental assessment monitoring program (PEAMP) and notes the general clarity of the presentation of information in its tables of potential impacts, potential cause(s), proposed monitoring, monitoring conducted for

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the year, predicted values and measured values/observed impacts. However, the NIRB found that the discussion and analysis within the PEAMP could be expanded upon especially to include trends that may be observed. The NIRB recognizes Agnico Eagle previously conveyed interpretation of Appendix D as not explicitly dictating that the PEAMP involve producing a trend analysis of previous years' monitoring data; however, the Board would like to note that the objective of the PEAMP as detailed in Appendix D is to provide this trend analysis as part of the summary report.

In reviewing the Annual Report and as noted by regulatory parties, there was an increase in a number of water quality parameters that are exceeding predictions from the year to year since 2012. The overall lack of reference to baseline data or to data from previous years makes it difficult to quantify or measure the relevant effects of the Project. While comparison between monitoring as proposed in the FEIS and monitoring undertaken in 2017 was helpful, rationale for why these were different was not always clearly presented.

Recommendation 12: The Board requires that Agnico Eagle provide a comprehensive update on the post-environmental assessment monitoring program for the Project. This must include a discussion that references the baseline and previous years' monitoring data and identifies any trends for each valued ecosystem component where an effect has been observed. The update must identify where original impact predictions can no longer be supported based on project experience to date and include an analysis of the effectiveness of management and mitigation strategies employed. The update must also provide a summary of lessons learned from the Project which can be used to improve future performance at this and other mining developments in Nunavut.

The comprehensive update should be provided to the Board within 30 days following the issuance of this recommendation, and also be included in the annual reports thereafter.

> ***Agnico Eagle's Response:***
> *It is Agnico's belief that a comprehensive update is not warranted as part as the PEAMP. According to the proponent's responsibilities identified under Appendix D of the Project Certificate, examinations are provided as required in individual monitoring reports. As such, trending analyses would also not be required under the aforementioned responsibilities. Agnico is confident that these discussions reference any potential impacts observed. In addition, the annual report is based on an extensive review of the FEIS throughout its content.*
>
> *Nonetheless, Agnico, is committed on improving identification of noted effects within the PEAMP summary report in this section and intends to highlight any trends observed for VEC's exceeding predictions with the 2018 Annual report and moving forward.*

1.7 Aquatic Environment

Concern: As in previous years, the post-environmental assessment monitoring program (PEAMP) section of the 2017 Annual Report did not provide any discussions on the Core Receiving

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Environment Monitoring Program (CREMP) or Agnico Eagle programs or any discussion on the changes observed/detected at the aquatic stations. Further, there was no discussion on the changes observed over time at these stations since operations commenced, or what the cause may be for the changes observed at these stations. As noted previously, a year-to-year comparison would provide a robust analysis and would have been useful to help identify trends in the data collected for the aquatic environment, specifically for the water quality and sediment quality data.

In review of Agnico Eagle's Annual Report, and as noted by regulatory parties, there was an increase in a number of parameters that are exceeding predictions from the year to year since 2012 or trigger exceedances in several parameters for both water quality and sediment chemistry. In response, Agnico Eagle stated that the CREMP continues to detect changes in some general water quality parameters that appear to be related to mining activity or that trends observed in sediment samples are due to natural spatial heterogeneity. Agnico Eagle also noted that these changes were reflected in higher concentrations of some parameters when compared to the model predictions in Final Environmental Impact Statement (FEIS). Agnico Eagle set thresholds and/or triggers at the 95th percentile of baseline data and concluded while that these results represent mine related changes, the observed concentrations are still relatively low and unlikely to adversely affect aquatic life. Further, Agnico Eagle indicated that due to the low likelihood of adverse effects on aquatic life, a discussion was not required on the management actions with respect to trigger exceedances observed in water.

Further, similar to the Kivalliq Inuit Association's concern, it was noted that the updated water quality model indicated that treatment may be required for aluminum, arsenic, cadmium, chromium, copper, fluoride, iron, nickel, and selenium so that the pit water quality will meet the Canadian Council of Ministers of the Environment (CCME) criteria at mine closure, while silver is no longer anticipated to be a problem at closure due to low loadings in the 2016 mill effluent. This represents a change from the previous annual report.

Recommendation 13: The Board requires Agnico Eagle to provide a trend analysis and discussion on the observed project effects on the aquatic environment based on the data collected to date under the Core Receiving Environment Monitoring Program. Further, a clear indication regarding whether outcomes align with the predictions made within the Final Environmental Impact Statement must be included. This is required under Appendix D for the post-environmental assessment monitoring program (PEAMP) and may be satisfied through inclusion in the broader PEAMP update required for the Project.

The requested information should be provided to the Board within 30 days following the issuance of this recommendation, and also be included in the annual reports thereafter.

Agnico Eagle's Response:

Temporal and Spatial Trend Analysis of Water Quality Data *– Temporal and spatial interpretation of the water chemistry data is a core component of the annual CREMP. This is done through plots of chemistry parameters, comparison of results relative to trigger*

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and threshold values, and formal statistical analysis of the results in the before-after / control-impact (BACI) study design. The following text (see Section 2.4.1 of the 2017 CREMP) outlines the approach to analyzing and interpreting changes in water quality associated with mining and/or site related activities.

The focus of the trend assessment in recent years has been on the near-field locations in accordance with the more focused approach to monitoring developed in the CREMP Plan Update (Azimuth, 2015). Water quality data collected in 2017 were evaluated against triggers and thresholds consistent with the existing framework outlined in the CREMP: 2015 Plan Update (Azimuth, 2015). Formal comparison of the water quality data for decision-making purposes was done by comparing the yearly mean parameter concentrations to the trigger values developed separately for the Meadowbank projects lakes, Wally Lake, and Baker Lake areas. Parameters with yearly mean concentrations equal to or exceeded the trigger value were formally tested using a one-tailed test of the null hypothesis (significance level of p=0.05) according to the framework outlined below for Meadowbank and Baker Lake areas.

- *Meadowbank Project Lakes and Wally Lake – A Before-After-Control-Impact (BACI) statistical framework was applied. The BACI model is "paired" (i.e., BACIP) when multiple "before" and "after" events are available. In the BACI model, INUG is used as the reference ("control") area, and the other areas are tested as exposure ("impact") areas. Both PDL and TEFF are excluded as control areas in the BACI analysis because neither area was sampled in the "before" period between 2006 and 2008. True "pre-impact" data (i.e., when both INUG and the test area had "control" ("C") status; see Table 1.4 2 2017 CREMP) were used for the "before" data. Only events when both INUG and the test area were sampled in 2017 were used as the "after" data.*

- *Baker Lake – Baker Lake areas were designated as "control" (BAP) or "impact" (BPJ and BBD) when sampling started in 2008 (i.e., there was no detailed baseline sampling was conducted for Baker Lake; see Table 1.4 2 2017 CREMP), so there are no true "pre-impact" "before" data. While a spatial "CI" design could be used to test for differences between reference "control" and exposure "impact" areas, the design does not allow for distinguishing natural differences between areas from development-related changes. Given that no development-related changes had been identified to date, all years of data up to and including 2016 were considered in the "before" period while the 2017 results were considered "after" period data (i.e., allowing the more robust BACI analysis). Thus, the BACI analyses specifically looked at changes in 2017 at the two "impact" areas relative to previous years.*

The first step in the spatial and temporal trend analysis involves identifying the list of parameters that are routinely <MDL. In 2017, just over half (53%) of the parameters exceeded the MDLs at least 10% of the time. These parameters were carried forward for

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further assessment. The next step involved comparing the detection frequency between control and impact stations to avoid screening out parameters that are infrequently detected but may be associated with mining activities. The proportion of samples exceeding MDLs between "control" and "impact" samples were compared. The intent of this screen was to identify parameters with <10% detection frequency (i.e., those screened out above) for which there were detection frequency changes potentially associated with mining activity (i.e., where the proportion of detected values increased by 0.1 or more). No parameters were added back into the trend assessment based on this second screening level. Lastly, trend plots were used to identify parameters with measured values associated with periods/locations of known mining activities. No parameters were added back into the trend assessment process based on this screen.

Results of the spatial and temporal trend analysis are summarized in Section 3.2.2.2 of the 2017 CREMP report (Azimuth 2018). Consistent with recent monitoring cycles, the only trigger exceedances reported in 2017 were for constituent parameters without effects-based guidelines (i.e., parameters without CCME WQGs). Conductivity, alkalinity (total), hardness, and major cations (Ca, Mg, K, Na) have routinely been measured above their trigger values (95th %ile of baseline concentrations) at the near-field stations in more recent CREMP cycles. A thorough review of the significance of each parameter exceeding the trigger value was presented in Section 3.2.2.2. While these parameters, particularly conductivity, hardness, and major cations (Ca, Mg, K, and Na) have exceeded their triggers and are mining-related, it is important to note that they have been fairly stable in more recent years. Furthermore, all available information compiled for the various parameters suggests that the observed concentrations are well below levels of concern for the health of aquatic life.

***Water Quality vs FEIS Predictions** – In addition to the trigger/threshold evaluation, annual CREMP water chemistry data were also compared to the maximum whole-lake average water quality modelling predictions for Third Portage, Second Portage, and Wally Lakes made during the environmental assessment process (Cumberland, 2005). While direct comparisons were made, the difference in spatial focus (i.e., the CREMP at the basin scale and the water quality model at the whole-lake scale) warrants caution when interpreting any differences. To that end, the assessment criteria outlined in the Final Environmental Impact Statement (FEIS; Cumberland, 2005) for defining the predicted magnitude of impacts to water quality were used to provide the appropriate context for interpreting the screening results as follows:*

- *Negligible: water quality concentrations are similar to baseline;*
- *Low: concentrations are < 1x the CCME WQG;*
- *Medium: concentrations are between 1 and 10-times the CCME guidelines;*
- *High: concentrations are less than MMER but greater than 10-times the CCME guidelines;*
- *Very High: concentrations exceed MMER standards*

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Water quality constituents without effects-based CCME thresholds were not incorporated in the magnitude ratings for assigning effects in the FEIS; however, following the intent of the FEIS magnitude ratings, constituents exceeding baseline but below concentrations associated with adverse effects were considered as consistent with a "low" magnitude rating.

The same list of parameters that exceed the Meadowbank trigger values typically exceed the concentrations predicted in the FEIS, namely ionic compounds (calcium and magnesium), hardness, and total alkalinity. Chloride, fluoride, nitrate, and sulphate also exceed the FEIS predictions for Third Portage Lake, Second Portage Lake, and Wally Lake in at least one sample. Most metals are below the predicted concentrations for Third Portage Lake (Table 3.2 5. 2017 CREMP), Second Portage Lake (Table 3.2 6, 2017 CREMP), and Wally Lake (Table 3.2 7, 2017 CREMP) with the exception of silicon (all three lakes), strontium (Third Portage Lake) and isolated instances of aluminum, copper, iron, manganese, and silver. Strontium consistently exceeded the model predictions for Third Portage Lake, but importantly did not exceed the trigger (95th percentile of baseline) indicating current strontium concentrations are representative of pre-development conditions.

The FEIS predicted the magnitude of potential effect on water quality in each of the lakes as "low", meaning < the CCME, except for arsenic and cadmium at WAL, and cadmium at SP and Third Portage Lake. At the time the FEIS was issued in 2005, the CWQG for cadmium was lower than the MDL for the baseline data. A thorough review of the ecological significance of the predicted cadmium concentrations was presented in the FEIS, and the probability of cadmium causing toxicity was considered "extremely low" (Cumberland, 2005). Arsenic was also predicted to exceed the CWQGs in Wally Lake. Similar to cadmium, the MDL was equal to the guideline (i.e., 0.005 mg/L). The models were considered conservative because the MDLs were used as the baseline concentrations. The MDLs for arsenic and cadmium in the 2017 data are 0.0001 mg/L and 0.000005 mg/L, respectively. All of the samples collected in 2017 from Third Portage, Second Portage, and Wally Lakes were below the MDL for cadmium, as was the case in 2016. In the case of arsenic, the concentrations are below the trigger values applicable to Meadowbank project lakes and WAL, and over an order of magnitude lower than the CCME water quality guideline of 0.005 mg/L in all samples, corresponding to a "negligible" effect rating.

Recent temporal water quality analysis for stations in Third Portage Lake (TPE and TPN), Second Portage Lake, and Wally Lake indicates the results conform with the low effect rating predicted in the FEIS. This conclusion is corroborated by the phytoplankton community results, which show a diverse, abundant, and stable community relative to the baseline period.

***Temporal and Spatial Trend Analysis of Sediment Chemistry Data** – Temporal analysis of sediment chemistry is completed annually in the CREMP report. In years when sediment*

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cores are collected, the core chemistry results are compared to site-specific triggers/thresholds and cases where mean concentration exceeds the trigger value are formally tested using a before-after (BA) statistical model to assess whether concentrations are increasing over time. In years when only sediment grabs are collected, the approach to describing trends is purely visual. To aid in the interpretation of the temporal analysis, scatterplots of the concentration data over time are presented annually for sediment constituents (refer to Figures 3.2-54 to 3,2-61 in the 2017 CREMP report).

Trends identified in the sediment chemistry data have been documented for chromium and TPE (first identified and reported in the 2012 CREMP report [Azimuth, 2013]) and more recently for arsenic at WAL (2017 CREMP report [Azimuth, 2018]). In the case of TPE, chromium has now been tracked for a number of years and concentrations continue to exceed the trigger value at TPE. The "apparent" decrease in concentration noted in the 2016 CREMP (Azimuth, 2017) may have been an artifact of spatial variability within the sediment area, rather than an actual reduction in sediment chromium concentrations. The 2017 chromium concentrations are at the upper limit of the concentrations reported in 2015 when sediment toxicity testing and sequential extraction analysis were conducted to determine the ecological significance of the results (Azimuth 2016). At that time, the results showed that while chromium concentrations had increased, both the bioavailability and toxicity lines of evidence pointed to the sediments being non-toxic to benthic species (C. dilutus and H. azteca). For both TPE and WAL, coring and targeted bioavailability studies were completed in 2018 to: (a) confirm the 2017 results represent an ongoing trend or if conditions have stabilized and (b) determine if current concentrations of metals in sediment (i.e., chromium) pose a potential risk to benthic invertebrates.

Table 12.4 in the 2017 Annual Report outlines predicted and measured impacts to fish and fish habitat in the FEIS. With respect to sediment chemistry, the release of effluent (i.e., settling of TSS and altered sediment chemistry) "may impact benthos". Benthic invertebrate communities are monitored on an annual basis at the near-field stations. The identification of potential mine-related impacts generally involves visually examining the data for spatial/temporal patterns that matched mine-related events. Visual examination of the data was further supported with statistical analyses of the 2017 data to test for changes relative to baseline/reference conditions using the BACI model. As of 2017, there have been no exceedances of early triggers for biological effects to the benthic invertebrate community abundance or richness. Furthermore, temporal analysis of the benthic invertebrate community metrics present in Section 3.2.5.2 of the 2017 CREMP report shows that total abundance and richness at the near-field areas is within the ranges reported during the baseline period.

Recommendation 14: The Board requests that Agnico Eagle qualify why it considers the exceedances of the thresholds to be "relatively low" and provide evidence to support the statement that it is "unlikely to adversely affect aquatic life" with reference to findings from the biotic surveys (i.e., phytoplankton and benthic invertebrate community) conducted in 2017. In

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addition, a discussion of management actions with respect to trigger exceedances in water is to be provided, even if the likelihood of adverse effects on aquatic life is considered to be low.

The requested information should be provided to the Board within 30 days following the issuance of this recommendation.

Agnico Eagle's Response:

There are two parts to the Recommendations 14. The first part is a request for evidence to support why exceedances of the threshold are considered "relatively low" and "unlikely to adversely affect aquatic life" with reference to findings from the biotic surveys (i.e., phytoplankton and benthic invertebrate community) conducted in 2017. The second part relates to the management response plan (MRP) in place for the AEMP.

This section deals specifically with evidence from the 2017 CREMP used to determine that adverse effects to aquatic life are unlikely. For phytoplankton, the stressor evaluation focused on changes in water quality parameters. Readers are also directed to Comment 13, which provides a detailed response regarding the assessment of water quality (or to Section 3.2.2.2 of the 2017 CREMP report [Appendix G1] for full details; Azimuth 2018). For benthic invertebrates, stressor evaluation included contaminant exposure via surface water and sediment exposure pathways.

***Phytoplankton** – biomass was statistically significantly higher at TPE, SP, and WAL in 2017 relative to reference/baseline conditions. The observed increase in the BACI assessment was not attributed to any observable Site-related activities. Higher biomass would be expected to occur if nutrient loading to the areas was identified in the BACI analysis of water chemistry, but nutrient concentrations remain well below threshold levels associated with increased primary productivity (see Table 3.2-1 in the annual CREMP report). Changes in biomass identified in the BACI assessment appear to be due largely to lower biomass at INUG (the reference area) in 2017 compared to the baseline period, whereas the opposite was true at the NF areas. The divergent patterns of phytoplankton biomass between INUG and the NF areas resulted in a large "perceived" increase in biomass for the NF areas. The absolute biomass values at the NF are in line with their historical values. Taking into consideration all the lines of evidence (BACI and absolute values plotted over time), there is no evidence to suggest mining operations are increasing primary productivity in the NF areas. Phytoplankton richness was similar to previous monitoring cycles. Overall, there is no evidence to suggest the health of the phytoplankton community at the near-field stations is adversely affected by mine-related activities. While natural variability is considered the most likely explanation for the observed differences in 2017, it was concluded that the trends should be closely watched in 2018 to see if initial conclusions are corroborated or if there is stronger evidence of mine-related causality.*

***Benthic Invertebrates** – There were no effects-based threshold exceedances for water quality parameters at any of the near-field locations in 2017. Threshold exceedances for sediment chemistry parameters were noted for TPE (Cr) and WAL (As, Cr, Pb) in 2017. At*

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TPE, chromium concentrations measured in 2017 continue to exceed the trigger value. Previous targeted studies (implemented in 2015; Azimuth 2016) at TPE using data generated from laboratory toxicity tests and sequential extraction testing of the sediments provided evidence that chromium in the sediment was non-bioavailable and non-toxic. These results were integrated with the benthic invertebrate community data in a sediment triad assessment to provide confidence that sediment metals were not affecting the benthic invertebrate community at TPE. Since the target study in 2015, chromium concentrations (as measured in the sediment cores), while initially stabilizing in 2016, trended higher in 2017, prompting further investigation (see below). Over this time, benthic invertebrate community results have been largely consistent with historical results at TPE. While the temporal trend analysis showed relatively lower total benthic invertebrate abundance at TPE relative to INUG over the past three years, the trend appears to be driven by increases at INUG (i.e., natural variability) rather than by decreases at TPE. In addition, no changes were observed in benthic invertebrate community diversity (taxa richness) at TPE, which would be expected to occur if there were mining-related changes. Thus, evidence to date points to natural variability, rather than mining, as the cause of the relative differences in abundance observed at TPE in 2017; these conclusions will be re-assessed in 2018. A repeat of the 2015 targeted bioavailability assessment and the 2017 sediment coring was completed in 2018 to assess whether current conditions at TPE present risks to the benthic invertebrate community; results of these targeted studies, coupled with the routine CREMP benthic community monitoring, will help determine the ecological significance of observed changes in sediment chromium concentrations and will be included in the 2018 CREMP report.

Arsenic, and to lesser extent lead and chromium, exceeded their trigger values in sediment cores at WAL in 2017relative to the baseline period and compared to the most recent 2014 coring results. Sediment triggers for WAL were developed in 2017 now that WAL is the receiving environment under MMER (discharge from the Vault attenuation pond). The trigger for arsenic is 44.5 mg/kg, which is the 95th percentile of the baseline sediment arsenic concentrations measured in 20 samples between 2008 and 2012. The trigger value is 7-fold higher than the CCME ISQG of 5.9 mg/kg, indicating arsenic is naturally elevated in WAL. Abundance and richness of the benthic invertebrate community remain high at WAL as evidenced by the results of the BACI analysis presented in Appendix G (2017 CREMP; Tables 3.2-16 and 3.217). Notwithstanding the overall health of the benthic invertebrate community, Agnico Eagle made a management decision to pursue targeted sediment coring and toxicity/bioavailability studies in 2018 to fully address risks to the benthic invertebrates at WAL; these results will be reported in the 2018 CREMP.

***Management Actions for Water Quality Trigger Exceedances** – The MRP describes the process of identifying potential risks to the aquatic environment and developing appropriate management responses. Figure 4-2 in Azimuth (2010) provides an overview of the MRP for the Meadowbank AEMP and outlines the steps involved in data evaluation, assessment, and mitigation. The scope of management actions depends on the nature of the problem, the spatial scale, evidence for causality, reversibility and uncertainty.*

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Management actions may involve no action beyond routine CREMP monitoring, continued trend monitoring, or active follow-up with more detailed quantitative assessment. Changes to water quality to date: (a) are considered "low" in magnitude (i.e., are consistent with the magnitude predicted in the FEIS) and are not expected to result in any adverse effects to aquatic life and (b) appear to have stabilized; recommended management actions focus on continued close monitoring of these trends. Changes to sediment quality at TPE and WAL have resulted in the implementation of additional targeted studies to help (a) verify the observed trends (particularly for WAL) and (b) determine the potential for adverse effects to the benthic community; the results of these studies and their implications in the context of the MRP will be reported in the 2018 CREMP.

Recommendation 15: The Board requests that Agnico Eagle explain why there has been an increasing trend in the number of parameters predicted to require treatment at closure.

The requested information should be provided to the Board within 30 days following the issuance of this recommendation.

Agnico Eagle's Response:

The increasing trend from year to year in the number of parameters forecasted to exceed the CCME guidelines in the pits at mine closure can be attributed to the following:

1. *In past Annual Reports, the forecasting of the metal concentrations were based on the dissolved fraction since it was assumed that the suspended particles should settle out in the pit and not be re-mobilized in the water column once the dike is breached. As of last year's Annual Report, total concentrations of the metals were considered in order to assess its impact if the suspended particles did not settle out in the pit. This approach results in a more conservative assessment and results in identifying additional parameters of concerns.*

2. *Furthermore, as of last year's Annual Report, the model considers the concentration loads from the pit seepages, which result in an increase in the loads of certain parameters into the pit water. For total aluminium, total arsenic, total chromium, total iron and fluoride, the higher forecasted concentrations can be attributed to these additional seepage loads to Portage Pit and Goose Pit. The analytical results from the groundwater sampled around the Portage and Goose Pits also confirm this observation. Parameters such as aluminum, arsenic and chromium are measured in very low but detectable concentrations in the groundwater. Fluoride is also present in the groundwater sampled around the Portage and Goose Pit.*

3. *Also, every year, the water quality forecast model is adjusted based on the mill effluent sampled during that year. The quality of the mill effluent varies from year to year. In 2015, higher concentrations of dissolved copper, dissolved silver and dissolved selenium in the mill effluent were measured in the mill effluent and used in the model*

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when compared to the 2014 model, resulting in the identification of silver and selenium as additional parameters of concern. Silver was not identified as a parameter of concern in the 2016 model based on the mill effluent sampled that year. In the current 2017 model, forecasted nickel concentration was detected to be slightly higher than the CCME guidelines in Goose Pit due in part to the higher concentration measured in the mill effluent that year.

4. *The water quality forecast model provides a conservative estimate, especially with regard to the pit seepage loadings that were assumed to be constant throughout the years until the pits are completely flooded. This is a conservative assumption. There should be a decrease in seepage flow since the hydraulic gradient between the pit water and groundwater level will decrease over time.*

Agnico Eagle would like to point up that using the CCME guideline for treatment objectives should be considered as a conservative approach. As per Licence 2AM-MEA1526 Part E Item 7, water quality prior to lake reconnection in the re-flooded area should meet CCME Water Quality Guidelines for the Protection of Aquatic Life, baseline concentrations, or appropriate site specific water quality objectives. Subject to the Board approval, if water quality parameters are above CCME Guidelines, a site specific risk assessment must be conducted to identify water quality objectives that are protective of the aquatic environment.

1.8 Noise Quality Monitoring

Concern: With respect to noise quality monitoring, the 2017 Annual Report did not provide a comparison of date to the final environmental impact statement (FEIS) predictions for noise levels nor was a trend analyses provided. It was noted in review of the 2017 Annual Report that the exceedance of predicted sound levels were resolved at station R5 which has been elevated in previous years. No discussion in the annual report was provided on how the exceedance of predicted sound levels were resolved.

Further, Agnico Eagle committed to evaluate the noise model in the 2017 Annual Report and predicted impacts within the FEIS would be discussed further. This information was not provided within the 2017 Annual Report as submitted by Agnico Eagle in April 2018.

Recommendation 16: The Board requests that Agnico Eagle clarify how the exceedance of predicted sound levels was resolved at noise monitoring station R5, recognizing that the levels have been above the predicted sound levels in previous years.

The requested information should be provided to the Board within 30 days following the issuance of this recommendation.

