



Nunavut Impact Review Board 2019

Site Visit Report

Meadowbank Gold Project (NIRB File No. 03MN107) and ***Whale Tail Pit Project*** (NIRB File No. 16MN056)

Agnico Eagle Mines Ltd.



October 2019

Full Report Title: 2019 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

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Site visit date: August 22-24, 2019
Last site visit: August 14-16, 2018

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Cover photos:

- 1) Portage pit laydown area at Meadowbank site
- 2) Landscape along the all-weather access road
- 3) Vault pit at Meadowbank site
- 4) Baker Lake marshalling facility
- 5) Meadowbank mine site area (photo from 2017)
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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 post environmental assessment monitoring of a Project in accordance with Part 7 of Article 12 of the *Nunavut Agreement* and s. 135(4) of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14 (*NuPPAA*).

This report provides the findings that resulted from the NIRB's site visits of Agnico Eagle Mines Ltd.'s (Agnico Eagle) Meadowbank Gold Mine Project and of the Whale Tail Pit Project that took place between August 22 and August 24, 2019, as well as a summary of the comment and concerns received from community members during the public information session held on August 21, 2019.

1.1 Objective & Purpose of a Public Information Session

Pursuant to the *Nunavut Agreement*, and the Meadowbank Project Certificate No. 004 and the *NuPPAA* and the Whale Tail Pit Project Certificate No. 008, the NIRB monitoring responsibilities include providing periodic updates regarding its Monitoring Program for the communities most affected by Agnico Eagle Mines Ltd.'s (Agnico Eagle) Meadowbank Gold Mine Project (Meadowbank Project) and Whale Tail Pit Project (Whale Tail). These meetings are also to further ensure ongoing awareness of Project-specific terms and conditions and encourage effective participation throughout the Board's monitoring process for both files.

1.2 Objectives & Purpose of Site Visits

The objective of the NIRB's site visit was to determine whether, and to what extent the land or resource use in question, is being carried out within the predetermined Terms and Conditions as set out in the amended Project Certificate as issued for the Meadowbank Project Certificate (NIRB 2018a), in accordance with Section 12.7.2(b) of the *Nunavut Agreement* and the NIRB's Whale Tail Pit Project Certificate (NIRB 2018b), in accordance with 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 both the Meadowbank Gold Mine and the Whale Tail Pit Projects, 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*.

1.3 Preparations for the Site Visits

In preparation for the site visits, the Monitoring Officer reviewed the following items: the Meadowbank Project Certificate No. 004; the Whale Tail Pit Project Certificate No. 008; previous Site Visit Reports (where relevant); Agnico Eagle's 2018 Meadowbank Gold Mine Annual Report and associated appendices as well as follow-up correspondence relevant to the monitoring of the approved Meadowbank and Whale Tail Projects.

2 PUBLIC INFORMATION MEETINGS

The NIRB hosted an information session which consisted of an evening session at 7:00 pm located at the Baker Lake Community Hall with consecutive translation into Inuktitut.

2.1 Advertisements

The NIRB advertised the meeting through radio, poster, and online through Facebook in Baker Lake both in English and Inuktitut in the month prior to the meeting.

2.2 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)
- The *NuPPAA* (electronic)
- NIRB Public Guide Brochures (in English and Inuktitut)
- Meadowbank Gold Mine Project Certificate No 004 (in English)
- Whale Tail Pit Project Certificate No. 008 (in English)
- Agnico Eagle's Meadowbank Gold Project and Whale Tail Pit Project 2018 Annual Report (electronic)
- Comment Forms (in English and Inuktitut)

Copies of the above listed consultation materials can be obtained from the NIRB's online public registry at www.nirb.ca.

2.3 Summary of the Public Information Session

The NIRB's information session was open to all members of the public with refreshments and snacks provided. All in attendance, including government, industry representatives and media, were asked to sign in and identify the community or organization they represented. The meeting had a recorded attendance of 17 people.

The NIRB gave a PowerPoint presentation that included 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.

Both written and verbal comments were accepted at the meeting as the public was encouraged to ask questions, and verbal comments were recorded by the NIRB staff. These comments were categorized by NIRB staff into the following categories: additional comments, concerns related to the ongoing development of the Meadowbank and Whale Tail Projects. These comments helped the Board identify items that need to be addressed or considered throughout the NIRB's monitoring program for both of the Projects. Also, during the meeting community members had a general

appreciation of the NIRB's process and noted that they appreciated the NIRB's presence within the community to discuss the current projects.

Aquatic Environment and Wildlife

- Question on fish improvement at the Whale Tail site.
- A community member noted that wildlife, wildlife habitat, and aquatic habitat need to be monitored better to understand the potential impacts from the Projects, especially related to the potential impacts from dust effects.
- A community member asked whether wildlife are still being attracted to the site or creating dens under the buildings around site. The member requested further whether Agnico Eagle has mitigation measures in place to prevent this.

Employment

- A community requested clarification on how many employees at both sites and whether the employees are Agnico Eagle employees or contractors.
- Information requested on how long the Amaruq site/property would be open.

3 MINE SITE VISITS

3.1 Overview of the Meadowbank and Whale Tail Site Visits

The 2019 site visits to the Meadowbank and the Whale Tail projects were conducted by the NIRB's Monitoring Officer for the Meadowbank and Whale Tail projects Ms. Erin Reimer and Ms. Sophia Granchinho (NIRB staff). In the morning of August 22, 2019 NIRB staff were met by Mr. Robin Allard, General Supervisor Environment with Agnico Eagle (Agnico Eagle staff), in the Hamlet of Baker Lake and driven first to the ancillary Project infrastructure that included the Baker Lake bulk fuel storage facility and the marshalling area. Mr. Allard then drove to the Meadowbank mine site stopping at several areas along the all-weather access road (AWAR) to view items as outlined in [Table 1](#). Once at the Meadowbank Mine site, NIRB staff continued the tour visiting areas listed in the same table. During the tour, NIRB staff and Mr. Allard discussed the Meadowbank Project in general and specific items related to the Project Certificate.

Table 1: Meadowbank Site Visit Tour

Baker Lake Marshalling Facility	All-weather access road sites	Meadowbank sites
Environmental emergency seacan	Gatehouse at kilometre 5	Assay laboratory
Lower all-terrain vehicle (ATV) trail	Two quarry sites (5 and 22)	Dust and air quality monitoring station near the assay laboratory
Barge area	One of the two (2) snowmachine crossings (kilometre 10)	Incinerator
Laydown area and marshalling facility	Two (2) of the five (5) dust suppressant locations	Waste and hazardous materials storage area
Fuel tank farm	The dust sampling canisters at kilometre 25	Fuel tank storage area

Baker Lake Marshalling Facility	All-weather access road sites	Meadowbank sites
Temporary laydown area for cyanide storage	Bridge at kilometre 23	Groundwater wells
	Exploration camp staging area	Tailings storage facility (south cell and north cell)
		Central and East Dikes
		Vault Pit Area including: - Phaser and BB Phaser Pits, - Waste rock storage facility. - Wally Lake diffuser, - Vault Pit Attenuation Pond,
		Portage Pit E (also known as South Portage Pit)
		Goose Pit Tailings Pit
		Other areas: - North Diversion ditch, - Waste rock facility, - Landfill, - Landfarm remediation site, and - Emulsion plant

On August 23, 2019, NIRB staff were met by Mr. Allard and driven along the 65 kilometre (km) haul-road to the Whale Tail site at the Amaruq property. The haul-road was closed to all traffic except essential traffic due to migrating caribou observed between km 150 and km 175 in groupings of various sizes.

During the drive, the tour stopped at several areas as outlined in [Table 2](#) along the Haul-road, and once at the Whale Tail site the NIRB staff viewed the areas outlined in the same table. During the tour, NIRB and Agnico Eagle staff 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 sites
Quarry 10.5	Whale Tail Camp
Snowmachine crossing (kilometre 12)	Portal to underground exploration
Several bridges	Quarry sites
Dust sampling canisters (km 133, 151, 169)	Mammoth Lake
	Dike between North and South Basin
	Whale Tail Lake North Basin
	Waste Rock Storage Facility
	Nemo Freshwater Intake

On the morning of August 24, 2019, the NIRB staff were again met by Mr. Allard to discuss the observations made during the site visits, and further issues related to environmental compliance. Afterwards, Mr. Allard drove the NIRB staff to the Hamlet of Baker Lake.

3.2 Meadowbank Project Site Visit

3.2.1 Meadowbank Project Overview

The Meadowbank Project involves the construction and operation of an open pit gold mine located in the Kivalliq Region of Nunavut, approximately 70 km north of the Hamlet of Baker Lake on Inuit-owned surface lands. Production at the Meadowbank mine 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 2019), supplemented from stockpiles in 2018 and 2019. In-pit tailings deposition in Goose Pit commenced mid-2019.