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Agnico Eagle's Response:

Previous exceedances at R5 were resolved by having helicopters based at the Meadowbank site thus reducing peak noise levels during take-off and landing in the vicinity of the station. In previous years, helicopters were maintained with the exploration activities in the area.

A landing pad was used on the Meadowbank tarmac to allow helicopter traffic to be stationed within the operations. This permitted to alleviate certain issues concerning air traffic landing/take-off within the R5 area, as stated in previous reports. As the exploration activity in the area was still ongoing, having only overhead traffic allowed to keep sound levels below predicted levels.

Recommendation 17: The Board requests that Agnico Eagle clarify whether an evaluation was undertaken for the noise model and, if so, whether the results were compared to the predictions within the Final Environmental Impact Statement for the Project.

The requested information should be provided to the Board within 30 days following the issuance of this recommendation, and also be included in the annual reports thereafter.

Agnico Eagle's Response:

In the Nunavut Impact Review Board's 2015-2016 Annual Monitoring Report for the Meadowbank Gold Project and Board Recommendation response letter dated December 9th 2016, Agnico Eagle committed to evaluate the noise model and predicted impacts within the FEIS. This exercise was subsequently completed in the 2016 Annual report, section 12.3.2.

"By monitoring sound levels at five locations around the mine site for two 3-4 day periods annually, the current monitoring program provides a conservative assessment of the accuracy of predicted noise levels. A review of the impact assessment methodology was performed, and it was determined that assumptions of the noise model with respect to site activities remain valid."

In relation to the FEIS, noise monitoring results were assessed to be conservative in comparison.

Results are also compared annually to the accuracy of predicted impacts in the annual report.

2 WHALE TAIL SITE (16MN056)

2.1 Dust Management and Monitoring Plan – Term and Condition 2

Concern: As required by Term and Condition 2 of Project Certificate No. 008, Agnico Eagle has not provided the updated Dust Management and Monitoring Plan for the Meadowbank Mine site

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including verification of commitments made to the utilization of dust suppressants along the all-weather access road, the Amaruq haul road and other roads and trails associated with the Project. However, it is noted that Air Quality and Dustfall Management Plan was submitted by Agnico Eagle in June 2018 but the information within this plan does not appear to address the requirements of the Term and Condition.

Recommendation 1: The Board requests that Agnico Eagle provide an action plan for provision of the following outstanding information required by Project Certificate No. 008: an updated Dust Management and Monitoring Plan

Agnico Eagle's Response:

There appears to be some confusion on the above stated plans. Agnico does not have an existing Dust Management and Monitoring Plan. The intent was for the approved Air Quality and Dustfall Management Plan to meet the letter of the condition.

Agnico Eagle have provided the information requested by Condition 2 in the Air Quality and Dustfall Management Plan (May 2018) submitted in June 2018. More specifically, Section 8.3 of the Whale Tail Pit Haul Road Management Plan (August 2018) detailed the use of dust suppressant:

> *Based on the modelling of the dust emissions on the road, and the experience and monitoring data of the Meadowbank AWAR from Baker Lake to the mine site, use of chemical dust suppressants is not expected for the Whale Tail Pit Haul Road. However, if there are safety concerns or areas of particular interest, chemical dust suppressants may be only used as a last resort and only in accordance with the Environmental Guidance for Dust Suppression published by the Government of Nunavut Department of Environment (GN, 2014).*

Agnico Eagle recognizes that the actual Air Quality and Dustfall Management Plan does not fully meet the requirements of the Term and Condition and proposes, to reduce confusion, and for simplicity to include information within a revision of the Air Quality and Dustfall Management plan that would satisfy the term and condition. Agnico would wait upon reception of comments from ECCC (see recommendation #2, below) to ensure all comments and recommendations are integrated, if needed, with this revision. The revision would be included in the 2018 Annual report.

Agnico also agrees to continue to investigate alternatives dust mitigation measures in its Nunavut sites and intents to keep the board informed through the annual reports on efforts deployed in dust management.

Recommendation 2: The Board requests that Environment and Climate Change Canada review the Air Quality and Dustfall Management Plan submitted by Agnico Eagle in June 2018 and provide feedback regarding whether the plan meets the requirements under Terms and Conditions #1 and #2 of Project Certificate No. 008.

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The Board respectfully requests that Environment and Climate Change Canada provide a response to this recommendation within 30 days' receipt of the Board's correspondence to Environment and Climate Change Canada.

Agnico Eagle's Response:
Agnico Eagle look forward to see ECCC response to this recommendation.

2.2 Site-specific Permafrost Monitoring, Mapping and Thermal Analysis –Term and Condition 10

Concern: Term and Condition 10 of Project Certificate No. 008 requires the Proponent to consult with applicable regulatory agencies to undertake additional site-specific permafrost monitoring mapping and thermal analysis with the results of these studies provided to the NIRB at least 30 days prior to the start of construction of project infrastructure such as the Whale Tail pit, water management structures, mine site and haul roads, waste rock storage facilities, etc. During the 2018 site visit in August, construction of several of the above-mentioned infrastructures has commenced; however, the NIRB has not received any information from the Proponent on the results of the studies as requested. Agnico Eagle did provide a Thermal Monitoring Plan in May 2018 which summarized the current permafrost conditions based on data collected up to October 2017. Further, Agnico Eagle provided a copy of a presentation provided to Crown-Indigenous Relations and Northern Affairs Canada in July 2018 that covers the hydrogeological model (to meet Term and Condition 6) but does not appear to provide the information related to additional site-specific permafrost monitoring mapping and thermal analysis to document permafrost conditions, including season thaw and amount of ground ice. In addition, the information as presented within the presentation does not inform the detailed design of project infrastructure as outlined above. As Natural Resources Canada was not consulted on this information and the results not provided to the NIRB, it appears that Agnico Eagle has not met the requirements of Term and Condition 10.

Recommendation 1: The Board requests that Agnico Eagle provide an action plan for provision of the following outstanding information required by Project Certificate No. 008: evidence of consultation with applicable regulatory agencies to undertake required site-specific permafrost monitoring mapping and thermal analysis

Agnico Eagle's Response:
Agnico Eagle believes we have met the requirements of Condition 10 and submit that sufficient information herein is provided to NIRB to conform to Condition 10. Agnico Eagle has documented permafrost conditions on site with several thermistors placed at strategic location recommended by the different designers and consultants involved in the project. The memo summarising the thermal monitoring program at Whale Tail Pit Project from the period of 2015 to 2018 (see Appendix 1) which was provided to NRCan and CIRNAC to ensure compliance of the Term and Condition 10.

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The data presented in this memo informed and will continue to inform the detail design of the project infrastructure such as the Whale Tail pit, water management structures, mine site and haul roads, waste rock storage facility and tailings storage facility. Agnico Eagle consider also that the detail report submitted to the Nunavut Water Board as per Licence 2AM-WTP1826 Part D Item 1 and 2 is inclusive of the requirements listed in the Term and Condition 10.

Furthermore, below is a summary of consultations conducted several face-to-face consultation meeting with regulators as listed below:

- *July 26, 2018: Agnico Eagle meets with CIRNAC in Ottawa to present the Whale Tail Pit Project Mine Contact Water Modelling Commitments were the result of the Updated Thermal-Hydrogeological Assessments were presented to CIRNAC.*

- *October 17, 2018: Agnico Eagle meets with CIRNAC and NRCan in Iqaluit to discuss of the Outstanding Issues on the Potential for Post-closure Exceedance of Arsenic in the Flooded Whale Tail Pit, and the Absence of Data to Validate Hydraulic Gradient.*

The Nunavut Water Board has approved the detail designed of the Whale Tail Dike, Mammoth Dike, WRSF Dike, North East Dike, Starter WRSF and Pit. Agnico have a pending approval with the NWB for the Whale Tail WRSF, NPAG Stockpile and Overburden Stockpile Design Report and Drawings. Agnico Eagle considers that these infrastructures were designed in accordance with the Water Licence, term and condition 10 and the integrity of these infrastructure will be maintained after construction.

Agnico Eagle recognizes that these detailed reports should have been submitted to the Nunavut Impact Review Board, NRCan and CIRNAC as per Term and Condition 10. The detail design reports of these structures can be found directly on the NWB FTP Site (ftp://ftp.nwb-oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-WTP1826%20Agnico/3%20TECH/D%20CONSTRUCTION/). Agnico can also provided a copy directly to the NIRB, if required. In the future, Agnico Eagle will include Nunavut Impact Review Board, NRCan and CIRNAC in future submissions of the detailed reports that are submitted to the Nunavut Water Board as per Licence 2AM-WTP1826 Part D Item 1 and 2.

Recommendation 3: The Board requests that Crown-Indigenous Relations and Northern Affairs Canada and Natural Resources Canada review the information provided by Agnico Eagle for Term and Condition 10 of Project Certificate No. 008 in relation to the additional site-specific permafrost monitoring mapping and thermal analysis studies and confirm whether the information is complete and that this condition has been satisfied.

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The Board respectfully requests that Crown-Indigenous Relations and Northern Affairs Canada and Natural Resources Canada provide a response to this recommendation within 30 days' receipt of the Board's correspondence to both Crown-Indigenous Relations and Northern Affairs Canada and Natural Resources Canada.

Agnico Eagle's Response:
Agnico Eagle look forward to see CIRNAC and NRCan responses to this recommendation.

2.3 Invasive Species Mitigation Plans – Term and Condition 25

Concern: Agnico Eagle has not provided an Invasive Species Mitigation Plans, Protocols, Monitoring and Inspection Program as required by Term and Condition 25 of Project Certificate No. 008 to date. This was to be provided to the NIRB for review at least 30 days prior to the first shipment of equipment and supplies to the site. In correspondence received in October 2018, Agnico Eagle indicated that it is working on developing a plan for the 2019 barge season.

Recommendation 1: The Board requests that Agnico Eagle provide an action plan for provision of the following outstanding information required by Project Certificate No. 008: an Invasive Species Mitigation Plan

Agnico Eagle's Response:
Agnico is working on developing a plan for the 2019 barge season. The plan should be submitted in the 2018 Annual Report.

2.4 Finalized Terms of Reference – Term and Condition 27

Concern: Term and Condition 27 of Project Certificate No. 008 requires that Agnico Eagle provide a finalized Terms of Reference (TOR) for the Terrestrial Advisory Group (TAG) to the NIRB within six (6) months of issuance of the Project Certificate. Within the Terrestrial Ecosystem Management Plan provided to the NIRB in June 2018, Agnico Eagle noted that it is committed to the establishment of a TAG consisting with the appropriate representatives and that the TOR will be discussed and completed by Q4 of 2018 for the TAG. To date, the finalized TOR has not been provided to the NIRB.

Recommendation 1: The Board requests that Agnico Eagle provide an action plan for provision of the following outstanding information required by Project Certificate No. 008: finalized Terms of Reference (TOR) for the Terrestrial Advisory Group

Agnico Eagle's Response:
Finalized Terms of Reference for the Terrestrial Advisory Group was submitted to NIRB on November 1, 2018.

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2.5 Initial Listing of Formal Certificates and Licences – Term and Condition 52

Concern: Term and Condition 52 of Project Certificate No. 008 requires that Agnico Eagle develop and maintain an easily referenced listing of formal certificates and licences that may be acquired via on-site training or training during project employment. The initial listing was to be provided to the NIRB within six (6) months of the Project Certificate being issued. To date, no listing of formal certificates and licences have been provided for review. In correspondence received in October 2018, Agnico Eagle indicated that it is working on developing a listing which would be provided by November 2018.

Recommendation 1: The Board requests that Agnico Eagle provide an action plan for provision of the following outstanding information required by Project Certificate No. 008: development of an easily referenced listing of formal certificates and licences that may be acquired via on-site training or training

Agnico Eagle's Response:
Please find in Appendix 2 the Agnico Eagle Training List dated August 28, 2018.

2.6 Occupational Health and Safety Plan –Term and Condition 57

Concern: An updated Occupational Health and Safety Plan was to be provided to the NIRB within six (6) months of issuance of the Project Certificate (No. 008) as per Term and Condition 57. To date, no updated plan has been provided. In correspondence received in October 2018, Agnico Eagle indicated that it is working on developing a listing which would be provided by November 2018.

Recommendation 1: The Board requests that Agnico Eagle provide an action plan for provision of the following outstanding information required by Project Certificate No. 008: an updated Occupational Health and Safety Plan.

Agnico Eagle's Response:
The updated Occupational Health and Safety Plan can be found in Appendix 3.

2.7 Viability of flooded South Basin as an effective offset for habitat loss – Condition 24

Concern: In review of the Whale Tail Fisheries Habitat Offsetting Plan submitted by Agnico Eagle in May 2018, it is not clear if the requirements under Term and Condition 24 of Project Certificate No. 008have been met. The NIRB would like confirmation from Fisheries and Oceans Canada that the plan as submitted meets the requirements of Term and Condition 24 and whether the concern that the increased surface area of Whale Tail Lake is a viable offset to habitat losses resulting from the development of the Project and whether Whale Tail end pit would support fish in the post closure scenario has been addressed.

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Recommendation 4: The Board requests that Fisheries and Oceans Canada (DFO) provide confirmation that the Whale Tail Fisheries Habitat Offsetting Plan as submitted meets the requirements of Term and Condition 24 of Project Certificate No. 008 and whether the increased surface area of Whale Tail Lake is accepted as a viable offset to habitat losses resulting from the development of the Project. The Board further requests that DFO clarify whether previously raised concerns regarding whether Whale Tail end pit would support fish in the post closure scenario have been satisfactorily addressed.

The Board respectfully requests that Fisheries and Oceans Canada provide a response to this recommendation within 30 days' receipt of the Board's correspondence to Fisheries and Oceans Canada.

Agnico Eagle's Response:
Agnico Eagle look forward to see DFO response to this recommendation.

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AGNICO EAGLE

APPENDIX 1

Memo - Summary of Thermal monitoring at Amaruq Site from 2015-2018

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AGNICO EAGLE Memo

From: Bruno Lessard

CC: Frederick Bolduc and Alexandre Lavallee

Date: November 28th 2018

Subject: Summary of Thermal monitoring at Amaruq Site from 2015-2018

This document present a summary of the thermal monitoring at the Amaruq project from 2015 to 2018. During that period, thermistor strings were installed around the Amaruq site to support various studies for the construction of the different infrastructures of the project.

A total of 15 boreholes for thermistors were installed between May 2015 and November 2018. 11 of the installation are still functional and continue to be monitored on a bi-weekly basis, either manually or with Dataloggers.

Figure 1 show a plan view of the location of the thermistors installed between May 2015 and November 2018.

Table 1 present the thermistors installation, their coordinate and their status.

Figure 2 to 16 present the thermistors data, either active or not. For clarity purpose, a representative numbers of readings (approximatively once per month) for the reference period are presented.

Table 1: Permanent and temporary thermistors installation coordinates and status

Name	*Area*	*Easting (X)*	*Northing (Y)*	*Elevation (Z)*	*Azimuth*	*Dip*	*Installed*	*Active (Y) or (N)*
AMQ17-1159	WTD	**607580.20**	**7254827.60**	**152.56**	--	-90	2017	Y
AMQ17-1188	WTD	**607209.90**	**7254681.30**	**151.76**	--	-90	2017	N
WTD_TH-0+336	WTD	**607298.44**	**7254713.44**	**157.00**	--	-90	2018	Y
Stkd299	WTD	**607689.94**	**7254751.01**	**153.74**	--	-90	2017	Y
MD-02-2015	MD	**605906.10**	**7255094.50**	**152.27**	--	-90	2015	Y
AMQ15-294	WTP	**607073.20**	**7255676.10**	**155.93**	322.67	-45.18	2015	Y
AMQ15-349 A	WTP	**607064.90**	**7255627.50**	**155.30**	204.41	-45.32	2015	N
AMQ15-421	WTP	**607098.30**	**7255490.80**	**155.09**	273.93	-51.31	2015	N
AMQ15-306	WTP	**606714.80**	**7255363.80**	**154.92**	96.30	-45.41	2015	N
AMQ15-324	WTP	**606496.80**	**7254995.20**	**161.79**	323.41	-55.46	2015	Y
AMQ15-452	WTP	**606627.20**	**7255687.90**	**156.16**	159.5	-49.98	2015	Y
AMQ17-1265 A (2)	WTP	**606950.00**	**7255414.00**	**140.00**	196.03	-79.99	2017	Y
AMQ17-1277 A	WTP	**606911.00**	**7255964.00**	**153.00**	193.06	-60.17	2017	Y
AMQ17-1337	IVR	**607078.00**	**7256522.00**	**155.00**	260.37	-59.62	2017	Y
AMQ17-1233	IVR	**606778.00**	**7256254.00**	**162.00**	252.71	-59.06	2017	Y

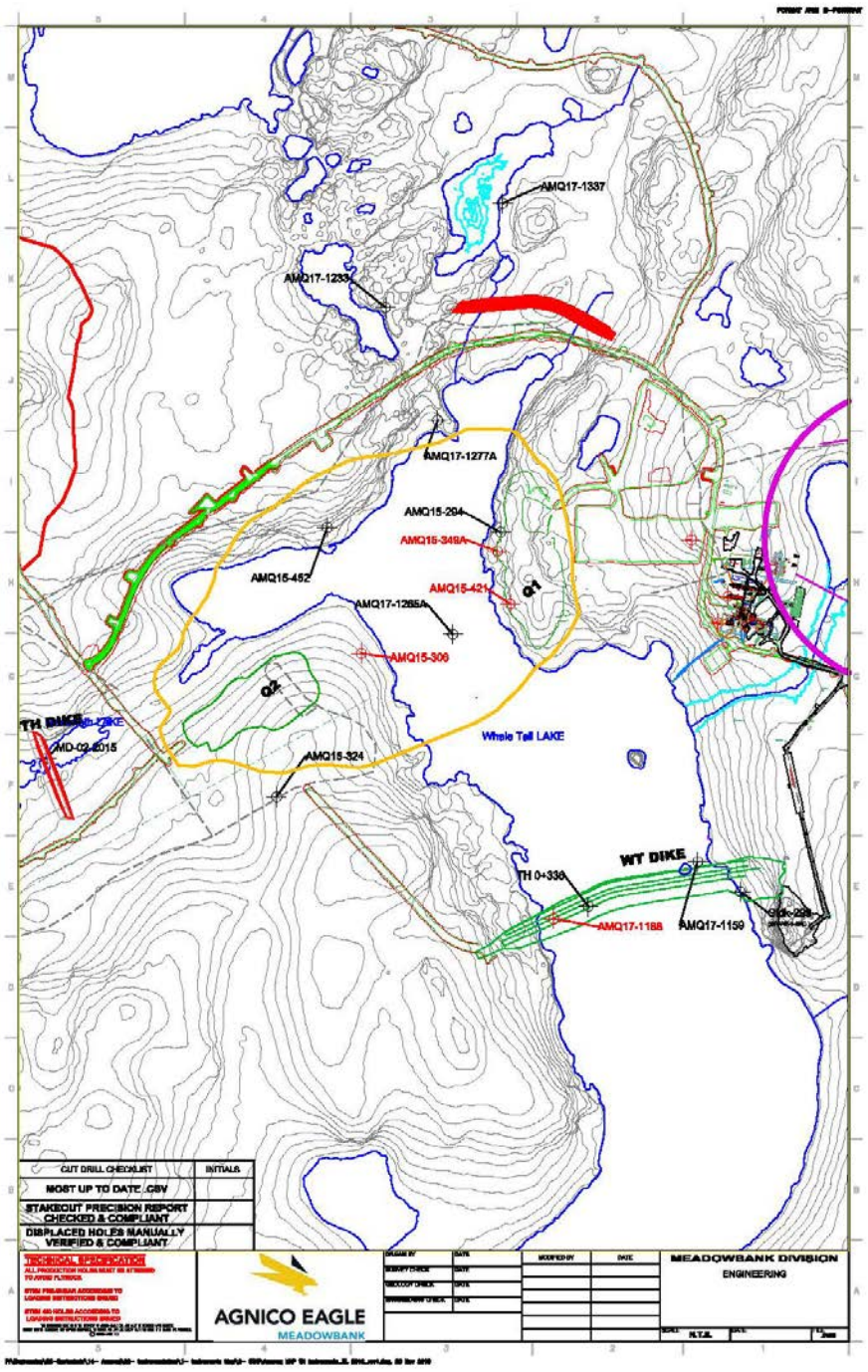

Figure 1: Amaruq Thermistor Location Plan View (active instrument in black)

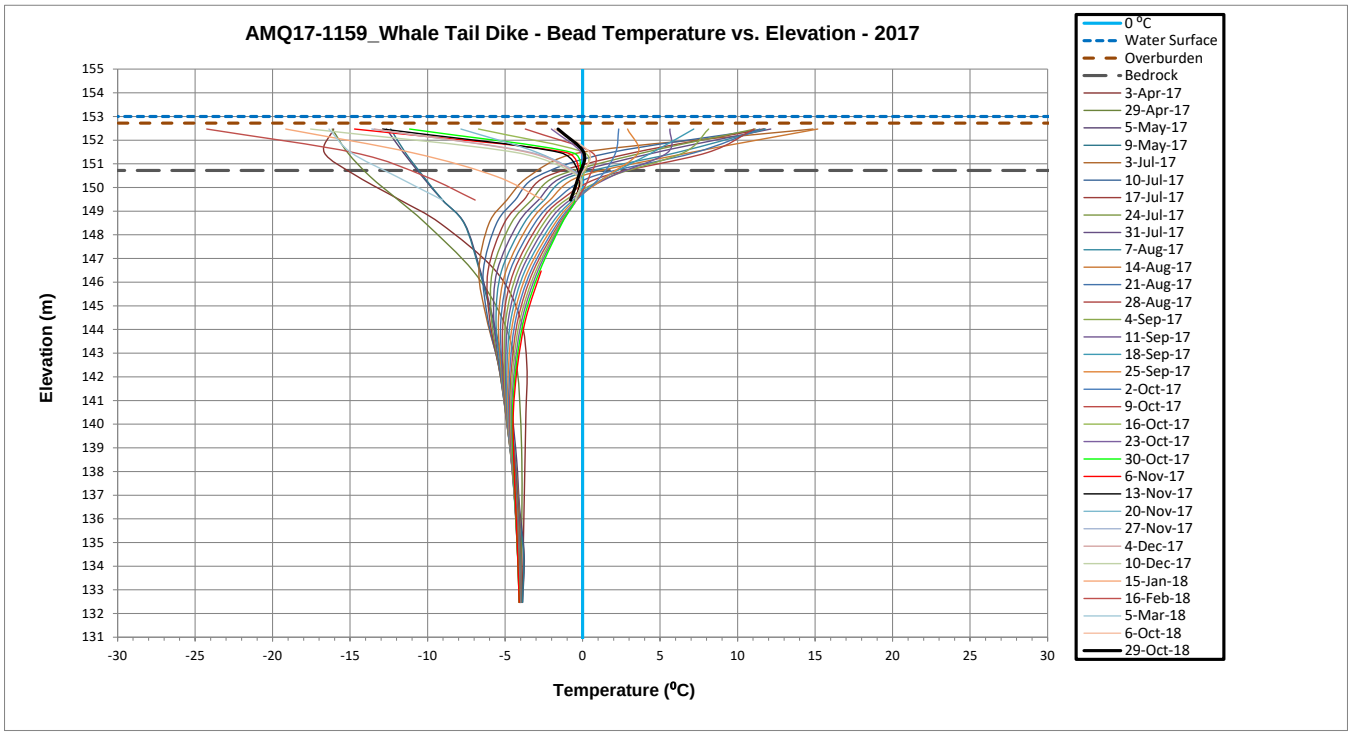

Figure 2: Temperature profile (Celsius) as a function of elevation (masl) from installation to October 2018 for thermistor AMQ17-1159

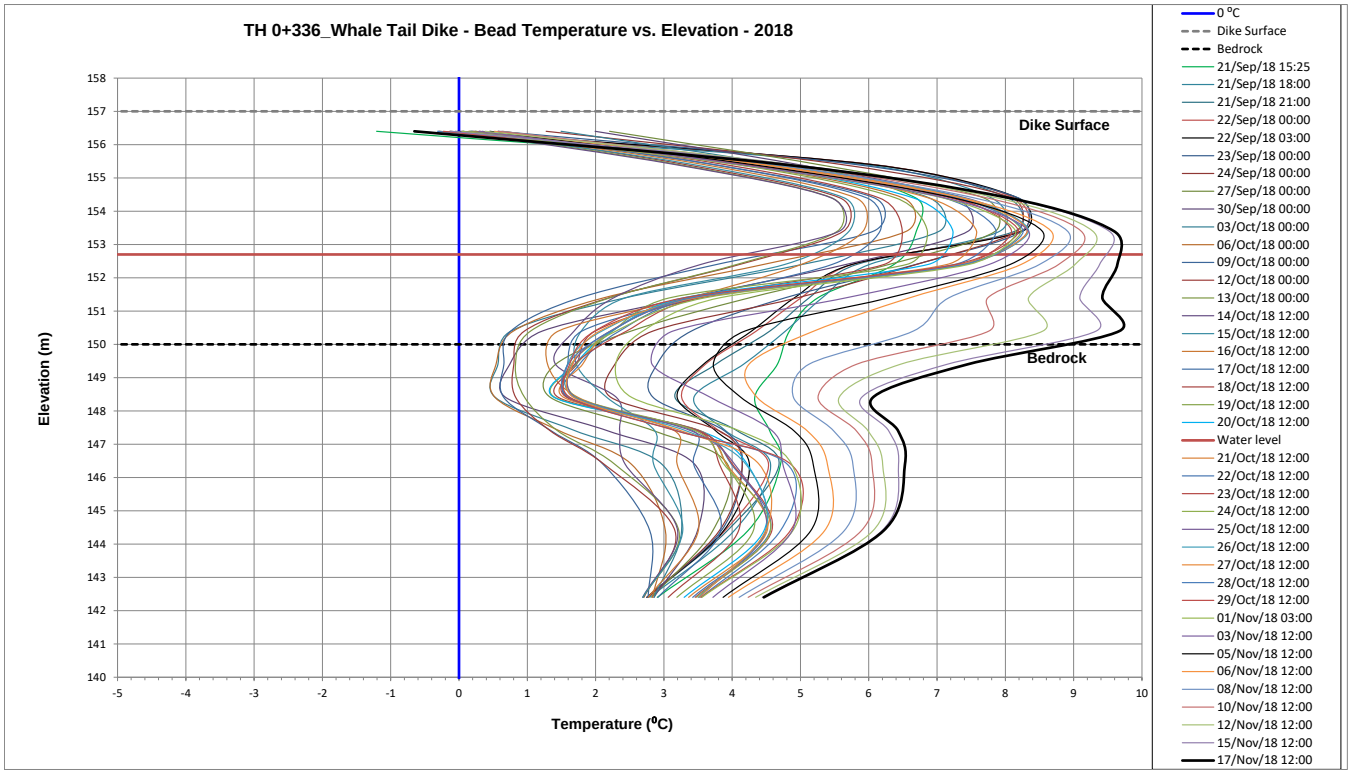

Figure 3: Temperature profile (Celsius) as a function of elevation (masl) from installation to November 2018 for thermistor TH 0+336

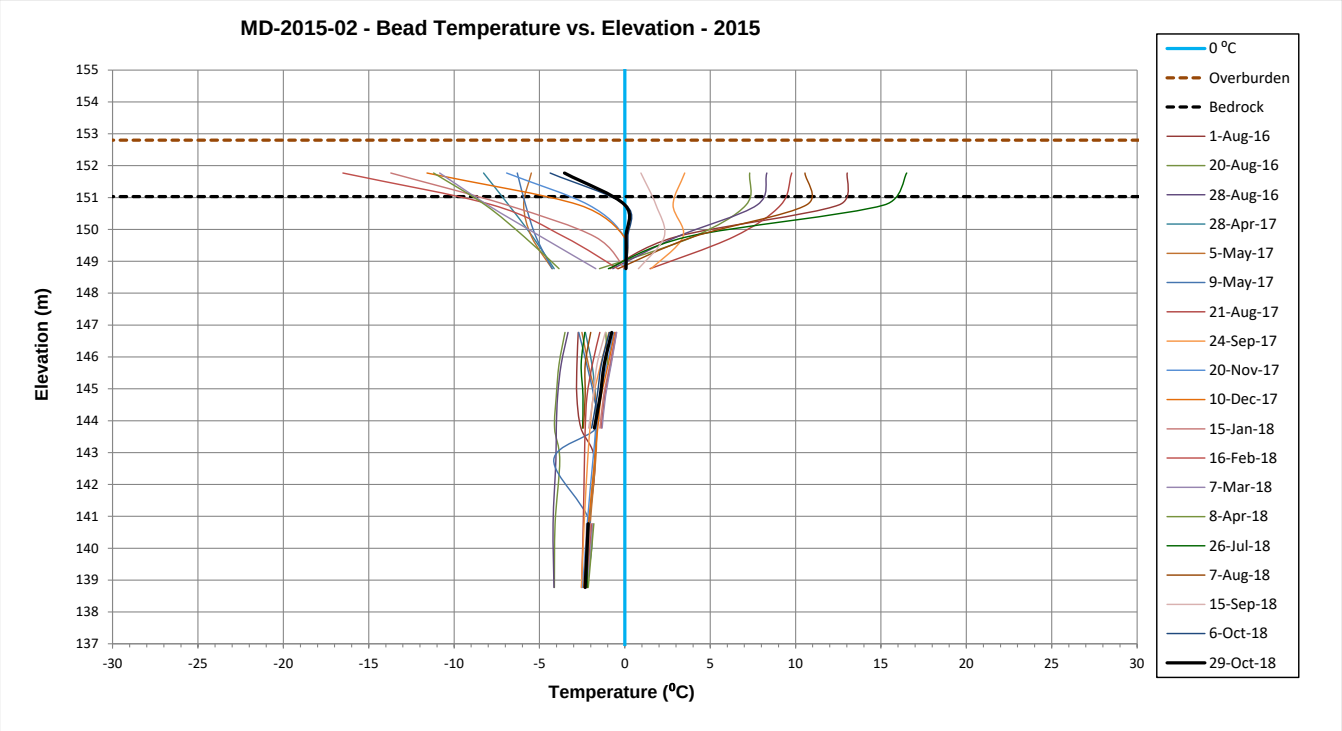

Figure 4: Temperature profile (Celsius) as a function of elevation (masl) from installation to October 2018 for thermistor MD-2015-02

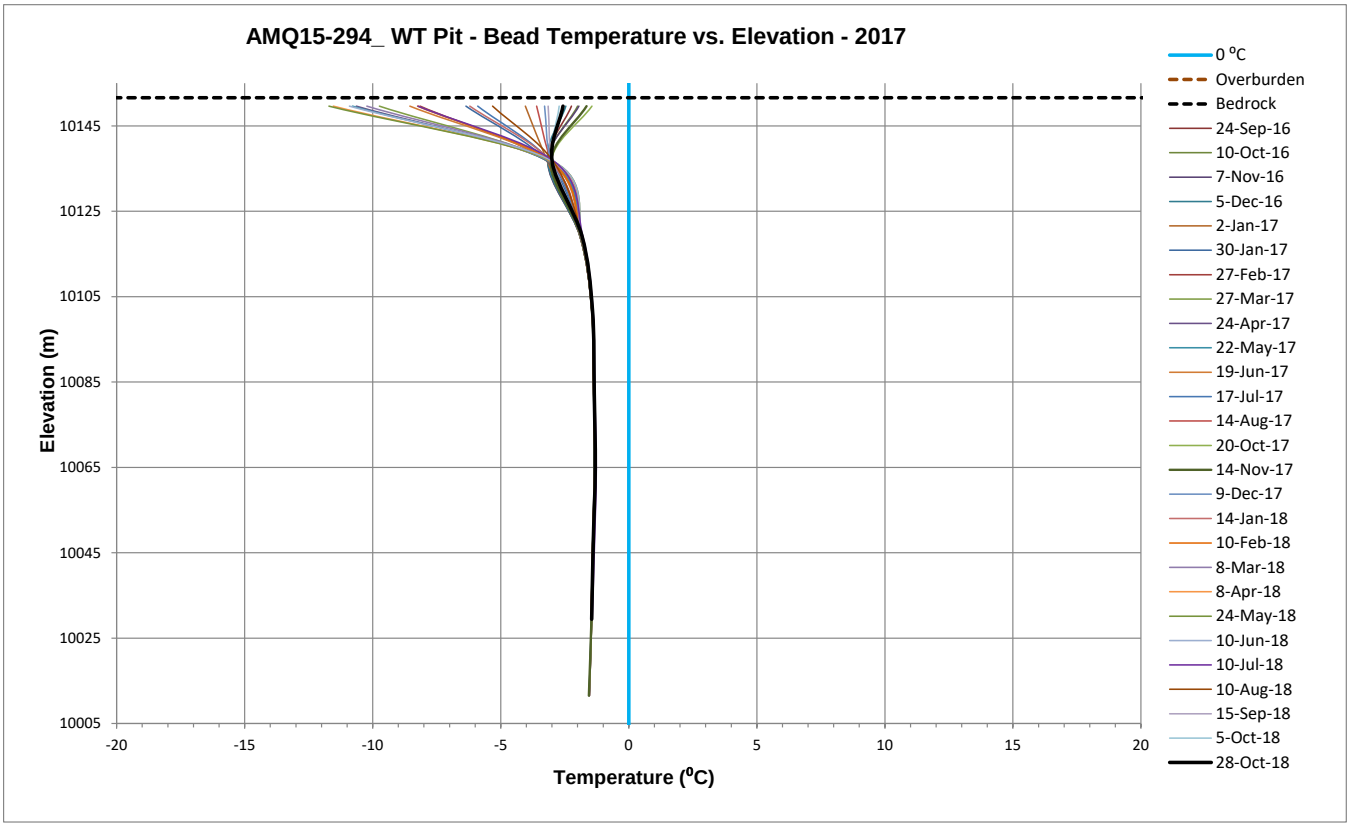

Figure 5: Temperature profile (Celsius) as a function of elevation (masl) from installation to October 2018 for thermistor AMQ15-294

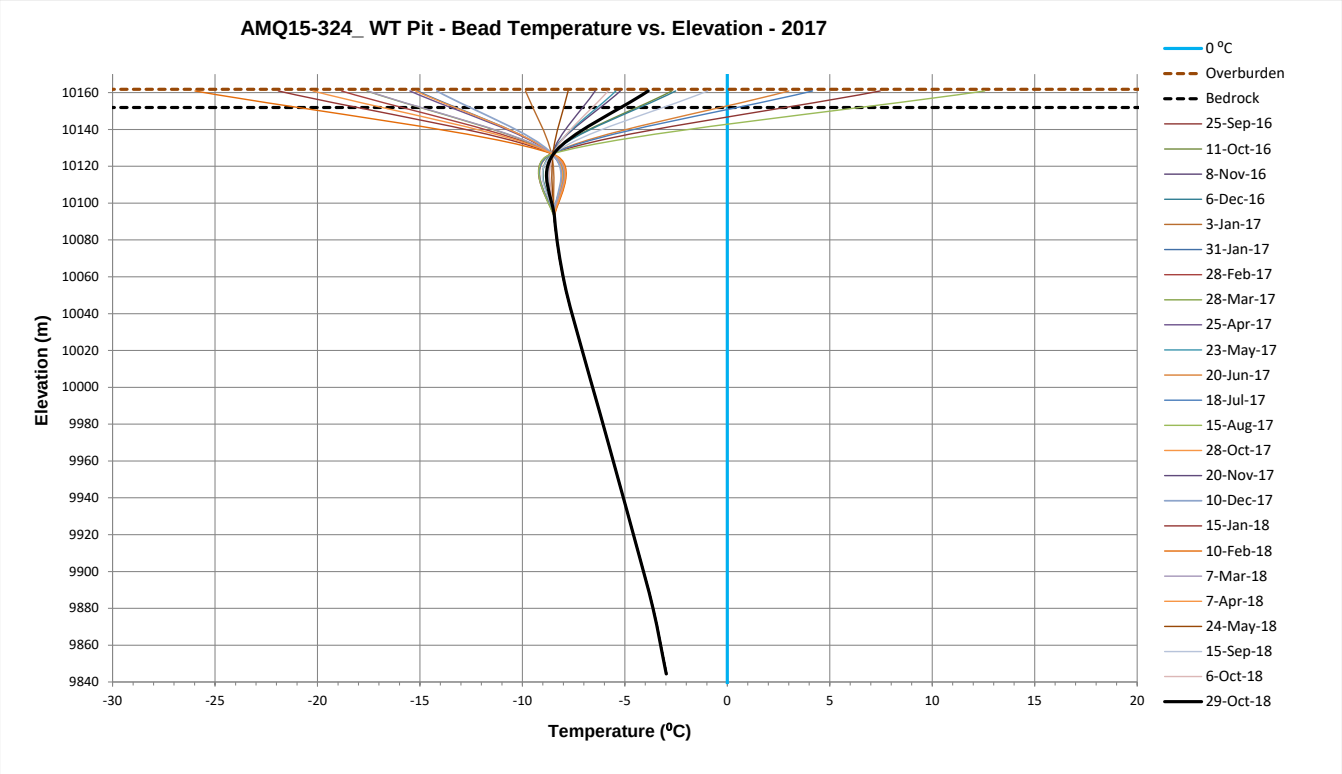

Figure 6: Temperature profile (Celsius) as a function of elevation (masl) from installation to October 2018 for thermistor AMQ15-324

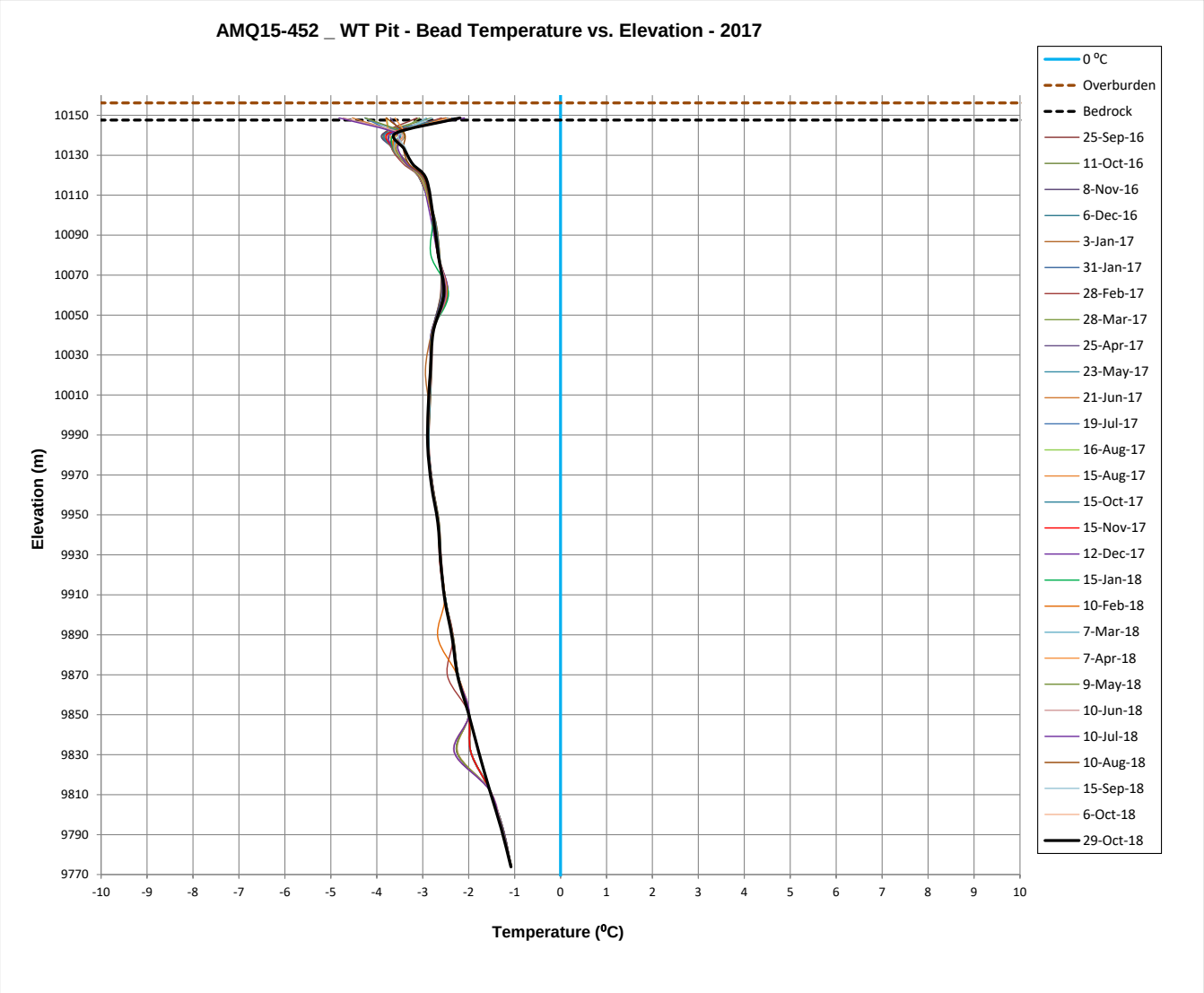

Figure 7: Temperature profile (Celsius) as a function of elevation (masl) from installation to October 2018 for thermistor AMQ15-452

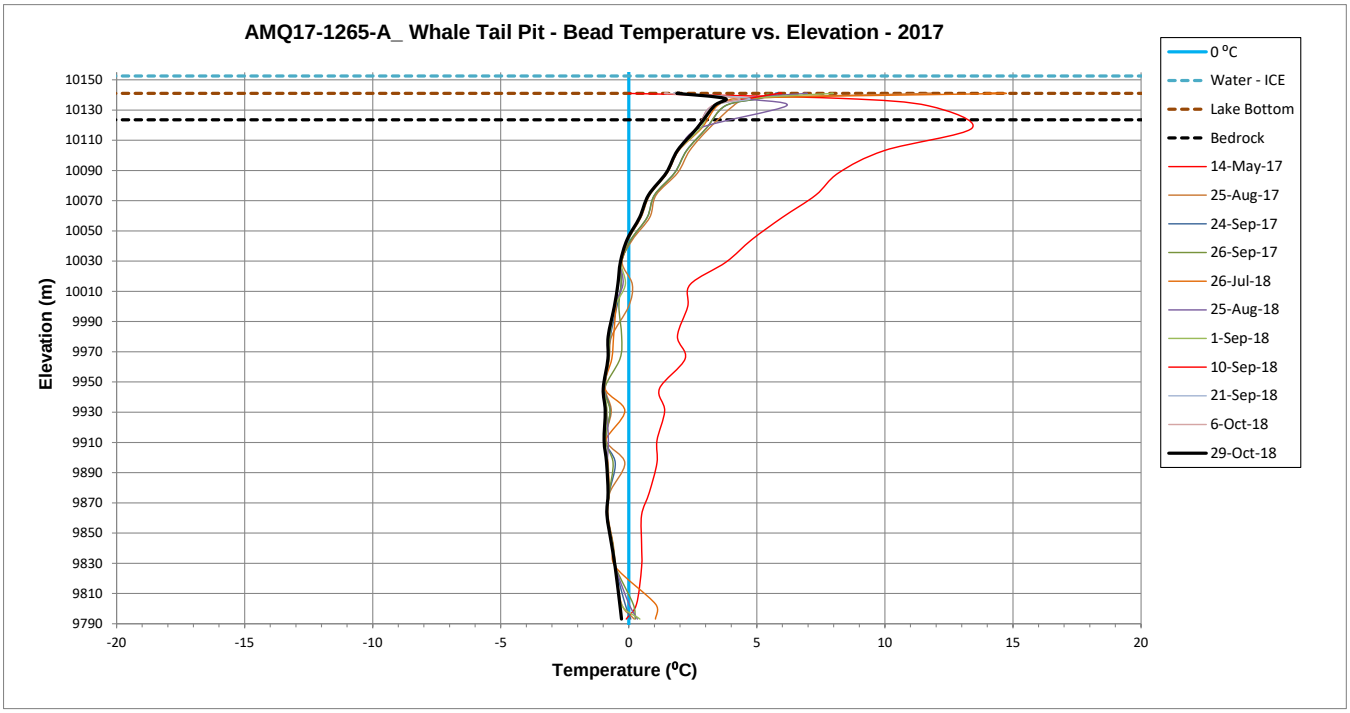

Figure 8: Temperature profile (Celsius) as a function of elevation (masl) from installation to October 2018 for thermistor AMQ17-1265A

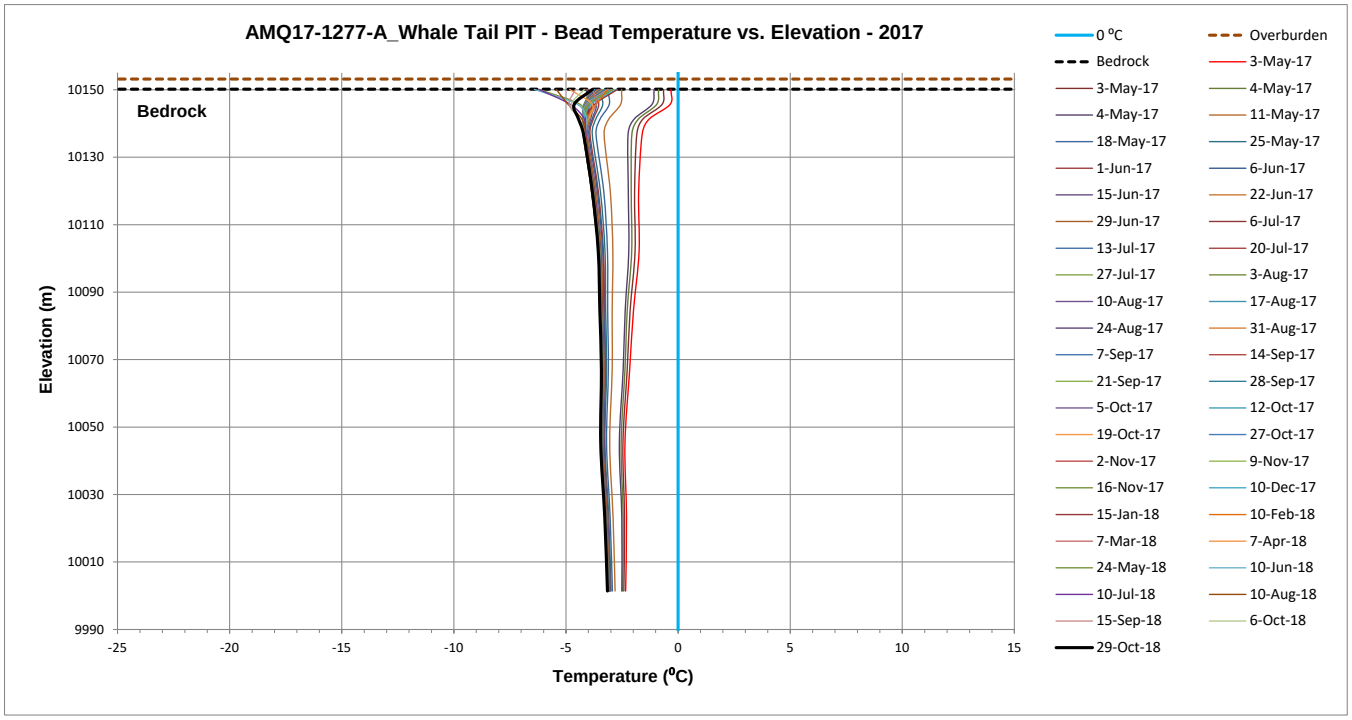

Figure 9: Temperature profile (Celsius) as a function of elevation (masl) from installation to October 2018 for thermistor AMQ17-1277A

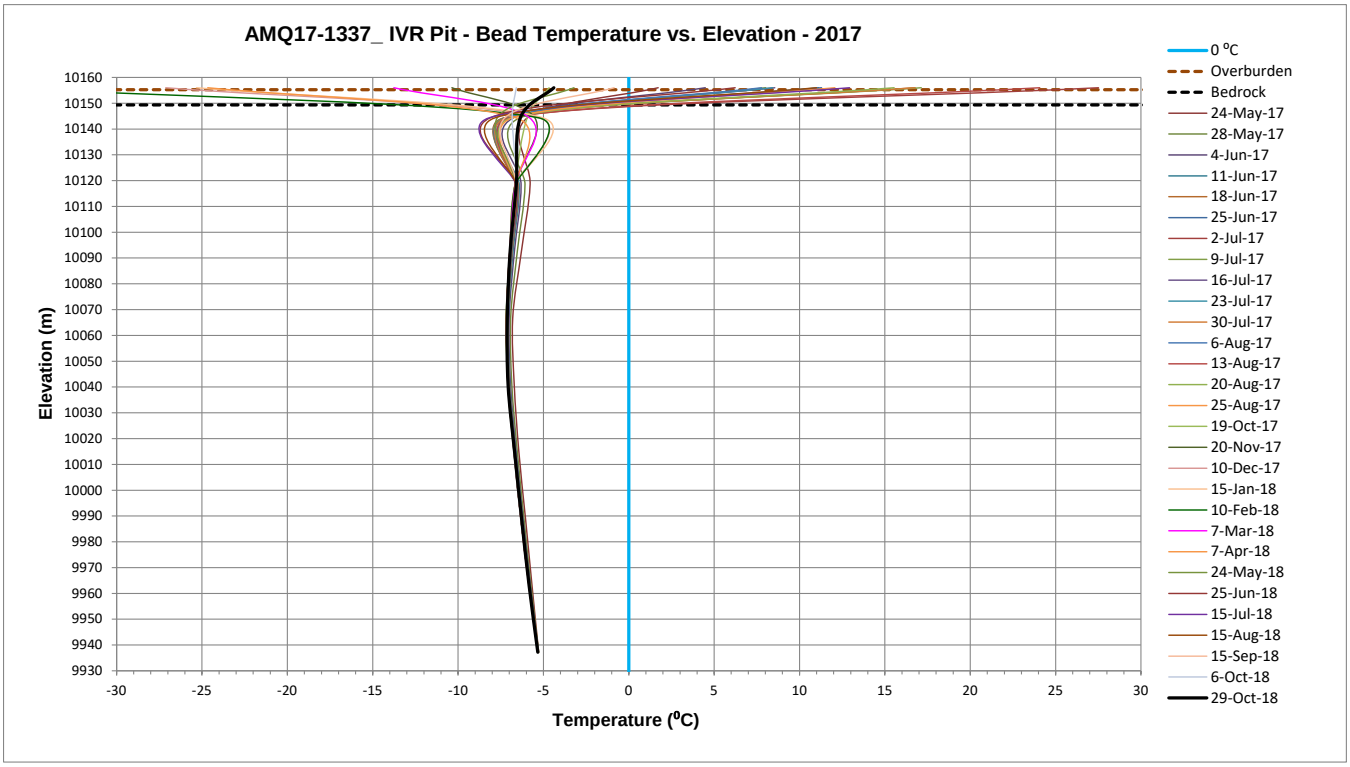

Figure 10: Temperature profile (Celsius) as a function of elevation (masl) from installation to October 2018 for thermistor AMQ17-1337