The mine site is comprised of a camp, airstrip, associated mining infrastructure and one (1) active open pit, Portage Pit E. Portage Pit E was being mined with the ultimate phase of Portage Pit being depleted by the end of October 2019. Mining has been completed at Goose Pit (April 2015), Phaser Pit (October 2018), Vault Pit (March 2019), and BB Phaser (June 2019) as the ore was depleted.

In addition to the 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 temporary laydown storage area for cyanide, a 60 million litre (ML) fuel tank farm with the fuel tank farm being expanded to 80 ML in 2019, 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 truck 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



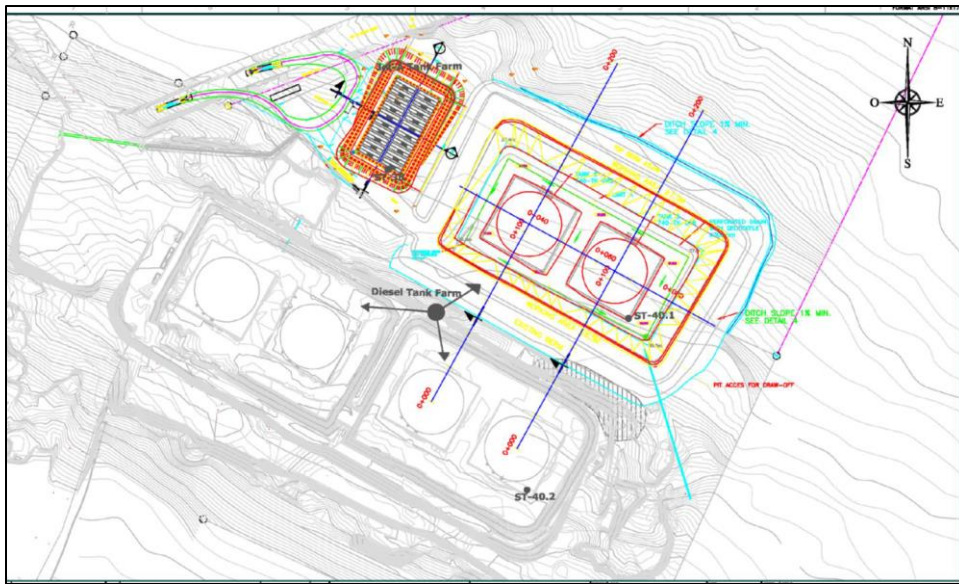


Figure 3: Baker Lake Marshalling Facility (from Agnico Eagle's 2017 Annual Report; Figure 4)

3.2.2 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:

3.2.2.1 Baker Lake Marshalling Facility

The following observations were made at the Baker Lake Marshalling facility:

- a) The environmental emergency seacan at the barge loading facility contained booms, shovels, absorbent pads, and other miscellaneous spill response equipment (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](#) through [Photo 5](#)).
- b) The lower all-terrain vehicle (ATV) trail that goes through the Baker Lake bulk fuel storage facility/marshalling area was accessible to the community members allowing members to travel to their cabins along the shoreline (see [Photo 6](#)).
- c) Arctic hare were observed at the marshalling facility and within the fuel tank storage facility (see [Photo 7](#)).



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



Photo 3: Barge at Baker Lake Facility



Photo 4: Baker Lake Marshalling Facility



Photo 5: Seacans at the Baker Lake Marshalling Facility



Photo 6: Little bridge to ensure access to ATV trail



Photo 7: Arctic hare near the Baker Lake Facility

3.2.2.2 All-weather private access road

The all-weather access road (AWAR) between the Hamlet of Baker Lake and the Meadowbank site consists of the gate-house at km 5; two (2) snowmachine crossings, one (1) near km 10 and the second near km 98 (previously near km 82); dust monitoring stations at km 11, 25, 50, 69 and 80; quarry sites; and environmental emergency seacans at all bridge crossings. The following observations were made along the AWAR:

- a) Several species of wildlife were observed along the AWAR including geese, sand-hill cranes, Arctic hare, Peregrine Falcon, and siksik (ground squirrel). Agnico Eagle staff stated that caribou, muskox, and wolves were observed occasionally along the AWAR.
- b) At the snowmachine crossings, there were no signs of extreme slopes or rocks along the side of the AWAR (see [Photo 8](#)).
- c) While travelling along the AWAR towards Meadowbank on August 22, the road was not extensively used by Baker Lake community members but was extremely busy with haul trucks traveling from and to the Baker Lake facility (see [Photo 9](#)). On the way back to Baker Lake on August 24, the AWAR much of the traffic consisted of community members.