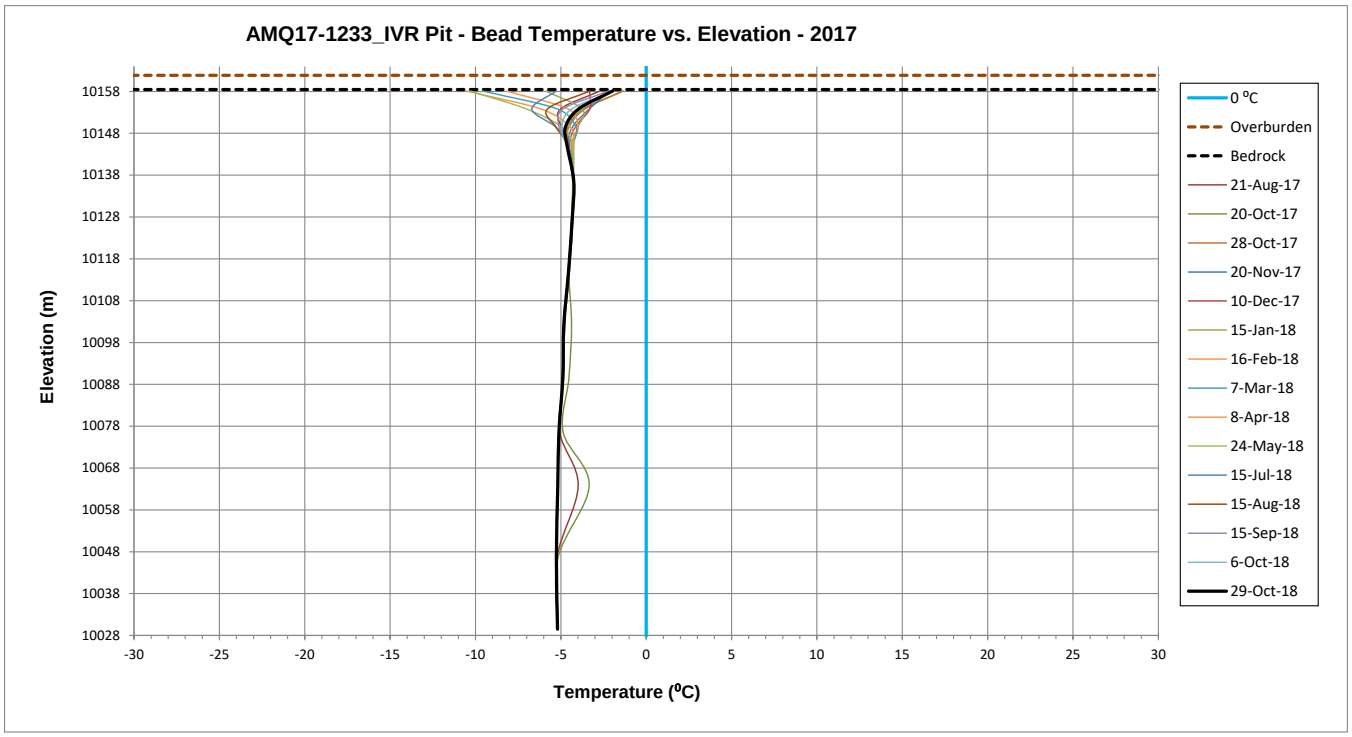

Figure 11: Temperature profile (Celsius) as a function of elevation (masl) from installation to October 2018 for thermistor AMQ17-1233

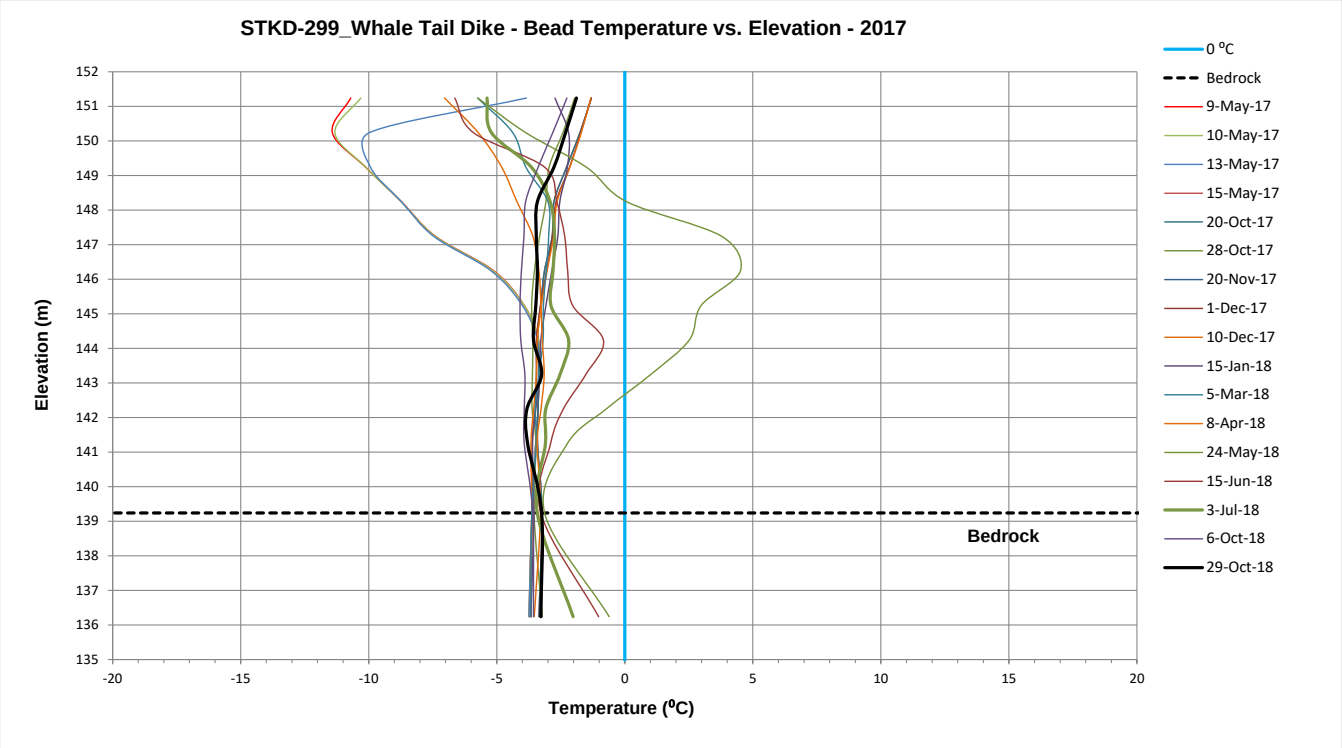

Figure 12: Temperature profile (Celsius) as a function of elevation (masl) from installation to October 2018 for thermistor STKD-299

Non Active thermistors:

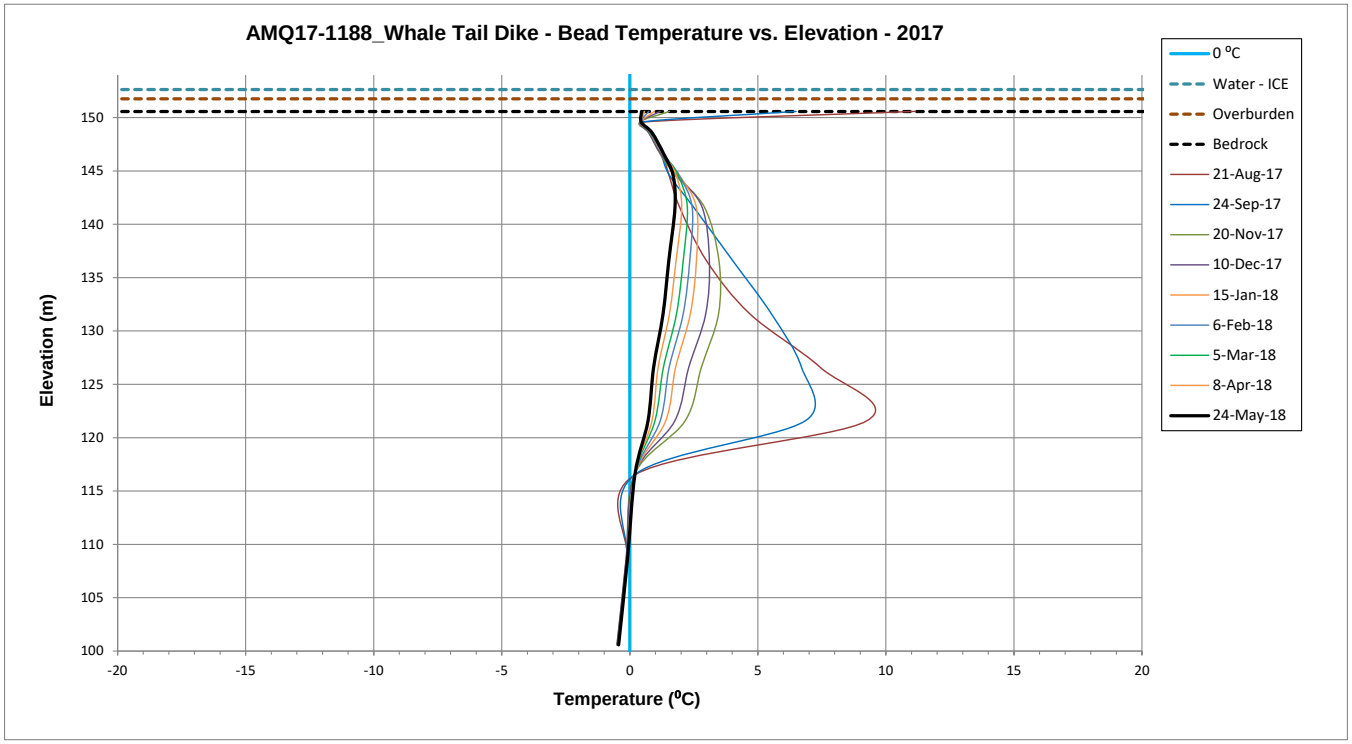

Figure 13: Temperature profile (Celsius) as a function of elevation (masl) from installation to May 2018 for thermistor AMQ17-1188

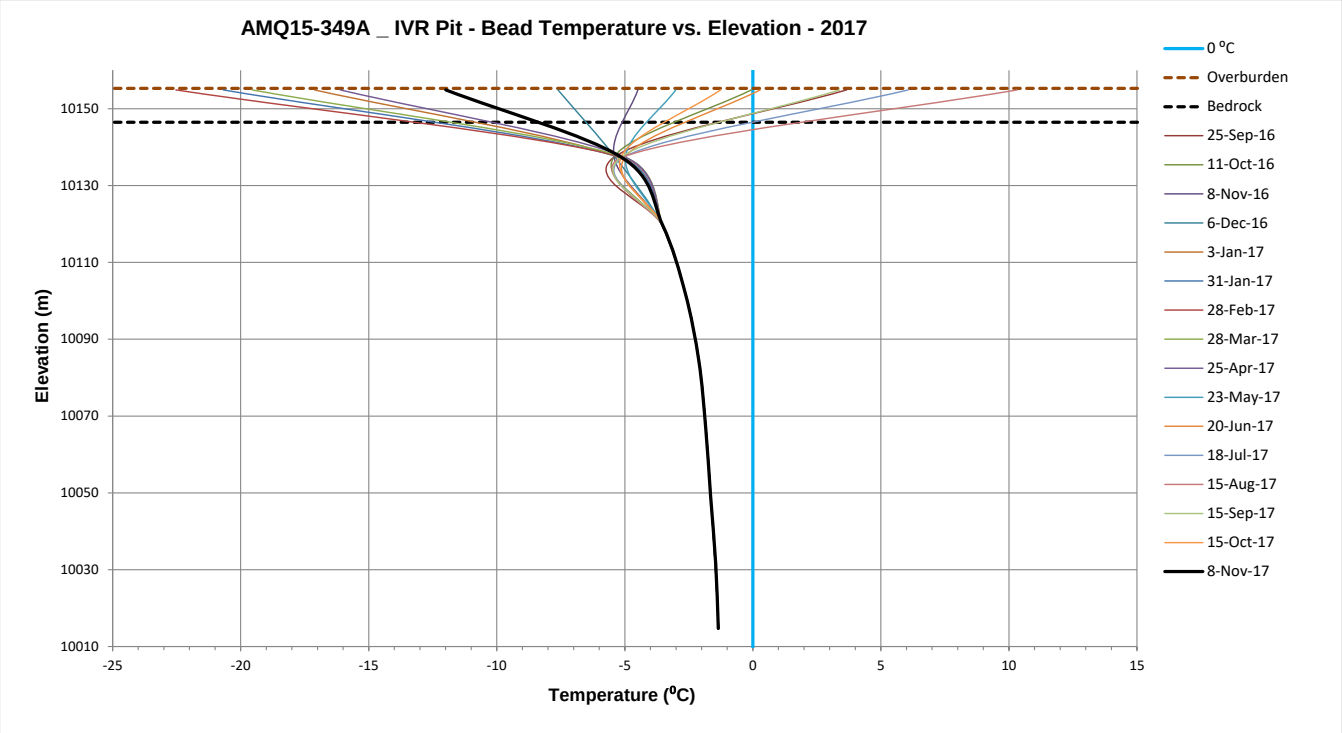

Figure 14: Temperature profile (Celsius) as a function of elevation (masl) from installation to November 2017 for thermistor AMQ15-349A

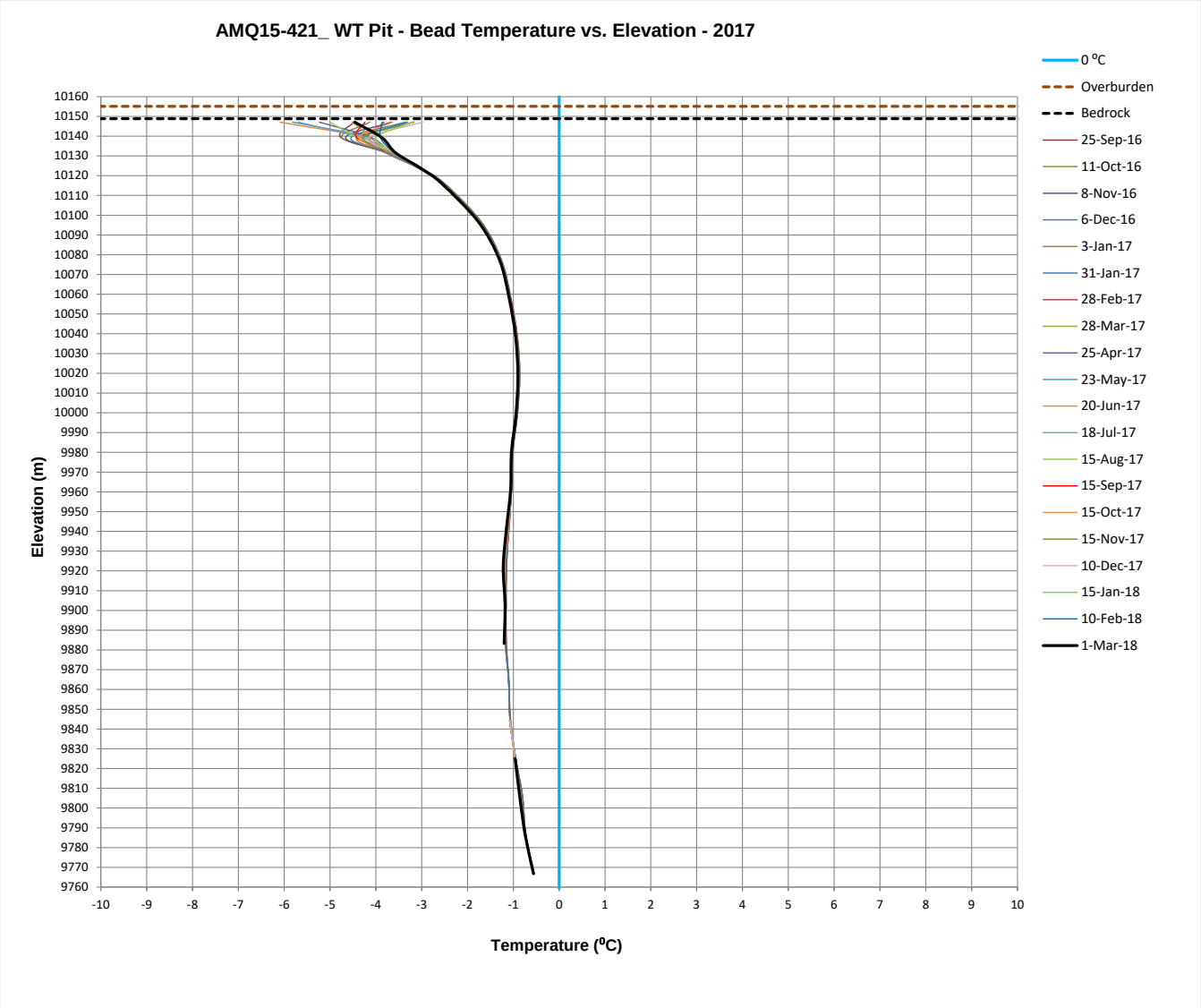

Figure 15: Temperature profile (Celsius) as a function of elevation (masl) from installation to Mars 2018 for thermistor AMQ15-421

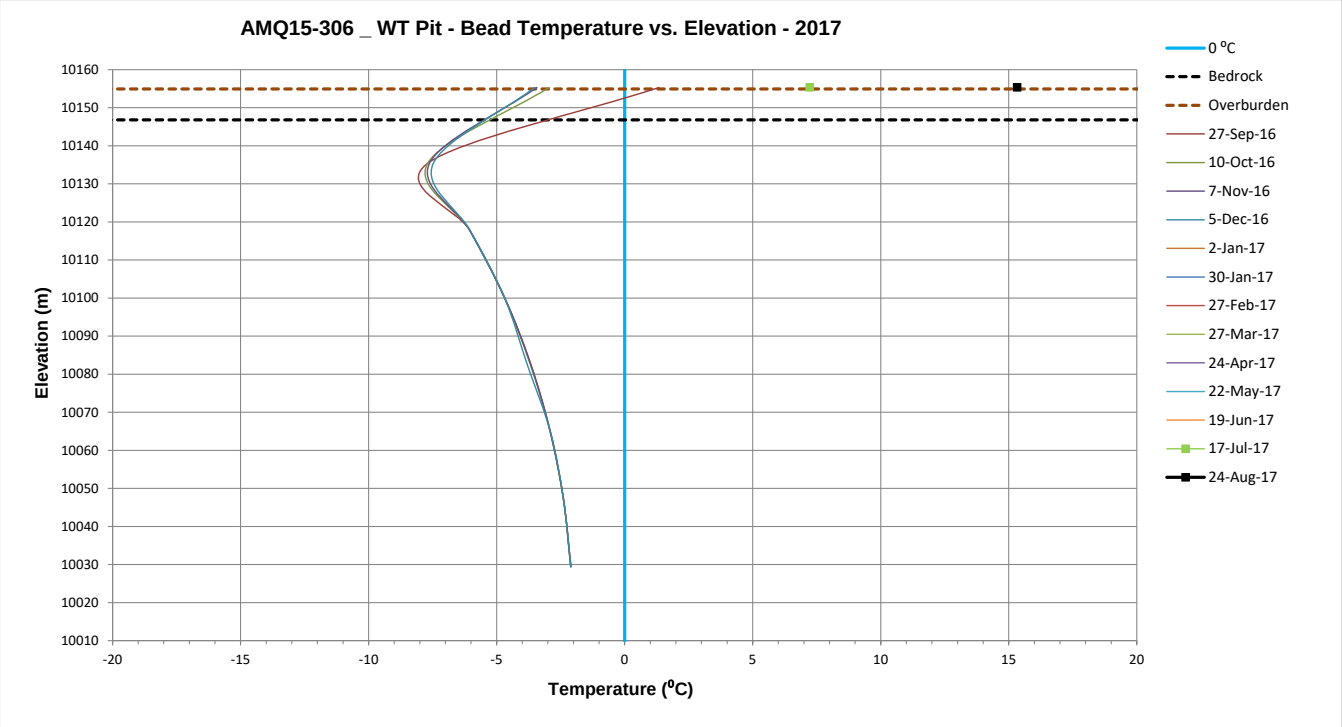

Figure 16: Temperature profile (Celsius) as a function of elevation (masl) from installation to August 2017 for thermistor AMQ15-306

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APPENDIX 2

Term and Condition 52 - Training List

10 200, Route de Preissac, Rouyn-Noranda, Québec, Canada J0Y 1C0
Tél : 819.759.3700 Sans frais : 1.888.822.6714 agnicoeagle.com

Course ID	Course Type	Course Name	Lenght of Training (hrs)	Regulation Source	Recognized vs in-house
2531	General	2015 Fusion Goal Setting Process	2		In-House
2532	General	2015 Fusion Goal Setting Process Training for Managers	2		In-House
1088	Health and Sa	Accident/Incident Investigation	0		In-House
1061	General	Aerial Work Platform	5		In-House
2582	Specific	Air Conditioning	24		In-House
2889	Specific	Ansul Vehicle F.S.S Overview	8		In-House
5031	Specific	APS Emulsion Pump	12		In-House
2670	Specific	Backhoe	84		In-House
3450	Health and Sa	Bearwise Training	12		Recognized
1063	Health and Sa	Blasting Certificate - Surface	0	Nunavut Mine Act	Recognized
1065	Health and Sa	Blasting Certificate - Underground	0	Nunavut Mine Act	Recognized
2481	Health and Sa	Boat License	0		Recognized
2461	Specific	Cat Hose	24		In-House
2689	Specific	Caterpillar SIS Introduction and Overview	12		In-House
1035	Health and Sa	Chemical Awareness	0.5		In-House
2890	General	Civility in the Workplace	4		In-House
1016	General	Civility in the Workplace - for Employees	2		In-House
3014	Specific	Coaching on Equipment	3		In-House
2205	Health and Sa	Coaching Phase - Supervision Formula	5		In-House
2891	General	Communication 101	3		In-House
2219	Health and Sa	Conduct a Safety Meeting	3		In-House
1113	Health and Sa	Confined Space	2		In-House
225	Health and Sa	Construction General Health and Safety (CGHS)	3		In-House
947	Specific	Container Handler	24		In-House
2502	Specific	Crane Truck F-450	5		In-House
1001	General	Cross-Cultural	5		In-House
1011	Specific	Crushing Circuit	84		In-House
3200	Specific	Dispatcher Wenco (e-learning)	30		In-House
931	Specific	Dozer - Open Pit	84		In-House
2153	Specific	Dozer - Site Services	84		In-House
973	Specific	Drill CM785	84		In-House
934	Specific	Drill DM45	84		In-House
2545	Specific	Driver License Class 1	0		Recognized
2546	Specific	Driver License Class 2	0		Recognized
3301	Health and Sa	Emergency Measures Induction - Meadowbank	1.5		In-House
3300	Health and Sa	Emergency Measures Induction - Meliadine	1.5		In-House
2412	Health and Sa	Emergency Medical Responder	80		Recognized
2411	ERT	ERT Practice	12		In-House
229	Health and Sa	ERT Practice Meliadine	10		In-House
2093	Specific	Excavator - 6020	84		In-House
927	Specific	Excavator - Auxiliary Equipment	84		In-House
1790	Specific	Excavator - Production Equipment	84		In-House
982	Specific	Excavator - Service Equipment	84		In-House
2882	Health and Sa	Explosive Access Regulation Document	0		Recognized
2631	Specific	Failure Analysis	16		In-House
1067	Health and Sa	Fall Protection	2		In-House
1070	Health and Sa	Fire Suppression System	0.5		In-House
1072	Health and Sa	First Aid & AED/CPR Level A	16	Red Cross/St-John/CNESST	Recognized
1074	Health and Sa	First Responder	40	Red Cross/St-John/CNESST	Recognized
2573	Specific	Fixed Equipment	5		In-House
935	General	Forklift	5		In-House
975	Specific	Front Shovel - RH120	84		In-House
2571	Specific	Fundamentals of Industrial Mechanic	84	Northern College	Recognized
996	Health and Sa	General Induction	0.5		In-House
946	Specific	Grader - Open Pit	84		In-House
2159	Specific	Grader - Site Services	84		In-House
1012	Specific	Grinding Circuit	84		In-House
2658	Specific	Haul Truck - 773	84		In-House
963	Specific	Haul Truck - 777	84		In-House
981	Specific	Haul Truck - 785	0		In-House
2854	Specific	Haul Truck Trainee Program	336		In-House
1346	Specific	Haul Truck Trainee Program I (NGA)	168		In-House
1346	Specific	Haul Truck Trainee Program II	168		In-House
2108	Health and Sa	Hoisting and Rigging	2		In-House
3420	Health and Sa	How to Conduct a Job Hazard Analysis	4		In-House
2262	Specific	Hyster Forklift	5		In-House
3109	General	Intelex Basics and Incident Management	1		In-House
2572	Specific	Intermediate Industrial Mechanic	72	Northern College	Recognized
1085	Health and Sa	Intermodal Transportation of Dangerous Goods	36		In-House
1779	General	Introduction to Driving	5		In-House
2263	Specific	Introduction to Grade Control - Meadowbank	1		In-House
3000	General	Inuit Impact and Benefit Agreement Awareness	1.5		In-House
1786	General	JDE Maintenance Planner	6		In-House
1785	General	JDE Maintenance Supervisor	2		In-House
1007	General	JDE Maintenance Tradesmen	4		In-House