Photo 8: Snowmachine crossing near km 10



Photo 9: Gatehouse near Baker Lake

- d) As in previous years, remediation has been ongoing at Quarry 22 following storage of contaminated hydrocarbon soil in previous years with the soil/gravel still testing positive for hydrocarbons (see [Photo 10](#)). No remediation work was conducted in 2018 and 2019 due to active Peregrine Falcon nests at this quarry, but plans were in place to continue the remediation work in September 2019.



Photo 10: Quarry 22 along the AWAR

- e) During the site visit, NIRB staff noted that dust suppressants were not applied along the AWAR. Agnico Eagle noted that dust suppressants were still being applied along three (3) critical areas at km 10-12, 24-26, and 48-50, as agreed upon with the Baker Lake Hunters and Trappers Organization as well as two (2) additional sites at km 68-70 and 80-84.

3.2.2.3 Meadowbank mine site

The following observations were made at the mine site:

- a) Active drilling was ongoing at Portage Pit (see [Photo 11](#) and [Photo 12](#)), while mining ended earlier in the year at Vault Pit (see [Photo 13](#) and [Photo 14](#)) and at the Phaser and BB Pits (see [Photo 15](#) and [Photo 16](#)). Mining at the Goose Pit had ended in early 2015 and the pit has been allowed to slowly fill in naturally with water (see [Photo 17](#))
- b) As noted last year, an ice sheet was observed on the walls of the Vault Pit (see [Photo 13](#)) and it continues to be there this year.
- c) During the site visit, tailings were being disposed of into Goose Pit (see [Photo 18](#)) as one of the two (2) in-pit tailings facilities at the time of the site visit.



Photo 11: Portage Pit A



Photo 12: Portage Pit E



Photo 13: Vault Pit – looking east



Photo 14: Vault Pit Waste Rock Pile



Photo 15: Phaser Pit



Photo 16: BB Phaser Pit



Photo 17: Goose Pit – looking south

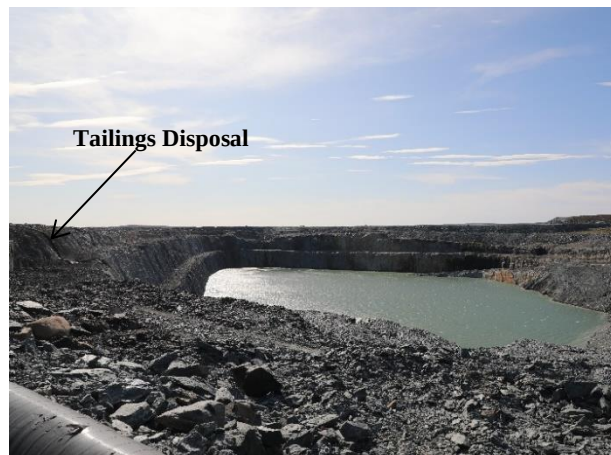


Photo 18: Tailings Disposal at Goose Pit

- d) 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 19](#)). Agnico Eagle staff stated during the site visit that monitoring of the seepage is still ongoing during the open water season and that

accumulated water continues to be pumped directly back to the North Cell tailings storage facility. No seepage was 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 19: Portage Waste Rock Facility Runoff

- e) During the site visit, it was observed that the second landfarm constructed in 2017 continues to operate with the addition of on-site nutrients (sewage sludge) to assist in the biodegradation of contaminated hydrocarbon soils (see [Photo 20](#)). The original landfarm, developed in 2013 and located next to the South Cell Tailings Facility was flooded with tailings deposition in 2017.



Photo 20: Landfarm at Meadowbank Mine Site

- f) As per previous NIRB site visits, and during the 2019 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 21](#)).
- g) Agnico Eagle stated that the landfill is frequently inspected by employees to ward off any wildlife that may be present, to ensure wastes are segregated appropriately, and that wastes designated to the incinerator or metal dump do not end up in the landfill (see [Photo 22](#)).