Course ID	Course Type	Course Name	Lenght of Training (hrs)	Regulation Source	Recognized vs in-house
1787	General	JDE Process Plant Operators	2		In-House
1782	General	JDE Procurement & Logistics	2		In-House
1097	Health and Sa	Job Hazard Analysis	1		In-House
2176	Health and Sa	Job Hazard Analysis and Work Card	0.5		In-House
2991	Health and Sa	Job Task Observation	5		In-House
3400	Health and Sa	Joint Occupational Health and Safety Committee Certification	42		In-House
304	Health and Sa	Joint Occupational Health and Safety Committee eLearning	8		In-House
303	Health and Sa	Joint Occupational Health and Safety Committee Induction	0		In-House
2993	Specific	Kidde Vehicle F.S.S Overview	5		In-House
2198	General	Labour Relation System	2		In-House
4000	General	LDP - M0: Launching Activity	10		In-House
4001	General	LDP - M1: Communicating for Performance	10		In-House
4002	General	LDP - M2: Coaching to Enhance Capabilities	10		In-House
4003	General	LDP - M3: Mobilizing in Action	10		In-House
4004	General	LDP - M4: Managerial Courage	10		In-House
1114	Specific	Leach/CIP Stripping Circuit	84		In-House
2172	Specific	Leach/CIP Stripping Circuit Evaluation	0		In-House
2539	Specific	Lincoln Grease System	6		In-House
929	Specific	Loader - Auxiliary Equipment - Open Pit	84		In-House
2156	Specific	Loader - Auxiliary Equipment - Site Services	84		In-House
952	Specific	Loader - Production Equipment	84		In-House
2496	Specific	Loader - Service Equipment - Open Pit	84		In-House
953	Specific	Loader - Service Equipment - Site Services	84		In-House
1121	Health and Sa	Lockout	2		In-House
2225	Specific	Long Haul Truck	84		In-House
2211	Specific	Mechanics Service Truck TRK 44	24		In-House
307	Health and Sa	MHFA - Mental Health First Aid	4		In-House
1009	Health and Sa	Mill Induction	0.5		In-House
1055	ERT	Mine Rescue - Surface	48		Recognized
2848	Health and Sa	Mine Rescue - Underground	40		Recognized
1731	Specific	Mixing and Distribution Circuit	84		In-House
2180	Health and Sa	Occupational Health and Safety	0.5		In-House
3410	Health and Sa	OHSC Act Regs - Duties Roles and Responsibilities - IRS Training	4		Recognized
2520	Specific	Oil Sampling and Filtration	2		In-House
2497	Specific	Operations in Aircraft Ground Icing Conditions	8		Recognized
1013	General	Overhead Crane	3		In-House
2259	Health and Sa	Oxygen Administration	4	Red Cross/St-John/CNESST	Recognized
2235	Specific	Passenger Bus	5		In-House
3020	General	People Management Tools	3		In-House
2626	Specific	Planning and Scheduling	16		In-House
2569	Specific	PMO Training	2		In-House
3013	Specific	Primary Evaluation	0		In-House
2570	Specific	Process Plant Trainee Program	504		In-House
2849	General	Professional Development	0		In-House
2600	Specific	PSS BG4 Technician	24		In-House
335	Health and Sa	Quantitative Fit Test	0		In-House
3016	Specific	Respa CF	4		In-House
1068	Health and Sa	Respiratory Protection	2		In-House
2182	Health and Sa	Roles and Responsibilities	3		In-House
2204	Health and Sa	Scaffolds	12		In-House
1632	Health and Sa	SCBA	4		Recognized
2589	Specific	Service Truck - Powerhouse	84		In-House
1082	Health and Sa	Shiftboss - Surface	0	Nunavut Mine Act	Recognized
1084	Health and Sa	Shiftboss - Underground	0	Nunavut Mine Act	Recognized
1091	General	Skid Steer	5		In-House
2850	Specific	Sleipner	5		In-House
1867	Specific	Snow Blower	24		In-House
2265	Specific	Snow plow - Open Pit	24		In-House
5050	Health and Sa	SOP Mine - Underground Visitor	2		In-House
5051	Health and Sa	SOP Mine - Underground Worker	3		In-House
5052	Health and Sa	SOP Surface - Meliadine	2		In-House
2662	Specific	Specialized Building Mechanic	3		In-House
1791	Health and Sa	Spills Response	0.5		In-House
1071	Health and Sa	Stairs & Ladder Safety	1		In-House
1093	Health and Sa	Standard Operating Procedure Mine	2		In-House
1083	Health and Sa	Standard Operating Procedure Surface	2		In-House
2210	Specific	Steam Cleaner	5		In-House
1094	Health and Sa	Supervision Formula	5		In-House
2397	Health and Sa	Supervisor Safety Responsibilities	10		In-House
1087	Health and Sa	Supervisor's Certificate Level 1 - Exploration	0	Nunavut Mine Act	Recognized
1077	Health and Sa	Supervisor's Certificate Level 1 - Surface	0	Nunavut Mine Act	Recognized
1078	Health and Sa	Supervisor's Certificate Level 1 - Underground	0	Nunavut Mine Act	Recognized
1086	Health and Sa	Supervisor's Certificate Level 2 - Exploration	0	Nunavut Mine Act	Recognized
1079	Health and Sa	Supervisor's Certificate Level 2 - Surface	0	Nunavut Mine Act	Recognized
1081	Health and Sa	Supervisor's Certificate Level 2 - Underground	0	Nunavut Mine Act	Recognized

Course ID	Course Type	Course Name	Lenght of Training (hrs)	Regulation Source	Recognized vs in-house
4990	Specific	Surface Articulated Haul Truck	84	Nunavut Mine Act	Recognized
2491	Specific	Tandem Truck - Open Pit	84		In-House
1977	Specific	Tandem Truck - Site Services	84		In-House
938	General	Telehandler	5		In-House
985	Specific	Tow Haul	24		In-House
4997	Specific	Underground Block Holer	168		In-House
4999	Specific	Underground Boom Truck	5		In-House
4992	Specific	Underground Cable Drill	168		In-House
4993	Specific	Underground Cassette Man Carrier	12		In-House
4995	Specific	Underground Concrete Truck	84		In-House
5000	Specific	Underground Development Bolter	84		In-House
5010	Specific	Underground Development Jumbo	84		In-House
5020	Specific	Underground Development Scoop	84		In-House
5030	Specific	Underground Emulsion Charger	84		In-House
5070	Specific	Underground Grader	84		In-House
5100	Specific	Underground Haul Truck	168		In-House
5095	Specific	Underground Haul Truck 50T	168		In-House
5101	Specific	Underground Jumbo 422	84		In-House
5065	Specific	Underground Lube/Fuel Truck	84		In-House
5102	Specific	Underground Man Carrier	5		In-House
5104	Specific	Underground Modules (Common Core) Certification	0		In-House
5140	Specific	Underground Production Cubex Drill	168		In-House
5143	Specific	Underground Production Emulsion Loader	168		In-House
5150	Specific	Underground Production Rhino	168		In-House
5153	Specific	Underground Production Scoop	168		In-House
5156	Specific	Underground Production Solo Top Hammer Drill	168		In-House
5126	Specific	Underground Remote Controlled Scoop - 12 yards	5		In-House
5125	Specific	Underground Remote Controlled Scoop - 8 yards	5		In-House
5110	Specific	Underground Scissor Lift	84		In-House
5105	Specific	Underground Service Excavator	5		In-House
5107	Specific	Underground Service Loader	5		In-House
5108	Specific	Underground Service Scoop	84		In-House
5120	Specific	Underground Service Tractor	5		In-House
5130	Specific	Underground Shotcrete Sprayer	168		In-House
2495	Specific	Used Oil Analysis	10		In-House
1099	Specific	Utility Person Circuit	84		In-House
977	Specific	Water Truck - 773	24		In-House
2501	Specific	Water Truck - Kenworth	5		In-House
2208	Specific	Water Truck - Kenworth	5		In-House
933	Specific	Wheel Dozer	84		In-House
1080	Health and Sa	WHMIS	0.5		In-House
102	Health and Sa	WHMIS 2015	0.5		In-House
1064	Health and Sa	Work Card	1		In-House
2149	General	Work Readiness	40		In-House
1946	General	Work Readiness Part 1	20		In-House

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APPENDIX 3
Occupational Health and Safety Plan (Version 2, December 2018)

10 200, Route de Preissac, Rouyn-Noranda, Québec, Canada J0Y 1C0
Tél : 819.759.3700 Sans frais : 1.888.822.6714 agnicoeagle.com

Occupational Health & Safety Plan

	PROGRAM NUMBER:MBK-HSS-PLN – Occupational Health and Safety Plan		
People concerned	• All employees, contractors and visitors	**Prepared by**	Health and safety
		Authorized by	Markus Uchtenhagen Health and Safety Superintendent
Effective **Revised**	April 24, 2013 December 6, 2018	***"Safety First, Safety Last … Safety Always!"*** ***"No Repeats" – Our Stepping Stone to ZERO HARM***	
This program corresponds to the required minimum standard. Each and every one also has to comply with the rules and regulations of the Nunavut Government in terms of health and safety at work.			

Objective:

- To establish the framework, rules and procedures for ensuring the health and safety of all employees, contractors and visitors at Meadowbank and Amaruq sites.

Concerned departments:

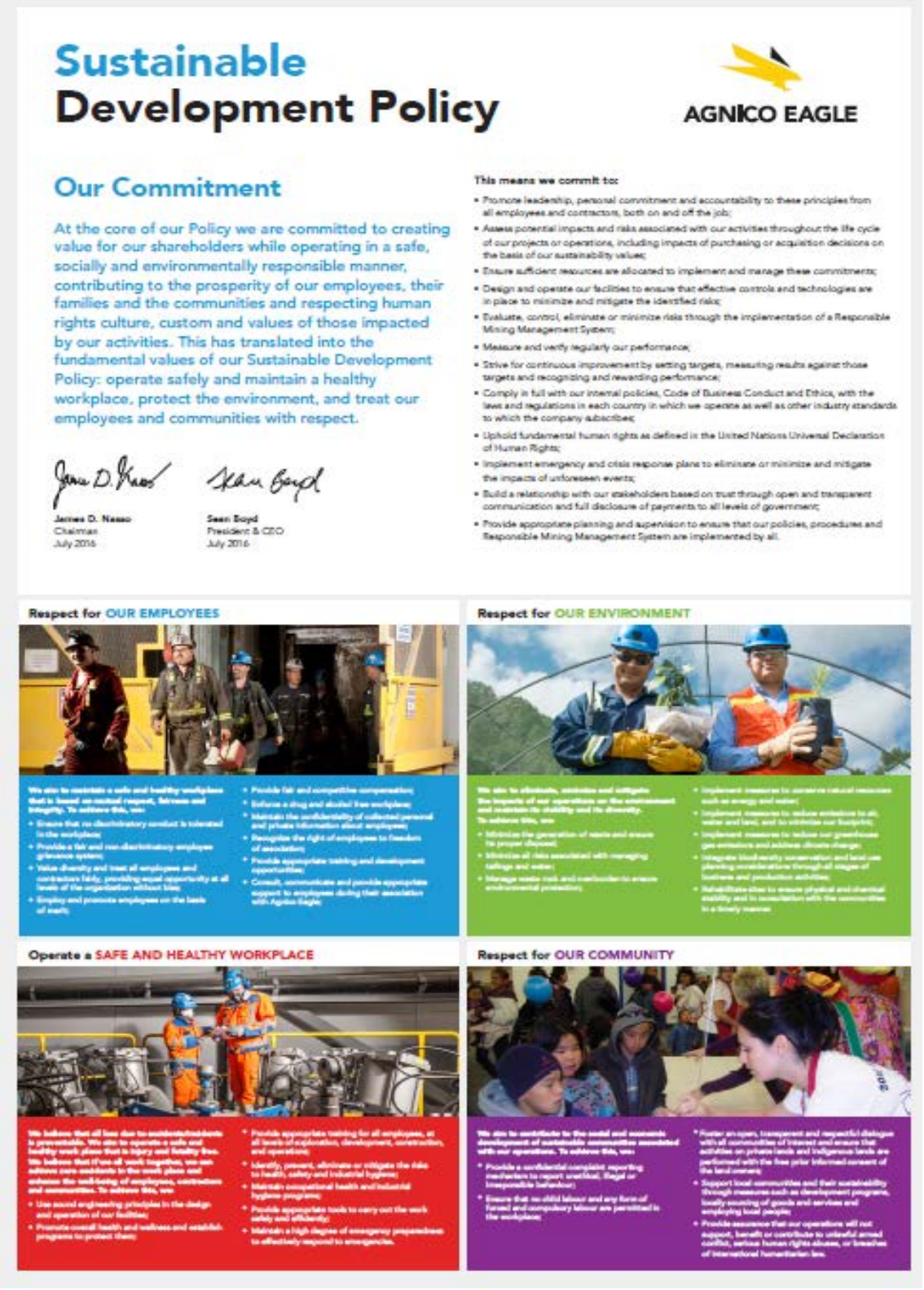
All departments

Required equipment:

- Knowledge

Risks /Impacts legend

Health & Safety	Process/Quality	Costs	Environment



Sustainable Development Policy

AGNICO EAGLE

Our Commitment

At the core of our Policy we are committed to creating value for our shareholders while operating in a safe, socially and environmentally responsible manner, contributing to the prosperity of our employees, their families and the communities and respecting human rights culture, custom and values of those impacted by our activities. This has translated into the fundamental values of our Sustainable Development Policy: operate safely and maintain a healthy workplace, protect the environment, and treat our employees and communities with respect.

James D. Nasso
Chairman
July 2016

Sean Boyd
President & CEO
July 2016

This means we commit to:

- Promote leadership, personal commitment and accountability to these principles from all employees and contractors, both on and off the job;
- Assess potential impacts and risks associated with our activities throughout the life cycle of our projects or operations, including impacts of purchasing or acquisition decisions on the basis of our sustainability values;
- Ensure sufficient resources are allocated to implement and manage these commitments;
- Design and operate our facilities to ensure that effective controls and technologies are in place to minimize and mitigate the identified risks;
- Evaluate, control, eliminate or minimize risks through the implementation of a Responsible Mining Management System;
- Measure and verify regularly our performance;
- Strive for continuous improvement by setting targets, measuring results against those targets and recognizing and rewarding performance;
- Comply in full with our internal policies, Code of Business Conduct and Ethics, with the laws and regulations in each country in which we operate as well as other industry standards to which the company subscribes;
- Uphold fundamental human rights as defined in the United Nations Universal Declaration of Human Rights;
- Implement emergency and crisis response plans to eliminate or minimize and mitigate the impacts of unforeseen events;
- Build a relationship with our stakeholders based on trust through open and transparent communication and full disclosure of payments to all levels of government;
- Provide appropriate planning and supervision to ensure that our policies, procedures and Responsible Mining Management System are implemented by all.

Respect for OUR EMPLOYEES

Respect for OUR ENVIRONMENT

Operate a SAFE AND HEALTHY WORKPLACE

Respect for OUR COMMUNITY

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AGNICO EAGLE

The following document presents Meadowbank and Whale Tail Pit Occupational Health and Safety Plan (the Plan) in support of Meadowbank Nunavut Impact Review Board (NIRB) Project Certificate No.004 and Whale Tail NIRB Project Certificate No.008, condition 57. This plan outlines Agnico Eagle's strategy for Health and Safety.

1. Goals for the Occupational Health and Safety Plan

The prevention program focuses on eliminating dangers to health, safety and protects the physical integrity of all workers (this includes all Agnico-Eagle Mines employees, Contractors and visitors).

Specific objectives:

- Identify and assess the risks in the process and the work environment;
- Propose effective and sustainable technical controls to ensure the health and safety of employees/contractors;
- Adequately protect workers exposed to specific risks by setting health and safety standards;
- Adequately protect all personnel and contractors working on sites against specific risks, by setting health and safety standards, for every risk encountered;
- Ensure the preventive maintenance of personal and collective protective equipment;
- Train the employees and contractors on the risks related to their work and their environment.

2. Policy

Agnico Eagle Mines – Meadowbank Division recognizes the importance of eliminating as much as possible the risks of an accident and/or occupational disease. To achieve this goal, Agnico Eagle Mines - Meadowbank Division established a policy for these objectives, and, always maintains harmonious relations with their employees.

3. Application

The prevention program is for all employees of the Meadowbank Mine, Agnico and contractors. All contractors, suppliers and visitors working at the Meadowbank Division site must comply with the content of this program.

Accident prevention necessitates the involvement of everyone. Every employee and contractor has a specific role to play and is responsible for their health and safety. In other words, we can say that, at Agnico Eagle Mines, Meadowbank Division, we have as many safety specialists as we have employees, contractors at the site.

4. Responsibilities of the parties

4.1 Management team

- Provide material, financial and human resources to implement, maintain, update and improve the prevention program;
- Maintain the prevention programs to provide workers and contractors a safe and healthy work environment;
- Participate actively in the assessment, review and monitoring of the program activities;
- Ensure the implementation, improvement and monitoring of the Supervisors' Formula and the work card;
- Ensure that the employees and contractors have the training and the necessary information to avoid endangering their health or safety and / or their colleagues;
- Correct with immediacy, a known situation that might endanger the health or safety of someone; and
- Collaborate with the occupational health and safety committee and with any public health and safety institution or regulator.

4.2 Health and Safety/Training Officers/Emergency Response Coordinators/Security

- Coordinate the implementation, application and improvement of the prevention program;
- Coordinate all activities by managing health and safety and security;
- Support and coach employees, Supervisors and Management in performing their duties;
- Collaborate in the identification, evaluation and controlling risks in their respective workplaces;
- Ensure compliance with Act and Regulations, Standards and Site policies/procedures;
- Inform members of the management team of any suspicious circumstances that may affect the health or safety or security;
- Ensure the implementation, improvement and the follow-up of the Supervision Formula and the work card;

- Ensure that workers have the necessary training and information to minimize the possibility of endangering their health, safety or security and / or their colleague;
- Correct with immediacy, a known situation that might endanger the health or safety or security of someone;
- Collaborate with the safety representatives in the various mandates entrusted to them;
- Collaborate with the (Workers Safety and Compensation Commission) WSCC inspectors or other regulators during their visits;
- Collaborate with health team on site or mandated by the WSCC; and
- Ensure an effective and properly trained Emergency Response Team. Ensure an adequate number of trained personnel for both Surface and Underground settings.

4.3 Supervisors

- Correct immediately any potential hazard in the workplace;
- Collaborate in the identification, evaluation and control of any hazardous situation in the workplaces;
- Inform the Health and Safety Department of any situation that could affect the health or safety of the workers;
- Provide individual and/or collective protective equipment for workers;
- Ensure that workers have the training and the necessary information to avoid endangering their health and safety and / or their colleague;
- Follow the Act/Regulations, rules, standards, procedures and site Policies/Protocols;
- Ensure the implementation, improvement and follow-up of the Supervision Formula and the work card with an emphasis on "immediacy" for the corrective actions to be taken;
- Ensure that all incidents are properly reported in a timely manner to the Health and Safety Department, and Department, using the appropriate forms;
- Investigate all incidents/accidents and document findings and recommend corrective measures on appropriate forms; and
- Work with the Occupational Health and Safety Committee and the safety representative in the various mandates that were given to them.

4.4 Worker

- Protect their health, safety and physical integrity or that of others in the workplace;
- Respect the preventive measures established in the Health and Safety plan;
- Respect the information given during the induction program, postings, and safety meetings;
- Participate in the identification, evaluation and control of hazards in the workplace;
- Wear personal protective equipment and/or collective protective equipment required for specific jobs to protect their health and safety;
- Participate in identifying and quantifying of the contaminants in the workplace;
- Respect the Act/Regulations, safety rules, standards, procedures and policies/protocols at all times;
- Inform the supervisor of any doubtful situations that may affect the health or safety;
- Report all accidents, incidents or close calls (near misses) to the supervisor immediately (within the working shift);
- Participate in training or/and health and safety information sessions; and
- Work with the Joint Occupational Health and Safety Committee on different health and safety issues that were mandated to the committee.

4.5 Nurse (Health Care Provider)

- Coordinate the health program for the site;
- Inform managers, supervisors and workers on contaminants potentially present in their workplace;
- Propose to the management team methods to control risks that could affect the health or safety of workers;
- Initiate screening biological tests on contaminants potentially present in the workplace;
- Provide immediate care to injured personnel and follow-up;
- Training as required;
- Participate in the identification of Health hazards in the workplace;

- Provide information on sexual health and well-being; and
- Work with the Occupational Health and Safety Committee on the various mandates given to the committee.

4.6 Industrial Hygiene Technician

- Identify all the contaminants in the workplace that could pose a health and safety hazard to workers;
- Determine the potential exposure of workers to the identified contaminants with good sampling and analysis strategy;
- Inform supervisors and workers on the results of exposure present in their workplace and how to protect themselves;
- Provide managers with methods to control risks that could affect the health and/or safety;
- Perform maintenance and monitor the calibration of measuring instruments used in industrial hygiene;
- Develop and maintain an Industrial Hygiene Program;
- Develop and maintain an Asbestos Management Plan;
- Provide training in Industrial Hygiene subjects with all concerned; and
- Work with the Occupational Health and Safety Committee on the various mandates given to the committee.

4.7 Contractors

- Transmit to Agnico Eagle Mines– Meadowbank Division a Health and Safety program specific to their activities on the site. Agnico Eagle Mines- Meadowbank Division reserves the right to request changes that they consider important;

  Note: Any contractor on site for a period of less than fifteen (15) days does not have to submit a Health and Safety program. However, they must comply with the Health and Safety program of the site and made available to workers.

- Transmit (before the job starts) all plans certified, signed and sealed by an engineer recognized in the Nunavut Territory for construction on surface;
- Provide Agnico Eagle Mines – Meadowbank Division with a current letter indicating that they are in good standing with WSCC in Nunavut;

- Transmit the Health and Safety program specific to their activities on the site, which must contain a list of risks in regards to construction work and, indicate the controls put in place in regards to those risks;

- Submit in writing to Agnico Eagle Mines– Meadowbank Division all changes that were made to the work procedures and have them available for the workers and their supervisors;

- Take measures to ensure that all workers under their supervision are informed of the risks they are exposed to;

- Inform, immediately, Agnico Eagle Mines– Meadowbank Division of any accident/incident in the execution of various contracts;

- Inform in writing Agnico Eagle Mines– Meadowbank Division of any writing or report issued by the WSCC to the contractor;

- Update a bulletin board dedicated exclusively to health and safety at work inside the trailer or any other location easily accessible to workers;

- Hold a weekly safety meeting for each crew. Send a copy of the minutes of the meeting with the names of participants to Agnico Eagle Mines – Meadowbank Division Health and Safety Department;

- Provide a written document stating that your enterprise as a contractor on the site will abide to Agnico Eagle Mines– Meadowbank health and safety programs;

- Provide monthly hours worked by their employees and sub-contractors (if applicable) as well as its accident/incidents statistics;

- Provide workers with personal protective equipment determined by legislation or by the Occupational Health and Safety Committee according to the tasks they must accomplish;

- Ensure that the employees wear their personal protective equipment at all times while at work and that they use the proper tools to accomplish their tasks;

- Ensure that the corrective measures requested by Agnico Eagle Mines– Meadowbank Division be completed in the time frame prescribed;

- Submit a list of workers who have a valid or current first aid certificate;

- Ensure that all equipment complies with Agnico Eagle Mines – Meadowbank Division and Nunavut Regulations;

- Provide a list of all current MSDS sheets for products that you as a contractor are bringing on site;

- Ensure that all temporary structures and / or permanent are safe and that they comply with legislation or site specifics ex. (railings, guarded openings, etc.).

If the contractor or any person within its jurisdiction fails to comply with the terms of the program, Agnico Eagle Mines– Meadowbank Division can then take any necessary action to correct the situation, and that at the expense of Contractor.

4.8 Suppliers

- Comply with the Health and Safety program of Agnico Eagle Mines– Meadowbank Division, standards and procedures applicable to them (especially when they perform delivery or assemble their products or equipment on site).

4.9 Joint Occupational Health and Safety Committee

- Approve the Health and Safety Plan;
- Make periodic follow-up of the Health and Safety plan by actively participating in various activities to identify, assess and control;
- Cooperate with the WSCC representatives;
- Encourage the participation of managers, supervisors and workers in various elements of the program; work within the “Terms of Reference” guidelines;
- Receive suggestions and complaints from employees, employee representatives on health and safety issues at work;
- Receive and review the planned inspection reports, accident investigations, safety meetings and the WSCC mine inspector reports;
- Receive and analyze the accidents and incidents statistics;
- Receive and analyze the accidents / incidents investigations reports;
- Participate in accidents/incidents investigations and analysis and risk assessments for all job tasks on site;
- Hold a meeting with the Joint Occupational Health and Safety Committee members at least once a month;
- Provide recommendations to Management to resolve Health and Safety issues; and
- Actively and positively promote Health and Safety for all workers, contractors on site.

5. Elements of the program

5.1 Risk identification

Identify all potential hazards from different health and safety activities in place within the Meadowbank and Amaruq site. Among these activities, we find the planned inspections, investigations and analysis of accidents/incidents, close calls, task observations, monthly safety meetings, job hazard analysis (JHA), and the workers comments on their work card.

In addition, periodic meetings are held with all the personnel to complete the list of possible hazards. This process requires the participation of every department and requires an effort from everyone. A listing of possible risks is presented at these meetings to guide workers in selecting potential hazards in their work place. The potential risks are then stored in a tabloid format. Once the list of potential risks is developed, a selection process is started to prioritize the hazards. This prioritization step consists of a consultation process with officials from each department and each committee member of risk management program.

5.2 Prioritization of risks

Prioritizing risks is mathematically based on a prioritization grid containing different risk parameters and control:

Legal requirement

- Site specific
- Extent of risk
- Probability of risk
- Severity of risk
- Risk of fire
- Effect on health as a function of exposure
- Administrative control
- Operational Control
- HR Dimension

Once the list is completed, every department will develop an action plan to address the most significant risks determined in the prioritizing process. In addition, the departments will also have created a list of training needs, a list of critical tasks to be observed and a list of hazards. Job Hazard Analysis will be completed when and where required.

5.3 Revision

The process of identification, assessment and risk control will be revised every three (3) years.

5.4 Activities and Specific Management Programs

5.4.1 Supervision Formula and work card

The Supervision Formula is a philosophy and is the basis for our entire Health and Safety Program, here at Meadowbank.

To meet due diligence, the supervisor must take immediate action on all situations that could endanger the health or safety of the employees. In other words, he must use the "immediacy" to correct outstanding situations and involve the employees.

5.4.1.1 Summary of Supervision Formula

The Supervision Formula is divided into six (6) phases which are:

- Greeting
- Inspection
- Planning
- Decision
- Execution
- Worker's comments

The **Greeting** phase allows the supervisor to discuss with workers on the tasks to be done during the day, list the equipment and tools they may need, check the understanding and above all, arousing all workers to have "a safety minded attitude all the time", followed by a talk about known abnormal conditions reported by the previous shift and the hazards they may encounter during the day.

The **Inspection** phase enables workers and supervisors to inspect the access to the work place, workplaces, tools, equipment to detect any anomalies that could lead to an incident or accident in the short, medium and long term. It also eliminates these deficiencies "immediately" when discovered. The inspection is the most important phase of the Supervision Formula, because at this stage, if we take the time to inspect and correct the deficiencies found, the risks will be minimized or even eliminated.

The **Planning** phase is the logical extension of the inspection, because when anomalies are found, we must define how to correct them. Then the planning of the day's tasks to be accomplished is revised with the employee on how it will be done, what tool and/or equipment to use and the most important part is to identify the specific risks that could be generated and how to control the risks identified.

The **Decision** phase is when the supervisor gives his/her agreement to do the task as planned. Before giving the agreement he/she must make certain that the employee understood him and agrees with the planning, the workplace is up to standard, the tools and equipment are good, the hazards have been identified and controlled, the employee has the training to accomplish the task, and then the supervisor will give the authorization to continue the work.

The **Execution** phase is to accomplish the work as agreed in the planning phase. However, we must remember at this stage to be vigilant at all times, because during the execution of work, we may have to repeat all the phases of the **Supervision Formula** that is: inspection, planning, decision and

execution.

Reviewing the **Worker's Comments** on the work card (at end of shift) is an extremely important part of communication for the incoming shift. This part allows workers to report any anomalies/deficiencies observed during their shift which could affect the health and safety of other workers. Workers also reports broken equipment, missing material etc.

The ideal tool for conveying the supervision formula is:

"The work card"

5.4.1.2 Using the work card

Every day, the employees/contractors receive a work card that they must complete at the workplace before the work begins. Workers notes on the work card the state of the access to the workplace, the work place, material to be used and equipment with special attention to sub-standard conditions. During his/her tour while applying the Supervision Formula, the supervisor approves the continuation of work by comparing the information written on the card to his own observations. Exchanges are done between the employees/contractors at the workplace and the supervisor.

At the end of the shift, the cards are handed by the employees to the supervisor so that he can read the comments and the situation of the work place. The supervisors will leave instruction to the incoming shift.

The work cards are kept in files for a period of one (1) year.

An evaluation on the quality of the work cards used by the employees and supervisors is done on a quarterly basis by the 2nd level supervisors. The evaluation results are then presented to the follow-up Committee of the Supervision Formula.

5.4.1.3 Follow-up Committee of the Supervision Formula

A follow-up committee meets periodically to evaluate the application of the supervision formula and the results of the work card. The follow-up team is composed of members of management and two (2) representatives of the Health and safety department.

5.4.2 The Health Program

The health program is part of the health and safety plan. It identifies some hazards associated with physical or mental health of workers and recommends a series of actions to protect all employees against the hazards in their work tasks or their environment.

5.4.2.1 The Medical Staff (Health Care Providers)

Two (2) registered nurses are present at the Meadowbank mine site, and (1) one nurse is present at Amaruq 24 hours a day, 365 days a year. They are registered in Nunavut territories and have accredited training in trauma (ACLS/TNCC).

To complement the health and safety team, a medical director conducts periodic visits to the mine site. During these visits, the medical director will do the medical examinations required by the legislation.

5.4.2.2 First Aid Emergency

First aid is provided by anyone who is qualified to give first aid. In addition our Health Care Providers provide higher level of treatment when necessary. They can direct the patient to specialized care if necessary. However, several people have been trained and can give first aid. The injured employee if/when transported must be accompanied by a nurse or paramedic in the ambulance or airplane.

5.4.2.3 Trained First aid personnel

First aid training is provided to a sufficient number of workers who are able to respond at all times. To ensure the continuous presence of rescuers/first aiders on all shifts, all supervisors are trained from all areas of the mine site. Furthermore, all Emergency Response team members received first aid training. A minimum of twenty (20) emergency response team members are on site all the time and trained to face every type of emergency.

In addition, some Emergency Response team members are trained to the advanced first aid level.

5.4.2.4 Emergency First Aid Kits

Emergency first aid kits are available in all AEM vehicles and workplaces at different locations on the site. The contents respect legislation requirements. We have MASS Casualty First Aid Supply is in place by entrance to Gymnasium. Our ERT teams are equipped to handle most Emergencies that can occur on site.

5.4.2.5 Registers and accident reports

In case of accident, an initial report is completed by the supervisor with the employee. The original report is then forwarded to the Health and Safety department. When the accident causes bodily harm that requires medical assistance, the Health Care Providers will open a file on the accident and if needed, they will fill out the necessary WSCC claim reports. All medical files are kept at the clinic under lock.

A weekly report is communicated to the management and the accident statistics are tabulated and communicated on a monthly basis to site and WSCC.

5.4.2.6 Clinic

(At Meadowbank site) The clinic is located on the ground floor of the service building adjacent to the Maintenance team offices and shop. (At Amaruq site), the clinic is located in the Exploration camp at far end – West adjacent to the fire hall.

The following equipment is available at the clinic:

- Oxygen and defibrillators
- Examination table

- Eye wash station
- Scale, Bandages
- Medications
- Burn Kits
- I.V. solution
- Material Safety Data Sheets (MSDS)
- First Aid Equipment
- Heart monitoring equipment
- Trauma Supplies
- Multiple Casualty equipment

5.4.2.7 Medical Examinations

Medical pre-employment

Prior to employment with Agnico-Eagle Mines, Meadowbank Division, each candidate must have a full medical examination and a hearing test. The pre-employment medical ensures that the candidate is fit for the job for which he/she is hired.

When hired, the new employee/contractor completes an induction session (e-learning) with different modules. A Health Care Provider explains their programs such as what to do in case of an accident or sickness. Each worker will have a confidential medical record kept under lock in the clinic. Only nurses and physicians will have access to the medical files. In addition, the physician will meet with workers upon their request.

5.4.2.8 Monitoring during an illness or accident

During a prolonged absence from work, the Health Care Provider is responsible for systematically monitoring the health of the worker. If the absence lasts more than three (3) days, the procedures for insurance is undertaken jointly with the worker and Human Resources Department. For absences due to an accident at work, the case is managed with the WSCC.

During a medical visit following an accident, the worker must contact the nurse or his supervisor to transmit the doctor's decision if he has allowed the injured worker to be assigned to light duty work as soon as possible.

To facilitate rehabilitation, the worker is assigned to light duty work until his/her injury is healed. The supervisor is notified of employees' work limitations/restrictions as well as the probable date of return

to regular work. At the clinic, each employee has a separate file for personal sickness and for work related accidents.

5.4.2.9 Medical exam when leaving the company

Every employee leaving the company shall, before his/her departure, pass a hearing test if his last test exceeds six (6) months and be referred to a specialist if required.

5.4.2.10 Health and Well-Being

Our Health Care Providers have included health and well-being information in our employee orientation program and our “Site Readiness” program. When any new employee arrives on site, they will be informed of topics such as sexual health, well-being, mental health, fatigue management, addictions, being “fit for duty” etc.

They will communicate and share with all workers the range of health services available onsite and update it as necessary as new services are available.

Periodic crew meetings with the different departments to inform our employees of our health and well-being services on site.

Brochures are developed and made available to all employees on subject matter.

We have also made available condoms on our site to promote sexual health.

We endeavor to ensure that all brochures are available in English and Inuktitut.

5.4.2.11 Review of Health Program

To audit the health program, an annual evaluation of the program is made by the Health Care Providers.

Any request for modification, addition and revision should be made to the Health Care Providers.

5.4.3 Investigation and analysis program

The investigation program and accident analysis aim to ensure and maintain a process of investigation and clear analysis so that it will:

- Clarify the responsibilities of all concerned parties;
- Ensure the quality of investigation reports and analysis based on criteria established and recognized;
- Identify the immediate and root cause of accidents or incidents;
- Recommend preventive and corrective measures following related events;

- Follow-up preventive and corrective measures;
- Eliminate the hazards and threat to health and safety of workers.

Important Information:

Under the NU – Mines Safety Health Act and Regulations, the employer must inform a WSCC Mines Inspector, as soon as possible (without delay) (ex. by telephone), and, within (72) hours, make a written report with the information required by regulations, regarding the events that have caused:

- Fatal injury to an employee;
- Serious injury to a worker; (as defined by Section 16.01 and 16.02 of NU Mines Safety Health Act and Regulations (Reportable Incident).

Furthermore, the NU Mine Safety Health Act and Regulations states that the inspector must be advised as soon as possible for any Dangerous Occurrence incident as defined by Section 16.01 (within 24 hours). The Dangerous Occurrence final investigation report must be submitted to the Mines Inspector within (72) hours.

At Agnico Eagle Mines – Meadowbank Division, the WSCC mine inspector will be informed by the General Manager, or by the Health and Safety Superintendent or Designate.

5.4.3.1 Procedure for investigation and accident analysis

At Agnico Eagle Mines - Meadowbank Division, accidents are divided into the following categories: fatality, lost time accidents, accidents resulting in modified/light duty assignment, medical aid, first aid, reported incidents, fire incidents, incidents (but no injury) and near miss or close calls.

Depending on the frequency and severity of the situation, some accidents/incidents must be investigated, in order to collect all the information and evidence or facts that cause the accident/incident. This information is used to determine the root causes of the accident/incident and finally, to recommend corrective and preventive measures to prevent its recurrence. The following chart summarizes the accidents that should be investigated.

Fact PARTICIPANTS

Guidelines for assembling persons for the investigation process: always keep in mind the "potential" severity and not the result.

Worker;
Supervisor;
JOHSC Representative
General Foreman;
Dept. Superintendent/Designate
Health and Safety Dept. Rep.
General Manager /Designate (if required)

Worker;
Supervisor;
JOHSC Representative
General Foreman;
Dept. Superintendent/Designate (if required)
Health and Safety Dept. Rep.

Worker;
Supervisor;
JOHSC Representative to review;
General Foreman to review
Health and Safety Department Rep.;

Worker;
Supervisor;
JOHSC Representative to review;
General Foreman (if required);
Health and Safety Department Rep (if required);

** If an investigation is requested*
Worker;
Supervisor;
JOHSC Representative to review
Health & Safety Dept. (if required);
General Foreman to review

Note: All accident/incident reports are to be forwarded to Meadowbank Health and Safety Department!!!

5.4.3.2 Accident report

Steps:

1. Any employee/contractor involved or that witnesses an accident must immediately notify their immediate supervisor or designate of the situation and keep the scene intact or undisturbed to allow time for the investigation, except to prevent further accidents.

2. Any worker involved or witnesses an accident must complete with the supervisor the initial incident report form, as soon as possible after the event but at the very least before the end of the shift.

   Note: The official accident with bodily harm log book is located in the clinic.

3. The immediate supervisor or his designate must immediately notify the general foreman who will notify the health and safety department of the accident. Depending on the severity and/or potential of the accident/incident, the OHSC representative will also be notified by the Health and Safety department or by the Department Management in which the event occurred.

Note: Reportable incidents – (Any incident listed in the "Serious Injury" portion and as described in Section 16.01 of the Regulations must be reported without delay to a Nunavut Mines Inspector and OHSC Co-chairs, by the Manager and/or his designate.
Dangerous Occurrences – (Any incident listed in the "Dangerous Occurrence" portion and as described in Section 16.01 of the Regulations must be reported within 24 hours to a Nunavut Mines Inspector by the Manager and/or his designate and OHSC Co-chairs.
Within 72 hours after a "Dangerous Occurrence" or "Reportable Incident", the Manager and/or designate shall send a report to the Mines Inspector and OHS Committee Co-chairs.

The investigation:

1. When an accident happens, the supervisor shall, if possible, go immediately to the scene of the accident to control the scene and collect the facts of the accident. The scene shall be secured pending investigation and only released after all facts have been gathered. In the case of a "Dangerous Occurrence" and/or "Reportable Incident", the scene shall not be released until the Mine Manager and/or his designate release it and only after consultation with Mines Inspector and OHSC Co-Chairs.

2. The supervisor will evaluate the loss and he will contact the appropriate officials.

A Supervisor or Health and Safety Department representative may demand an investigation for an accident without injury or even a first aid accident in the case if the consequences could have been worst (potential severity).

3. The immediate supervisor or designate will immediately initiate, if necessary, the process of the investigation, if possible, with the injured worker or workers who witnessed the accident. The investigation will be done whenever possible at the scene of the accident.

4. The supervisor fills out the investigation report with, if possible, the injured worker or/and the worker/s that witnessed the accident.

5. The investigation report must be signed and a copy must be sent to the Health and Safety Department as soon as possible. The Health and Safety Department is responsible for forwarding a copy of the investigation to the Manager (as needed) and to the Occupational Health and Safety Committee without delay. A copy of the investigation report must also be reviewed by the OHSC safety representative.

Accident analysis:

An analysis must accompany every accident investigation. This analysis is essential to determine the root causes of the accident and to recommend corrective and preventive measures necessary to prevent the accident from recurring. The analysis includes three (3) major steps:

- Initial analysis of all the information gathered in the investigation to keep only the contributing factors;
- Identification of all the causes and factors that contributed to the accident;
- Separation of contributing factors into two (2) categories:
  - Immediate causes
  - Root causes

The method of analysis:

This method involves taking the consequences as a starting point and looking for causes by asking "Why?" At each step, ask the following question: "Why did it happen this way?"

Each answer must be complete and sufficient to explain the reason the accident happened. If they do not explain it completely, there is/are another cause/s to be determined.

Please find enclosed the steps in completing an accident/incident investigation:

The accident/Incident

Need a complete description of the event, location and who was involved.

↓

Immediate causes

Immediate Causes categories:
- Work practices, behaviors
- Environmental conditions, equipment/material
- Use of protective equipment
- Conditions of protective equipment

↓

Fundamental Root Causes

Fundamental (Root) Causes categories:
- Personal factors
- Organizational factors

↓

Consequences

Results in Injury, Damage to Equipment, Fires, Damage or Spills to Environment, Loss to Process

↓

Corrective Measures

Ensuring good corrective measures will prevent Re-occurrence of accident/incident
Communication of incident/accident is very important as well

↓

Follow-Up

Ensuring that corrective measures are in place, in force and doing what they were designed to do
Sharing corrective measures within the Department and site wide to prevent similar accidents/incidents from occurring again

To do this, the immediate supervisor or his designate must initiate the review process once the investigation is completed. The analysis may be conducted away from the scene of the accident by completing the investigation and analysis formula of the accidents.

Furthermore, it is essential that recommendations and remedial measures following the investigation and analysis of the accident are followed-up for the immediacy of corrective actions.

5.4.3.3 Training in investigation and analysis

Training in investigation and analysis of accident is a must for all supervisors, general supervisors and occupational health and safety committee members. This training aims to provide supervisors and members of the occupational health and safety committee good knowledge, techniques and skills to effectively fulfill their responsibilities outlined by the management team. A refresher course will be given when needed.

5.4.3.4 Review the program of investigation and analysis of accidents, incidents

The accident investigation and analysis program is revised as needed.

Any request for modification, addition and/or revision must be made to the Health and Safety Department.

5.4.3.5 Entry into Intelex – tracking system

All incidents / accidents will be logged into Intelex in a timely manner and incidents will be closed out on a monthly basis.

5.4.4 Inspection of workplace

Objectives of the inspection of the workplaces:

- Eliminate accidents, improve the quality of life, increase productivity and efficiency;
- Protect the health, safety and integrity of workers;
- Identify and correct the situations and conditions that may cause loss;
- Identify non-compliances with the standards in the work areas;
- Develop appropriate remedial action following non-compliances and ensure follow-up.

5.4.4.1 Description of the different types of inspections

General planned inspection:

Systematically inspect one or more areas to check compliance of area, equipment and work environment. Pay attention to the working methods to detect dangerous actions or methods. Good housekeeping is a must.

Specific inspection:

Check one specific aspect following an investigation and analysis of accident/incident, a specific request of the JOHSC, an evaluation of the accident log book or any other situation with a potential of loss.

Daily inspection (work card):

Daily inspection of access, work places, tools, equipment listed on the work card to detect and correct with immediacy sub-standard conditions. This inspection is to be done by worker/Supervisor.

Daily pre-use inspection of equipment:

All users of mobile equipment must check compliance of their mobile equipment and complete inspection card associated with the equipment at the beginning of each shift to ensure that equipment is compliant and it creates no risk to the safety and health for operator and others. Once completed, the cards are stored and kept for a period of one (1) year.

5.4.4.2 Frequencies of the inspections

- **Site General Manager** will plan and participate in general inspections to cover the surface operations as needed (2) times per year.
- **Department Superintendent/Assistant:** must attend a minimum of four (4) planned, general inspections with the supervisors, or general foremen of his department, or area of responsibility.
- **General Foreman** must attend a minimum of four (4) inspections with the supervisors via Supervision Formula and (1) planned inspection per month in area of responsibility.
- **Supervisor** will conduct daily inspections planned in his sector with his workers (as per work card) and occasionally with a member of the Health and Safety Department. Monthly, he and an OHSC rep. will conduct (1) planned inspection in his/her working area.

- **Health and Safety Department personnel: (Health and Safety Superintendent/Assistant and H & S Advisors)** will conduct minimum of (2) inspections per rotation in different areas of the site.

- **JOHSC Representatives** will be invited to participate in monthly inspections with each level of the management team named above in their area of responsibility. Note: JOHSC must conduct one inspection per month as legislated in the Mine Regulations Section 3.19 – 3.22.

- **Worker** will conduct a daily inspection of access, work places, tools, equipment listed on the work card to detect and correct with immediacy sub-standard conditions.

5.4.4.3 Methodology of Inspection

To be effective, the people responsible for the inspection must be prepared, organized and have the right tools. Four (4) steps are necessary to ensure an inspection of quality:

- Planning
- Inspection
- Report
- Corrective actions and follow-ups

Objectives of the inspection report:

- Identify all items inspected (compliant or non-compliant); **(Note: non-compliance must be based and in reference to Mine Regulations, Company Policies/Procedures etc.)**
- Identify the sector and / or equipment inspected;
- Classify risks for each observed deviation;
- Determine corrective action;
- Identify a person responsible for each corrective action;
- Determine a timeframe;
- Indicate the number of the work order and/or completed formulas to apply corrective measures.

Note: the report must be written legibly or typed, saved electronically

Distribution of the inspection reports:

Once the report is completed, participants in the inspection must send the original to the health and safety department. A copy of the report must be sent to the department heads concerned by the inspection and to the manager.

The participants keep a copy of the inspection report and when the sub-standard anomalies have been corrected, they will send a copy of the report with the corrective actions completed to the department heads concerned by the inspection and the safety and health department.

Follow-up of the corrective action:

The responsibility to follow-up the corrective action should be incumbent to those who conducted the inspection. The department head will make certain that the follow-up is completed.

The Health and Safety Department will produce an update on the frequency of inspections and the amount of corrective actions that were completed every month. The report will be sent to the JOHS Committee for review.

Classification and time frame for the corrective measures

Severity	Time frame for temporary corrective actions	Time frame for permanent corrective actions
A) Action or condition that could have resulted in permanent disability, fatality, loss of a limb; damages that created a loss of production and/or material exceeding $50,000	Immediately	Started Immediately and corrections completed within (24) hours following the report Note: if corrections cannot be completed within (24) hours – a plan must be put in place to ensure the health and safety of all concerned.
B) Action or condition that could cause a temporary disability with a duration of more than the day of the accident; damages that created a loss of production and/or material exceeding $10,000 but less than $50,000	Immediately	Started Immediately and repairs completed within (3) days (72 hours) following the report
C) Action or condition that could cause a minor accident necessitating first aid treatment and or a medical assistance without a loss of time; damages that created a loss of production and/or material less than $10,000	Within (24) hours	Started Immediately and repairs completed within (7) days following the report
H) Action or condition that is considered a housekeeping item and if left unattended or not taken care of could result in trip and fall or other injury or damage to equipment or environment.	Within (24) hours	Started immediately and maintained continuously. No time limit to fix, repair or clean up. An on-going effort is required to maintain good housekeeping.

5.4.5 Objectives of management of cutting and welding activities

- **I**dentify the contaminants in the welders' workplace;
- Assess the physical and chemical contaminants in the cutting and welding activities;
- Provide effective lasting controls to ensure health and safety of employees;
- Train and inform employees about the contaminants in their asks and their environment;
- Prevent fire hazards;
- Follow up on these activities;

The risk assessment will be done through field inspection, task analysis and sampling of contaminants on/with the personnel. The sampling methods used are consistent with those proposed by the Institute of research for Health and Safety (IRSST), OSHA and A.C.G.I.H.

5.4.5.1 Information on contaminants potentially released with the activities of cutting and welding

Health effects of certain metals may be present in fumes from welding and cutting

Contaminants	Source or process	Possible effects on the health
Aluminum oxide	Composition of welding rods or aluminum alloy.	Aluminosis: particle deposition forming of fibroids in the lungs.
Cadmium oxide	Silver electrode surface in some alloys and rustproof of the steel.	Highly toxic substance that can cause lung and kidney lesions. Carcinogen.
Chrome	Alloy in stainless steel, rust-proof paint or covering chromed parts	May cause lung damage and asthma. Carcinogen.
Copper	Copper concentrate and copper welding electrodes (brass or bronze).	May cause metal fume fever (fever welders) similar to that of zinc.
Tin	Welding electric wires and copper pipe.	Lungs irritation
Iron Oxide	Ferrous metals and steel, welding electrode, may represent 50 to 60% of welding fumes.	Respiratory irritation, low toxicity dusts of iron oxide, may be due to siderosis.
Manganese	Alloy steel rods and composition of capital.	Irritation of upper respiratory tract attacks the nervous tissue and causes weakness and poor coordination.

Molybdenum	Composition of some steel alloys.	Irritation of eyes and lungs.
Nickel	Metals nickel, stainless steel.	Carcinogen.
Lead	Metals coated with paint containing lead present in certain alloys and metals, coatings and tank armor, welding tin.	Toxic substances that affect blood, nervous tissue, gastrointestinal tract and brain.
Silica	Embedding electrode can be found in welding fumes.	May cause lung damage.
Titanium	Coating of electrodes and in some alloys (ferrovanadium).	Respiratory irritant that can cause fibrosis.

Health effects of certain gases may be present in fumes from welding and cutting

Gas	Source or process	Possible effects on the health
Ozone	Gas with a characteristic odor formed during arc welding resulting from the action of UV on oxygen.	Low concentration: irritation of nose, throat and respiratory tract. Elevated: headache, dizziness, nausea, vomiting, fainting
Carbon Monoxide	Produced by the incomplete combustion of organic matter in the form of plaster, paint or coating electrodes, welding under protective gas (CO2).	Low concentration: headache, dizziness. Elevated: nausea, vomiting, unconsciousness, asphyxia resulting in death.
Nitrogen oxides	Suffocating gas and highly flammable formed during the process of arc welding or welding in shielding gases especially when welding stainless steel.	Low concentration: irritation of eyes, nose and lungs. Elevated: irritation of the eyes, coughing, chest pain, and pulmonary edema.
Phosgene	Irritating gas formed when a flame or heated surface at high temperatures or UV rays of the arc are in contact with chlorinated solvents.	Low concentration: sensation of dryness and burning throat, numbness, vomiting, difficulty breathing. Elevated irritation leading to pulmonary edema, chronic bronchitis, pulmonary emphysema .
Hydrogen fluoride	Formed by heat flux, decomposition coatings (applied on stainless steel), coated electrodes	Low concentration: irritation of nose, throat, nose bleeds. Elevated pain in the eyes and nose, pulmonary edema, burning the skin. Chronic Exposure: disease = bone fluorosis (increased bone density).

5.4.5.2 Reduction at the source

The reduction at the emission point is the most effective way to protect the health of workers potentially exposed to contaminants in the air. It is to prevent the emission of contaminants into the air.

Variants of the welding process must be adjusted to produce maximum performance while reducing emissions of contaminants into the air.

Parameters affecting production of contaminants

Parameters	Consequences
The power intensity	In general, the higher the amperage, the higher the emission of smoke.
The diameter of the electrode	With/when equal current is used: the small diameter electrodes produce more smoke than those with larger diameter.
The tension	The amount of smoke rises in direct proportion to the tension.
The polarity of the electrodes	The welding direct current positive at up to 30% more smoke than welding in direct current negative.
The length of the arc	The longer the arc, the more smoke is produced.
The shielding gas	The type of shielding gas used helps determine the volume of emissions. For example, the volume of emissions can be reduced by 15% to 25% by the addition of argon to carbon dioxide instead of using it in its purest form. Ozone concentrations are reduced significantly when adding nitric oxide gas protection in welding of aluminum MIG.
Substitution	Is characterized by the fact of replacing certain ingredients in the welding electrode by others with similar metallurgical characteristics, but emitting less smoke (ex. replacing an electrode lead with an electrode containing lead and tin).
The cleaning of the surfaces	The surface cleaning (grease, dust, paint, etc.) reduces the emission of contaminants into the air.

5.4.5.3 Means of technical control

Ventilation is the primary means of technical control to reduce the exposure to welders from fumes produced by welding and cutting.

General ventilation:

General ventilation can dilute contaminants dispersing in the work area. General ventilation can be mechanical (fans) or natural (open door). It can be very effective if used in order to remove the contaminants from the breathing zone of the welder.

Local ventilation:

The local exhaust ventilation will capture pollutants as close as possible to their emission sources and remove them from the workplace. Since most emissions occur near the arc, the local exhaust ventilation is more effective than general ventilation. The system of local exhaust ventilation is designed to capture fumes and gases before the welder breathes it. However, the performance of the local exhaust systems may be greatly affected by air currents and the distance between the contaminant source and the sensor arm (90% efficiency at 22 inches).

The extension arms are inspected periodically to determine the system performance. This assessment takes place every six (6) months and is made by the industrial hygienist. The data collected is stored in the log book.

Example of a “smoke eater” as used by welders

Example of an extension arm with a fume captor

5.4.5.4 Respiratory Protective Equipment

The personal protective equipment for respiratory system should be used as a last resort when other means of control are not possible. These personal protection devices must be used according to specifications of the Respiratory Protection Program of the establishment (next section).

5.4.5.5 Other risks related to activities of cutting and welding

Other risks associated with welding, apart from the fumes and gases, are radiation, noise, electricity, sparks, heat and explosions.

Protection against radiation:

The ultraviolet radiation emitted by the welding process can cause eye problems ranging from simple irritation to conjunctivitis. Therefore, eye protection devices (properly shielded safety eyewear) must be worn by the entire welder group and those assisting them in their work, unless protective screens are used and in place.

The presence of shield against radiation is necessary for places where bystanders are likely to be exposed to radiation.

Example of shields against radiation

Tinted goggles (grade 5) may be used for small amount of cutting or brazing with torch (flame cutting) while the face shield should be used for all other types of welding and cutting. Different degrees of protection for the lenses are necessary depending on the type of welding.

The welder must change the protective lenses when they are damaged.

Protection against sparks:

Sparks projected during the cutting or welding can cause burns, fire or explosion. Welders must wear protective clothing (flame retardant) such as Indura soft (like coveralls) at all times while performing

work of cutting and welding. Long non-flammable gloves should also be used. This equipment, gloves and clothing must be changed when they are damaged.

5.4.5.6 Hot Work Permit

Welding and cutting are not permitted without obtaining a Hot Work Permit. Hot Work permits are required whenever welding, cutting or any task where open flames are required such as torch use, tiger torch, whether working inside or outside (except in designated areas such as a welding bay).

On the permit is a list of precautions to be taken. This must be completed by the welder himself/herself before commencing work. It is important that all safety precautions listed on the permit are followed as they are subject to rigorous inspection by the worker. During his inspection, the supervisor approves the continuation of work by signing the permit on the back. When the work is completed, workers must clean up their workplace and conduct a continuous check for fire for 30 minutes and monitor and check the area for a minimum of 2 hours after the welding, cutting or burning activities are finished. The employee that does the final check for fire ultimately signs the permit and gives it to the supervisor. It is kept in a register for a period of one (1) year.

To ensure the strict enforcement of permits for cutting welding, Agnico-Eagle has established an audit program with the following objectives:

- Maintain good standards of application in terms of how to safely perform hot work;
- Ensure compliance of hot work performed;
- Promote the importance of fire protection on the site.

The audits will be held every four (4) months and the results will be compiled in a register.

Fire Extinguishers:

In addition to fire extinguishers located at strategic locations and near building EXIT doors on the site and in buildings, every oxy/acetylene cutting torch set up (fixed) or (dolly) mobile is equipped with a fire extinguisher. Fire extinguishers must always be in working order. An inspection must be made before commencing work. Note: this is part of the “work card” inspection process.

All extinguishers are checked on a monthly basis. Extinguishers on equipment are checked daily as part of the pre-operational vehicle check.

Stop Work:

When welding and cutting are suspended even for a short period of time, welding machines and cutting torches must be turned off, the electrodes must be removed from their rack, valves and equipment for the cylinder compressed gas must be closed and / or stored in a safe place (as defined in the procedure for hot work).

5.4.6 Lock out and tag out

Repairs, installation and verification of equipment powered by electricity or any other energy are always a risk. Each employee must take some responsibility and ensure his/her own safety and that of fellow employees respecting the lock out tag out procedure and ensure “zero energy” state.

The lockout procedure and making a “zero energy” state is part of the prevention program at the Meadowbank Division.

5.4.6.1 Tools

The tools for the lock out tag out have several components. These various types of locks, multiple lock link, lock-boxes, keys, covers valves, chains and labels.

Personal Padlocks and departmental padlock:

Each worker exposed to a hazard that necessitates to lockout tag out must have a “brass” padlock with a single key and identification tag. This “brass” lock will have the owner’s identity on it. Locks for service department cannot be used in a personal way. It is forbidden to lend your personal lock to another person.

5.4.6.2 Zero-energy Procedure

No piece of equipment can be de-energized and locked to zero energy until the workers in the area where the work is to be performed have been told. The supervisor will then allow the employee to stop the equipment. The supervisor involved must make sure to inform all the other employees on the work to be done by the crew.

All contractors must follow the lockout procedure of Agnico-Eagle.

Note: In many areas, there are specific procedures related to certain equipment. Before you lockout inform the supervisor.

Examples: mobile equipment, radioactive devices, overhead crane, etc.

Application of the procedure:

- **Locking out equipment of 750 volts or less**

  When repairs or check-ups requiring a simple lockout, the worker shall, lockout the equipment and check to see if the equipment can start after being locked out to make sure that the equipment is not operational. Lock the master switch on equipment in the off position. It is important that other workers working on this equipment affix their padlocks by using a multiple lockout system. The last hole of the multiple lockout system must be kept to add another multiple lockout devise if ever we must add more padlocks.

- **Multiple lockout equipment of 750 volts or less**

  To accomplish a checkup or repair on equipment, it is required to use multiple lockout system (multiple padlock devices). The qualified person responsible for checking the deactivation or lockout of the equipment must take the necessary amount of locks to ensure through testing by startup of the equipment. He must lockout the master switch on the equipment in the off position and put the keys in the red lockout box by ensuring that the identification numbers of the locks are visible. The lockout box should be locked with a multiple lockout system and locked with padlocks. A lockout tag must be installed and a final start-up of the equipment must be made to make certain that the equipment will not start. All other employees who work on such equipment must affix their locks on the lockbox.

- **Lockout equipment at high voltage (over 750 volts) equipped with knives switch (inside a closed box)**

  All equipment of high voltage with knives switches are identified and require the presence of an electrician to cut the power. He ensures that there is no more energy or power on the line. Then the lockout procedure applies.

- **Lockout equipment of high voltage (over 750 volts) with motorized switches (medium voltage circuit breaker) or aerial disconnect breakers**

  All equipment with high voltage motorized switch (medium voltage circuit breaker) or aerial disconnect breakers requires the presence of an electrician to cut off the power. He must use the specific procedure to accomplish the cutoff of power. Then the lockout single or multiple lockout procedures must be applied.

- **Ensuring zero energy on piping or pressure vessels**:

  Use the single or multiple lockout procedure considering that the energy source is compressed air or steam. Beware of secondary or residual energy that may remain under pressure. Leave the drain valve in case of a leak in the isolation valve.

  Various mechanisms are available to lock the valves of different types: handles, chains, etc. We must ensure that the mechanism is reliable. If in doubt, check with your supervisor.

5.4.6.3 Removing locks from a lock out situation

When an employee must leave, he/she must remove his/her lock. After the work is completed, the equipment must be unlocked in order to verify proper operation. Notify the responsible supervisor that repairs are completed and the equipment is functional.

During a shift change or when an employee must leave before the work is completed and the person replacing him/her has not placed his personal lock, he/she must ensure that equipment is locked by a Departmental padlock with a tag-out informing his replacement to put his padlock on. He/she must also notify his/her supervisor or the job leader. When work resumes, a start test should be performed.

5.4.6.4 Cut padlock security

If an employee forgets to remove his/her lock and that employee is no longer on site or at work, the supervisor or his/her delegate has the authority to cut the lock. This must be done with great care and a good judgment. Firstly, we must try to reach the employee. If he/she can't be reached, we must make certain that the employee is no longer on the site. The **"Lock Removal Form"** must be completed and the procedure in place before cutting the lock. Return the form to the general supervisor of the lockout.

5.4.6.5 Training on the lockout and ensuring zero-energy

It is important to note that the implementation of such a procedure must be accompanied by specific training. Training on lockout and ensuring zero energy aims particularly the employees working on equipment that may be started by others during the repairs.

The training includes the following:

- Legal aspects of standards and regulations lockout;
- Effects on safety;
- Tools;
- Lockout procedure and ensuring zero energy;
- Practical exercises.

5.4.6.6 Review

The lockout procedure and ensuring zero energy is revised annually by the Health and Safety Department and Training Department.

Any request for modification, addition and revision should be made to the Health and Safety Department and Training Department.

5.4.7 Respiratory Protection Program

The objective of the Respiratory Protection Program is to effectively protect personnel working in workplaces where technology controls do not permit or are not sufficient to eliminate the source of contaminants in the air.

This program also aims to help managers to identify ways to control the selection, use, and maintenance of respiratory protection.

5.4.7.1 Risk Assessment

The risk assessment is done by sampling personnel in the workplace. These assessments help to determine the type of respiratory protection and appropriate filters to be used.

5.4.7.2 Means of Risk Control

- **Reduction at the source**

Reduction at the source is the objective of the establishment and is the most effective way to protect the health of workers potentially exposed to contaminants in the air. It is to prevent the emission of contaminants into the air.

- **Control techniques**

  Control techniques are used to vacuum, abate or dilute the contaminant emissions in air. Among these, we find the air ducks, hoods, primary and secondary fan systems to induce the fresh air, dust collectors and sprinklers.

- **Personal Protective Equipment**

  The personal protective equipment for the protection of the respiratory system must be used as a last resort when other means of control are impossible. For respiratory protection, there are several types of equipment. The apparatus of respiratory protection used in Agnico-Eagle Meadowbank Division includes: filter type respirators, cartridge type, air powered (PAPR) and self-contained breathing apparatus (SCBA). According to protective factors established by NIOSH and CSA, these appliances offer different levels of protection ranging from 10 to 10,000 depending on the equipment.

  Information on respirators:

  ✓ **Appliances Air Purification**

  This category includes all half-masks and full face using chemical cartridges or as a particulate filters contaminants. These masks are negative pressure, which is to say that the lungs of the user are the generators of the circulation of air. To meet the requirements, different types of respirators are available in three (3) sizes: small, medium and large.

  ✓ **Appliances Air purification Air powered**

  This category includes mainly helmets or masks complete type of manufacturer 3M RACAL engine which propels the air inside a helmet then filters through chemical cartridges and particulate. Currently, the agencies give this product a protective factor that varies from 25 to 1000.

  ✓ **SCBA:**

  This category includes all full-face respirators equipped with a cylinder of compressed air breathing unrelated to an external airline. In setting, only mine rescue teams, firefighters and some specially trained workers are allowed to wear such equipment. This equipment provides a minimum protection factor of 10 000.

5.4.7.3 Criteria for selecting respirators

The choice of a proper respiratory protection is essential to protect the worker. We must therefore evaluate the following parameters when choosing a type of respirator:

- **Level of oxygen in the air**

  The NIOSH states that "the percentage of oxygen by volume in air at any workstation of an establishment must not be less than 19.5% at normal atmospheric pressure". All respirators Air-purifying approved by the National Institute for Occupational Safety and Health (NIOSH) should be used in workplaces only when the oxygen concentration exceeds 19.5%. Otherwise, the worker must wear respiratory protection equipment independently.

- **Types of contaminants present or potentially present**

  The industrial hygiene department established the physical, chemical and toxicological properties of contaminants, including their concentration, toxicity, nature, condition, the detection characteristics of each and their potential for eye irritation and skin absorption.

- **Intended use of the respirator**

  To make the best choice, workers and supervisors must take into account various environmental parameters and conditions to use a respirator, for example:

  - ✓ workplace;
  - ✓ task;
  - ✓ duration of use;
  - ✓ frequency of use;
  - ✓ effort to the task;
  - ✓ industrial process used;
  - ✓ comfort of the user;
  - ✓ need for mobility;
  - ✓ need for communication;
  - ✓ extreme temperature conditions (very cold or very hot).

FIT test:

Users of respiratory protection must be tested for sealing quality with the respirator. This fit test is required prior to issuing of a respirator.

The fit testing is conducted by the Training Department, Health and safety department or industrial hygiene technician. This training shows the user how to use proper respiratory protection.

Once the initial fit test done (when issuing the respirator), additional fit testing is required only when one has suffered of a facial morphology (ex. scarring, loss of weight, acne, etc.). He/she must be fit

tested again for leakage before using respiratory protection. Those who pass the fit test are logged in a log book.

Example of a quality fit test

5.4.7.4 Training on respiratory protection

It is important to note that the implementation of such a program must be supported by training. At Agnico-Eagle Mines– Meadowbank Division, we have training on respiratory protection. The training aims particularly the users of masks to purify air using chemical cartridges and / or particulate and users of helmet air-purifying (positive pressure). This course covers the selection, use and checking of disposable masks and chemical cartridge.

The training covers the following:

- ✓ Legal aspects of regulations and standards in respiratory protection;
- ✓ Inventory of contaminants and basic rules of industrial hygiene;
- ✓ Health effects of contaminants;
- ✓ Fit Tests;
- ✓ Technical knowledge on the function of all models of respirators;
- ✓ Inspection, maintenance, cleaning and storage of respirators;
- ✓ Practical exercise.
- ✓ Refresher training is also needed each year for workers, supervisors, responsible for the fit testing and the person responsible for checking and cleaning of respirators.

5.4.7.5 Revision of the respiratory protection program

The respiratory protection program is reviewed annually by the Health and Safety Department and Training Department.

Any request for modification, addition and revision should be made to these departments.

5.4.8 Hearing Conservation Program

5.4.8.1 Exposure assessment of workers

In order to identify work areas where noise exceeds 85 decibels (83 dBA or workers, working 12 hour shifts), the exposure of workers by job or workplace, is measured in accordance with CSA Standard Z.107.2-1973 entitled "Methods for measuring sound levels".

Employees with exposure to noise exceeding 85 decibels (A) are included in this program. Wearing hearing protection is mandatory for workers unless the means of source reduction of technical and administrative controls are in place.

The assessment strategy for the noise levels are in the "Industrial Hygiene Program" as well as legal requirements. Assessments must be made when purchasing new equipment or changes in processes or equipment.

5.4.8.2 Identification of noise zones

The areas likely to exceed 83 decibels must be identified with a poster at the entrance area or where there is noisy equipment. The sign identifies the requirement to wear hearing protection.

5.4.8.3 Potential Risks to health associated with exposure to noise

The main physiological risks associated with working in noisy environments are a loss of hearing (temporary or permanent) when exposed to noise without hearing protection. Hearing loss associated with exposure in industrial work will affect the high frequencies. The loss is recognized as an occupational disease when it reaches the thresholds listed in the Regulation on the scale of industrial injuries.

5.4.8.4 Methods used to reduce noise exposure

Management and workers must take steps to protect their health, their safety and physical integrity as required by the Occupational Health and Safety. The reduction at the source and engineering controls are the best means to reduce exposure of workers to noise. If these means do not reduce noise to an acceptable level, then use the personal protective equipment. Any reduction in noise, even a few decibels, reduces hearing loss, improves communication and improves concentration. All sources of noise must be evaluated to determine the appropriate method of protection.

Reduction at the source:

The reduction at the source involves a reduction of noise from equipment:

- ✓ Replacement of equipment;
- ✓ Relocation of noisy equipment.

Technical Means of control:

The technical means of control are expected to reduce workers' exposure to noise by changing the environment in which they work:

- ✓ Modification of vector transmission noise (acoustic insulation);
- ✓ Reduction of the reverberation (absorbent materials for walls and ceilings);
- ✓ Reduced vibration equipment (carpets, preventive maintenance);
- ✓ Changing a method of work;

- ✓ Mufflers.

Means of Administrative Control:

The administrative control is to reduce the duration of worker exposure to noise:

- ✓ Modify the hours of work;
- ✓ Rotate tasks to high and low exposure;
- ✓ Start-up of noisy machines when few workers left the area.

Personal and collective protective equipment:

This is the last possible alternative when the noise reduction is less than the permissible exposure limit after implementing technical and administrative controls. The hearing protectors designed to reduce transmission of the wave to the ear.

The effectiveness of hearing protection varies from one worker to another, it depends on proper protective equipment, fitted and worn during the entire period of exposure to noise.

Types of hearing protectors:

Earplugs: plastic foam Max TaperFit 2 UltraFit, Décidamp2, Ear Caps Caboflex) (category preformed caps);

Shells: passive type deductions with a headband (PELTOR H6b, Peltor H7B) or attached on each side of the safety helmet with headphones (PELTOR HTM7P3E) or without headset (PELTOR H7P3E, PELTOR H9P3E).

Noise abatement related to the hearing protector:

The sealing and acoustical properties of the materials determine the level of protection provided by the hearing protector. The shells form a seal around the ear while the ear plugs are against the wall of the canal. The index of noise reduction from the manufacturer (IAB or NRR (English word is: "Noise Reduction Ratio") is set in ideal laboratory conditions.

It is recommended by NIOSH 1996 (Summary of Appendix B, Methods for Estimating the Adequacy of Hearing Protector Attenuation, in the Occupational Noise Standard 29 CFR 1910.95) in calculating the exposure of a worker on its protection hearing, to deduct a percentage for each specific type of hearing protector. This percentage reduction prepared by NIOSH takes into account the performance offered by each type of hearing protector.

Type of hearing protection	***Reduction percentage***
1. For the shell type	75 % of the manufacture IAB
2. Earplugs	50 % of the manufacture IAB

Taking into account the criteria set by NIOSH, the factor of noise reduction for each type of hearing protector has been calculated.

Indices noise abatement set by the manufacturer for each hearing protector available to Agnico-Eagle to the mitigating factors under criteria modified NIOSH 1996.

Type of hearing protection	IAB (dBA)	(dBA) IAB Modified
Plastic foam plug Taper Fit 2	32	16
Plastic foam plug Ultra Fit	25	13
Plastic foam plug Decidamp	29	15
Plastic foam plug Max	33	16
Plastic foam plug Ear Caps	17	9
Plastic foam plug Caboflex	20	10
Shell *PELTOR H9P3E (yellow)*	23	17
Shell *PELTOR H7P3E (green)*	24	18
Shell *PELPOR H10PE3* (*black*)	27	20
Shell *PELTOR H7B (green for helmet)*	22	17

Note: The attenuation factor (IAB) proposed by type of protector is conditional to constant wearing of the protectors during exposure.

Medical Surveillance:

An audiogram is conducted for all employees as follows:

- ✓ Every employee working where the noise levels exceed 83 dB is required to pass an audiometric test every three (3) years;
- ✓ Employees and the clerical employees are required to pass an audiometric test every five (5) years or as needed;
- ✓ All employees leaving the company shall, before departure, have an audiometric test completed;
- ✓ In the hiring process, a person must pass an audiometric test.

5.4.8.5 Training Information

Training is mandatory for all workers likely to work near a source of noise. This training consists of the following:

- Regulations;
- Responsibilities of employees;
- Effects on health over the hearing capacity and the body: short and long term;
- Source reduction;
- Control methods: technical and administrative;
- Hearing protection equipment selection, maintenance and use;
- Meaning of posters;
- Audiogram.

5.4.8.6 Hearing Conservation Program

The program for hearing protection is revised as needed by the Health and Safety Department.

5.4.9 Confined Space Management Program

The program management to work in confined space remains an important reference tool for all supervisors and workers involved in supervising and working in confined spaces area. Depending on the nature of work and the nature of the confined spaces, the risks will vary. It is the responsibility of the supervisors and workers to ensure that all preventive measures are taken when there is work to be done inside a confined space area.

5.4.9.1 Definition of a Confined Space:

“Confined Space” means a tank, process vessel, underground vault, tunnel or other enclosure that is not designed or intended for human occupancy and that a person would only enter if there were work to be done.

5.4.9.2 Assessment of potential hazards in confined spaces

Atmospheric Risk:

Confined spaces are regular atmospheric hazards that make the air unsafe to breathe for the worker. Whether a lack of oxygen, super oxygenation, the presence of flammable or toxic gases, all of these conditions pose a significant risk to the worker and should be considered before entering inside a confined space.

Physical hazards:

Physical hazards potentially present in a confined space are numerous: there is a restraint entry or exit, a dangerous work area, a risk of engulfment, mechanical parts in motion, the presence of electricity, heat or cold, noise or poor visibility.

5.4.9.3 Preventive measures

Ventilation:

For some cleaning, welding, cutting, fabrication of fiber glass, sandblasting abrasive and solvent use, ventilation must be provided before and / or during the task is being done. The duration of this ventilation vary depending on the nature of work, the size of confined space and movement of natural air flow inside the confined space.

The natural or mechanical ventilation of the confined space must be done to avoid exposing other workers to contaminants. Therefore, the breathing of the air should be prioritized in certain activities (ex: welding and cutting activities).

Lock-out and tag-out the energy:

The lockout procedures and ensuring zero energy must be followed. In addition, some confined spaces, must be completely isolated by disconnecting, purging and sealing of all supply lines.

5.4.9.4 Entry Permit Confined Space

The entry permit for confined space is a written authorization indicating the location, staff involvement, hazard identification and control for a given enclosure. This is only valid for a period of 12 hours of uninterrupted work.

The permit must be completed before the start of work by a qualified person and it applies only to a single workstation. The permit must remain in the workplace so that work is ongoing and when the job is completed, the permit must be return to the Health and Safety Department.

If environmental conditions change in the environment or the execution of work, the permit must be corrected and the testing methods must be reassessed.

5.4.9.5 Opening an confined space at high risk

The opening of the confined space must be performed with appropriate respiratory protection. The specific list of confined space for each department indicates adequate protection for the contaminant found in the enclosed space.

However, when the concentration of contaminants inside the confined space is unknown, it is considered highly dangerous to life and health. The opening of the enclosure must be done with maximum care and if necessary, with a self-contained breathing apparatus.

Evaluation of the air inside the confined space:

To evaluate the quality of air we must:

- ✓ Check the quality of air with an appropriate instrument that measures gas and of oxygen, and this even before opening the enclosed space;
- ✓ Assess the quality of air near the opening by inserting the sampling probe inside the confined space. This step is essential when you suspect the presence of toxic or flammable gases;
- ✓ Assess the entire volume of air inside the enclosure to verify the presence of heavy gas, light gas and neutral gas.

5.4.9.6 Confined Space Training

It is important to note that the implementation of such a program must be accompanied by a sustained training.

It is prepared primarily for workers, supervisors and project leaders who are likely to work in confined spaces.

The training Recognition of confined spaces:

- ✓ Responsibility of all parties;
- ✓ Risks associated with confined spaces;

- ✓ Risk assessment;
- ✓ Preventive measures put in place for every task in confined spaces;
- ✓ Entry permit;
- ✓ Emergency procedures;
- ✓ Tools;
- ✓ Assessment of air quality.

A refresher training course will last approximately two (2) hours and will be given if required to the workers, supervisors that were previously trained on confined spaces.

5.4.9.7 Review of Confined Space Management Program

The management program for confined space work is revised as needed by the Health and Safety Department.

Any request for modification, addition and revision must be made to the Health and Safety Department.

5.4.10 Fall Protection

5.4.10.1 The safety measures against falls from height

Falls from heights or in dangerous openings account for (40% of injury cases); they can and usually cause serious injuries.

The legislation states that all workers must be protected against falling when exposed to a fall of more than 3 meters from a working position;

- when he may fall into a liquid or a hazardous substance, on moving parts, on equipment or materials presenting a danger;
- if exposed to a fall of over 1.2 meters using a vehicle.

Agnico-Eagle Mines – Meadowbank Division endeavors to reduce at the source instead of using other means. But, if this is impossible, here are other preventive measures that are used to ensure the safety of workers:

Guard Rails:

Guard Rails is the means of protection most appropriate for protecting workers against the risk of falling. There is a fence along the opening that restricts the movement of workers and ensures that he/she will not be exposed to a free fall. The guardrail must be placed alongside of an elevated floor, roof, a platform of a scaffold, stairway or ramp, around an excavation or any other place where a worker may fall:

- in water;
- from a height of 1.2 meters or more if he is using a vehicle;
- from a height of 5 meters or more of a perimeter roof and 3 meters in other cases.

They are made of various materials and must meet minimum strength and built as stipulated in the safety Code for construction work. On the site, the majority of the railings are fixed permanently. They are inspected periodically.

Warning: The installation of guardrail must always be made with a full body harness

Fixed ladders:

Fixed ladders are used to replace the stairs. They must be strong enough to withstand a weight of 90 kg in middle of a rung and exceed the upper tier of at least 900 mm. Finally, fixed ladders must be equipped with guardrails surrounding the floor opening with a removable rigid barrier (not chain) giving access to it.

Ladder Safety Training:

All persons working at Meadowbank must have ladder safety training as delivered by the Training Department.

3-Point contact should be practiced and followed at all times when ascending and descending any equipment, staircases, ladders, basically any place where handrails are provided – use them.

- All ladders are to be inspected before use
- Always use the 4:1 rule when setting up a ladder – i.e.: 4' rise X 1' from the wall or structure that you are putting the ladder against
- Always secure extension ladders
- Always have a minimum of three rungs extending past the landing or exit point off of ladder at top
- Never use a conductive type ladder near electrical installations

There are many types of ladders in use at our operation. Extension ladders, folding ladders, straight ladders, and they come in assorted sizes and lengths.

5.4.10.2 Personal Protective Equipment

Safety Miners' Belts

When a safety belt is made available to a worker, it can be used in combination with a lanyard to limit the movement of the worker or to keep him/her in his/her working position and this for all workers working near an opening where a (3) meter or greater fall can occur.

Caution: The miners' belt cannot be used as personal protective equipment to stop the fall of a worker. In other words, the safety belt is used to prevent workers from reaching the point of fall (ex. Dangerous openings or shafts).

Safety Full Body Harness

Wearing a Full Body safety harness is mandatory for workers exposed to a fall of more than three (3) meters (9.8 feet) from his working position.

The full body safety harness is used with an energy absorber which is connected to a lanyard not

allowing a free fall of more than 1.2 meters (3.9 feet) or a retractable lifeline (also known as SALA BLOCK name) which includes the energy absorber.

Safety harness

Wearing a safety harness is mandatory for workers exposed to a fall of more than three (3) meters (9.8 feet) from his working position.

The safety harness is used with an energy absorber which is connected to a lanyard not allowing a free fall of more than 1.2 meters (3.9 feet) or a retractable lifeline (also known as SALA BLOCK name) which includes the energy absorber.

All persons required to use Fall Arrest Equipment – must have training in good standing.

Only harnesses classified class A (according to CSA-Z259.10) with straps for shoulders and thighs are used on the site.

Warning: *It is strictly forbidden for a worker to reuse a safety harness and energy absorber which was used in a fall. It is the responsibility of the worker involved in the fall to discard the equipment and send it to garbage.*

Energy absorber:

The shock absorber is actually a breaking device which must always be part of a safety harness, and this, in order to absorb the shock that the employee would have in cases of a free fall.

We have (2) types of dampers. The conventional damper comprising a pouch containing various types of energy absorbers and terminal loops and the lanyard shock absorber provided with an outer envelope longer than the inner part.

Lanyard:

We use two (2) types of lanyards made of synthetic fiber with or without shock absorbers built.

The lanyard without damper is always accompanied by a miner's belt and can be used as equipment used to arrest a fall. The lanyard with integrated shock is always accompanied by a safety harness and shall not permit a free fall of over 1.2 meters.

Furthermore, all lanyards shall be provided with a hook with a safety self-latching latch.

Anchor points:

The attachment point for the lanyard to a safety harness or safety belt shall be:

- Anchored to an element having a rupture capacity of a least 18 kilo Newton (4046.6 pounds);
- Attached to an approved slide line;
- Attached to a system of horizontal lifeline and anchorage, designed an certified by an engineer, certificate available on the mine site

Inspection before use of anchorage systems fall arrest is essential for the safety of the worker.

Every anchor point that was involved in a fall arrest must be re-checked and certified by an engineer.

Horizontal lifeline:

The horizontal cable is a steel cable with a diameter of 12 mm released at an angle less than 5 degrees from the horizontal and the distance between anchors points shall not be greater than 12 meters. The anchors points of a horizontal lifeline shall have a rupture capacity of a minimum 90 kilo Newton (20,000 lbs.) and cannot be used by more than two (2) workers simultaneously. The cable clamps must be tensioned using a torque wrench as specified by the manufacturer.

Any lifeline involved in a fall must be changed or re-certified by an engineer.

5.4.10.3 Training on Fall Protection

Training sessions and information are conducted periodically by training department with the collaboration of the health and safety department. The objective of this training is to train and inform about collective and personal protection in place to protect the health and safety of workers working at heights.

Workers participating to this training are documented stating the type of training, names of participants, name of contact person and the duration of the meeting. Monitoring of these meetings is to periodically respond to demands for improvement from participants. This monitoring is the responsibility of the training department.

5.4.10.4 Revision

The fall protection program is revised as required by the Health and Safety department in collaboration with all departments.

Requests for amendments, additions and revisions should be made to the Health and safety Department.

5.4.10.5 Site Management

Good housekeeping can eliminate some hazard related to the workplace and minimize the tripping hazards. In fact, if we tolerate the presence of debris and spills, it becomes easy to overlook serious risks.

In addition to basic cleanliness, good housekeeping requires that work areas are clean of debris and that the floors and hallways do not pose a risk of slipping or tripping. We must include demarcation areas, demarcation of travel ways and pedestrian crossings. The lack of storage space could be critical to maintain good housekeeping. Good housekeeping of the premises must be maintained all the time.

To achieve this, Agnico-Eagle Mines– Meadowbank division will have the resources to improve and maintain housekeeping on its site, and this, through the Supervision Formula and the work card. Furthermore, planned inspections under the theme "Hazard and Housekeeping" occur systematically in each department and this on an ongoing basis.

Waste Disposal:

The waste must be collected regularly to ensure good housekeeping of the site and to facilitate the recycling program in the waste management program. Leaving waste materials accumulate, becomes a waste of time and energy because we must go back and take the time to do the cleaning. In order to encourage and facilitate the removal of debris, containers are placed near the working areas. All waste containers are clearly identified (ex. glass, plastic, metal, etc.). To ensure compliance to this element, the environment department makes regular inspections, writes reports to the department that was inspected and makes a follow-up for the corrective actions.

5.4.11 Management of Sulphur Dioxide (SO2)

5.4.11.1 Means of Control

Preventive maintenance
In order to minimize the risk of dispersion of SO2 in the environment in the workplace, facilities are thoroughly inspected and all employees assigned to maintenance of the system receive specific training.

Several stationary SO2 gas monitors are strategically placed throughout the process plant and SO2 Plant to ensure everyone's safety.

Personal Protective Equipment
In accordance with the respiratory protection program for the selection, testing, maintenance and inspection of respirators, the following provisions apply in the presence of sulfur dioxide gas:

Sulphur dioxide in the AIR	Types of respirators	Comments
0-2 ppm	*No protection needed.*	*Concentration is lower than the prescribed threshold limit for 8 hours*
2 –20 ppm	*A cartridge half mask with sulphur dioxide filters*	

20-100 ppm	*Full-face mask with sulphur dioxide cartridge.*	*Eye irritation at 20 ppm and over*
100 ppm et plus	*A self-contained breathing apparatus*	
Emergency entrance with unknown values	*A self-contained breathing apparatus.*	

5.4.11.2 Training Information

Each year, a reminder is provided to all workers and supervisors who may perform work in the presence of sulfur dioxide.

5.4.12 Cyanide Management

In case of leakage, it evaporates rapidly producing a toxic gas lighter than air, hydrogen cyanide (HCN), a colorless gas smelling of bitter almonds.

5.4.12.1 Means of Control

Preventive maintenance

To minimize the risk of spreading the cyanide into the environment and in the workplace, facilities are thoroughly inspected and all employees assigned to maintenance of the system receive specific training.

Personal Protective Equipment

As explained in the respiratory protection program for the selection, testing, maintenance and inspection of respirators, the following provisions apply in the presence of cyanide

HCN Concentration in the air	Type of respirators	Comments
0-10 ppm	*Do not need a respirator.*	*Concentration is lower than the permissible maximum for 8 hours*
10 ppm et plus	*SCBA needs a self-contained breathing apparatus*	*Maximum value permissible for 8 hours*
Emergency entrance with unknown values	*Must enter with a self-contained breathing apparatus*	

HCN detection and alarms:

Gas sensors positioned at strategic locations to ensure plant reliability. These are calibrated periodically with standard gases of known concentration and the results of these calibrations are recorded in the register provided for that purpose and kept at the mill.

5.4.12.2 Training

All persons working with Sodium Cyanide must have received the mandatory Cyanide Awareness Training. This training will cover such topics as: what PPE is required, how to use and manipulate sodium cyanide totes, first aid procedures in the event of exposure, proper hygiene and cleaning practices that should be followed to prevent exposure etc.

Each year, a refresher course is given to all workers and supervisors that may have to work on the cyanide system. They must be able to easily recognize the warning signals and be fully aware of procedures to follow in case of alarms. They must also know the emergency plan and have conducted drills with their crew.

Under WHMIS, workers, supervisors and guardians officers are also informed about the use of cyanide (and hydrogen cyanide) and first aid measures in case of overexposure.

Finally, employers and workers concerned are trained for respiratory protection.

5.4.12.3 Dealing with Ammonia

Ammonia is a by-product gas produced by the Electro winning of Gold in the carbon stripping process in the Plant. There are stationary Ammonia gas monitors strategically located in the process plant to ensure everyone's safety.

Stationary gas monitors are in place for all gases that may be produced in the process plant. The control room operator monitors the gas readings on a 24/7 basis. If there is a release of gas in any area of the process plant, the gas monitor will alarm and the control room operator will proceed with the safe procedures for evacuating the mill and/or have the area checked out by competent trained persons.

Proper PPE such as SCBA's, portable gas monitors are provided for trained persons to do so.

5.4.13 WHMIS Review and Training

5.4.13.1 WHMIS 2015 training

All new employees and contractors will receive Workplace Hazardous Materials Information System (WHMIS 2015) training during their induction at Meadowbank site.

WHMIS 2015 training is mandatory for all employees and contractors no matter if the employee and contractor have received it in the past.

Refresher training is available on a yearly basis in the form of a safety meeting huddle and/or as requested.

5.4.13.2 SDS sheets

A "product review form" is used for all new products coming to site. This form is filled out by the Department requesting the new product.

The SDS sheet is then attached to the "product review form" and is sent to Health and Safety Department.

The "product review form" and SDS sheets are reviewed and signed off by:

- Health and Safety Department
- Environmental Department
- JOHS Committee Representative, and
- Purchasing Department

Once the "product review form" and SDS has been reviewed and signed by all concerned, the SDS sheet is then entered into the Maetrix Electronic Binder Online service by the Health and Safety Department?. From this point on, the SDS Online service is responsible in ensuring that the most up to date SDS sheets for products are kept on file.

This is the icon that is on all AEM computers which when used will access all of our SDS sheets.

Hard copies of SDS sheets are kept on file in the clinic (First Aid room) and the Warehouse.

5.4.14 Induction to Site

5.4.14.1 Emergency Measures Induction

All new employees, contractors, and visitors arriving at site for the first time receive an Emergency Measures Induction. This induction occurs on the same day as the persons arrive @ 5:00 p.m. and is delivered by a Health and Safety Department Representative.

Topics covered during the Emergency Measures Induction:

- Fire Alarm and Evacuation Route
- Muster Stations and how to access – physically shown locations
- How to initiate a "Code 1" Emergency on radio and/or telephone
- What to do if you get injured – how to access Medical help (location of clinic)
- Wearing of slippers to keep camp clean
- Kitchen/cafeteria hours
- Confectionary store – access and hours
- Mandatory Induction Training to site (Saturdays and Sundays)
- Agnico-Eagle Mines – Meadowbank Division – Emergency Response Capabilities
- How to access Security on site – (lost keys etc.)
- Working language @ Meadowbank is English
- Blasting in Open Pit mine – Noise and shaking – Blasting info etc.
- Noise and Respect for neighbors in Camp dorm room and wings
- Smoking Policy – where smoking is permitted – legislation

- Dry camp – No drugs or alcohol permitted on site
- Food and wildlife issues – no food outside and in domestic garbage
- Safety items such as using Man doors and not large garage doors to access buildings
- Danger / Caution Tape rules and respect for such
- Tagging in or signing in to access the Mill – Mill Evacuation procedures
- Respirator mandatory use in Mill, Crusher Buildings, Some areas of Assay Lab
- PPE zones and requirements for site
- Recreational walking/running on site
- Use and location of telephone booths
- Wireless Internet services
- Laundry facilities
- Use of gymnasium – physically shown location and equipment
- Review use of Fire Extinguisher
- Luggage – Tags – Check Out Time
- Health Services that are available on site such as sexual health, well-being (The clinic discusses these topics at the end of the induction, where the employees fill their medical forms.)

5.4.14.2 Mandatory Induction Training

The following topics are covered in great detail during the mandatory induction (e-learning) here @ Meadowbank. All employees, contractors (who will be at site for longer than 15 days) will receive this training prior to arriving at the site.
General Induction – (includes the following: Human Resources, Camp, Security, Environment, Health and Safety, Clinic – Health Care Providers) Each of these groups give an overview of what persons can expect from them, rules to follow, expectations etc.)

- Fire Extinguisher safety and use
- Workplace Hazardous Materials Information System – WHMIS
- SOP Surface – Driving anywhere on surface but not in the Pit or Mine
- Stairs and Ladder Safety
- Job Hazard Analysis
- Work Card (as per Supervision Formula philosophy)

5.4.14.3 Other Training provided

The following training is provided by our Training Department on an on-going basis and/or upon request. This list is not all inclusive but rather a general breakdown on some of the more common type of training that occurs at our site.

- SOP Mine – Driving in Pit and/or Mine – a person requires SOP Surface before he/she is eligible to be trained in SOP Mine.
- Aerial Work Platform
- Backhoe Operation
- Forklift Operation
- Telehandler Operation
- Over Head Crane Operation
- Lock Out / Tag Out Safety
- Fall Protection

- Confined Space
- Skid Steer
- Respiratory Protection
- Standard First aid – CPR – Oxygen Therapy
- Mill Induction

5.4.15 Emergency Response Program

5.4.15.1 Selection of Candidates

Person(s) wanting to become part of Meadowbank's Emergency Response Team may do so by filling out the application form and submitting it to the Health and Safety Department. Person(s) with previous experience in Emergency Response, Mine Rescue, Fire Fighting, Ambulance, First Aid, etc. are encouraged to apply.

5.4.15.2 Medical Evaluation

All person(s) wanting to be an active member of the Emergency Response Team must undergo and pass a Medical Evaluation. This medical is conducted by our Health Care Providers and results are sent down to our Medical Director who will review and advise accordingly.

5.4.15.3 Basic Mine Rescue Training

All person(s) who have completed and passed their medical evaluation will receive Basic Mine Rescue training. Training is of 40 hour duration and involves:

- Introduction: Principles, Requirements and Certification
- Mine Rescue Operations: Emotional Stress, Personal Safety and PPE, Team Procedures
- Mine Gases: Recognition, Effects and Treatment, TLV's, Hazards, Gases and Chart
- Gas Detection and Equipment: Introduction, Gas detection pumps and tubes, Electronic Devices
- Oxygen Therapy: When, The oxygen unit, Safe Practices, Storage and Handling
- Electrical Safety: Basic Facts and Hazards, Potential Injuries, Safe Approach and Lock Out / Tag Out
- Rescue Rigging: Introduction, Webbing and Rope, Equipment, Knots.
- Fire: Safety, Ignition Temperatures, Combustion, Fire Phases, Ventilation, Fire Habits, Fire Extinguisher. Fire-Fighting and PPE
- Respiratory Protective Equipment: Introduction, Hazards, SCBA, Donning, Doffing
- Rescue Rigging: Harnesses, Lowering, Anchoring, Packaging Systems and Shallow, Slope Rescue
- Special Hazards of Winter Conditions.
- Rescue Operations: Tools, Airbags, Winching, Vehicles, Buildings and Cave Ins
- Scene Assessment and Incident Command: ICS, Activation, Team, Classifications, Scene / Hazard Size Up / Zones
- Team Practical: Fire Drill Exercise, Equipment Donning, Searching
- Team Practical: Rescue Rigging, Repelling
- Final Evaluation and Written Exam

Upon successful completion of the Mine Rescue course – the individual will receive a Certificate from WSCC.

At the present time, we have three qualified Mine Rescue Instructors at site.

5.4.16 Critical Procedures

5.4.16.1 The Critical Procedures

- The Fundamental Critical Procedure
- Fit For Work
- Lifting and Mechanical Handling
- Working at Heights
- Permit to Work
- Energy and Machinery Isolation
- Confined Spaces
- Water Bodies and Liquid Storage
- Chemicals and Hazardous Substances
- Surface Mining
- Mobile Equipment and Light Vehicle
- Equipment Guarding

The Critical Procedures are designed to explain how we the Meadowbank Division will operate safely while conducting tasks associated with these rules.

Each Critical Procedure will have policies, procedures, standards and training associated with them, which helps our workforce to safely conduct work related to the rule.

5.4.17 Environmental Spills / Wildlife

5.4.17.1 How to Handle Spills

Any person noticing or causing a spill shall:

1. Stop the activity causing the spill
2. Contain (avoid spreading)
3. Decontaminate
4. Segregate – soil/snow – use pads, or booms
5. If larger than 100 liters – Call the Environmental Dept.: ext. 6747, 6728, or Radio channel 9.
6. Complete an Environmental Spill Report and give to Environment Department

5.4.17.2 How to Handle Wildlife

1. Make no sudden moves
2. Find a Safe shelter
3. Call Environmental or Security Department – Environmental (6747, 6728 or Radio channel 9), (Security 6748, 6817 or channel 9)
4. Do not provoke animals
5. Do not feed animals
6. Do not liter

7. Properly dispose of your food waste
8. Beware of animals while driving
9. Report all animal sightings – date, time, specific area, number of animals etc.

6. Review of Health & Safety Plan

On a yearly basis, the Health and Safety Department will produce a Health and Safety report. The purpose of this report and analysis is, among others, to reveal a tendency on the type of accidents that occur most often and to reveal the root causes behind these events, and this, in order to establish action plans for the coming months.

The results are presented to the Joint Occupational Health and Safety committee and the management team to assist them in their future goals. It must contain the following aspects:

Health Section:

- number of injuries and incidents;
- frequency of events
- severity of events;
- part of the body injured:
- type of injury;
- nature of injury;

Safety Section:

- root causes behind the events;
- main immediate causes behind the events;
- equipment involved in the events;
- time of day when events occur;
- sequence of work where events occur;
- trade affected;
- seniority workers to the task when an event occurs;
- event involving a fire hazard;
- comparison to previous years;

To be reviewed by Management and the OHSC on yearly basis.

Pre-inspection Report – Transport Canada

OHF Inspection:

For your information this is an inspection to ensure compliance with the following Act, Regulations, Standards and Guidelines:

Canada Shipping Act, 2001 (CSA 2001) as well as applicable regulations, standards and guidelines.

Applicable Regulations, Standards and Guidelines:

- *Response Organizations and Oil Handling Facilities Regulations*
- *Environmental Response Arrangement Regulations*
- *Vessel Pollution and Dangerous Chemicals Regulations* (Part 2- Subdivision 5; Part 3 – Pollution Discharge Reporting)
- *Oil Handling Facility Standards* (Transport Canada Publication TP 12402E)
- *Guidelines for Reporting Incidents Involving Dangerous Goods, Harmful Substances and/or Marine Pollutants* (Transport Canada Publication TP 9834E)

The following is a list of items that will be reviewed during the inspection:

1. Up-to-date/New Oil Pollution Prevention Plan (OPPP) and Oil Pollution Emergency Plan (OPEP) or section revisions (on site).
2. If applicable, current arrangement document with a Response Organization (posted/on site).
3. Posted Declaration indicating who is given authority to implement the OPEP (posted/on site).
4. Current pressure test documents for fuel lines as per the *Vessel Pollution and Dangerous Chemicals Regulations*, Part 2, subdivision 5.
5. Current training of employees for pollution response and transfer operations as outlined in your plan.
6. The total number of transfers and tonnage within the previous 12, 24 or 36 months depending on the inspection frequency of the OHF.
7. The maximum size of vessel(s) transferring at the OHF by length, deadweight and beam.
8. Site Safety Plan that provides details of the measures that will be undertaken to protect the health and safety of on-site workers, volunteers and other individuals engaged by the operator of the OHF, in the response to an oil pollution incident. These measures must conform to appropriate federal and provincial regulations.
9. Transfer procedures.
10. Pre-loading/Discharge Plan
    - Current site fuel transfer procedures including communication set-up during transfer
    - Agreed loading plan/Agreed discharge plan/procedures

11. Current exercise documentation that meets the CSA 2001/OHF exercising requirements.

    Examples of four types of exercising requirements are:
    1. Internal alert (4 times a year);
    2. External alert (once a year);
    3. Operational exercise (once a year); and
    4. Tabletop management exercise (once every three years).

12. Current transfer conduits hydrostatic pressure tests (*Vessel Pollution Dangerous Chemical Regulations)*.

13. Catchment area under manifold/flange will be inspected.

14. Pollution response equipment condition, including any vessels identified in the plan for operations during spills. This includes any Memorandum of Understanding (MOU)/Letter of Understanding (LOU) for any vessels or equipment shared or contracted response capability.

15. Lighting at transfer site and in transfer work area must be in compliance with the *Vessel Pollution and Dangerous Chemicals Regulations*.

16. Product recovery storage capacity inspection.