Photo 21: Seacans used for waste segregation and storage area at Meadowbank Mine Site



Photo 22: Landfill at Meadowbank mine site

- h) In 2019 Agnico Eagle started a composting program located at the incinerator building with the compost materials being disposed of at the landfill (see [Photo 23](#)). The composter was installed to reduce the quantity of waste burned by the incinerator.



Photo 23: Compost program at the incinerator building

- i) During the site visit, a caribou was observed near the Vault Pit area (see [Photo 24](#)), while a young Arctic fox was observed at the Meadowbank site (see [Photo 25](#)).



Photo 24: Caribou observed at the Vault Pit area



Photo 25: Young arctic fox at the mine site

3.2.3 Site Observations based on NIRB's Project Certificate No. 004

The following provides a summary of observations made with respect to the relevant terms and conditions related to Project Certificate No. 004. [Appendix A](#) provides a more detailed summary of pertinent terms and conditions of Project Certificate No. 004 relevant to operations of the Meadowbank Mine Site.

3.2.3.1 Water Quality and Waste Management

Condition 8: Groundwater Wells

During the site visit, five (5) groundwater monitoring wells were operational and were the same wells in operation since 2018: MW-08-02, MW-16-01, MW-IPD-01, MW-IPD-07 (see [Photo 26](#)), and MW-IPD-09. The modifications to the wells appear to be working as the wells have been functional for two (2) years.



Photo 26: Groundwater monitoring well MW-IPD-07

Condition 18: Tailings Management Strategy

During the site visit, NIRB staff observed that reclamation was ongoing at the North Cell of the tailings storage facility and it was noted that reclamation has not commenced at the South Cell. Agnico Eagle staff stated that tailings will continue to be deposited into South Cell until the cell is full (see [Photo 27](#) and [Photo 28](#)).



Photo 27: Tailings Storage Facility – North Cell



Photo 28: Tailings Storage Facility – South Cell

Condition 25: Managing attraction of carnivores and/or raptors to reduce or eliminate attraction at all landfills and waste storage areas

During the site visit, NIRB staff did not observe wildlife deterrents at the landfill or the waste storage areas. In addition, deterrents were not observed at the fuel tank farm at the Baker Lake marshalling facility which has attracted nesting birds in the past. Further, Agnico Eagle staff indicated that Peregrine Falcon nests have been observed at various quarry sites along the AWAR since 2017. One nest has been observed at quarry 22 which has been previously used as a temporary storage area for contaminated hydrocarbon soil. No deterrents have been observed in these areas to deter the falcons from nesting in these areas and Agnico Eagle noted that no plans have been put in place to determine how these areas would be remediated during the closure period especially with these sites currently being used as active raptor nesting sites.

Condition 27: Fuel and hazardous materials storage

Water was observed within the secondary storage containment facilities for the fuel tank farms but there was no visible sheen on the water or discernable hydrocarbon odours at either the Baker Lake or the Meadowbank site fuel facilities (see [Photo 29](#) to [Photo 32](#)). The liner at the Baker Lake Fuel Storage facility was exposed and it was noted by Agnico Eagle staff that this may be due to the amount of rainfall over the summer that washed away the gravel that usually covers the liner. No indication was provided on whether or not the liner would be fixed or covered with gravel.



Photo 29: Baker Lake Fuel Tank Farm Facility



Photo 30: Exposed Liner at the Baker Lake Fuel Tank Farm



Photo 31: Meadowbank Fuel Tank Farm Facility



Photo 32: Aviation Fuel Tank Farm

3.2.3.2 Air Quality

Condition 74: Dust Suppressants

Agnico Eagle staff noted that it 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 as well as two (2) additional sites. Along each of the five (5) sites, Agnico Eagle also continues to conduct dust sampling to assess dustfall rates in the dust suppression locations, as well as long two (2) reference sites without dust suppression (km 18 and 78). No other dust suppressants are applied along the rest of the AWAR. In addition, dust monitoring continues to be conducted along multiple stations along the AWAR (see [Photo 33](#)).

Agnico Eagle staff also stated 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.



Photo 33: Dust Sampling Station along the AWAR

3.2.4 Recommendations and Direction 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. Based on the topics community members discussed at the community consultation, Agnico Eagle must ensure that the potential adverse effects to the terrestrial, marine, and socio-economic environment should be adequately mitigated.

The Monitoring Officer noted the following successes at the Meadowbank facilities:

- The landfarm and hydrocarbon remediation program undertaken in 2013 appeared to have been successful in treating hydrocarbon contaminated soil.
- Groundwater wells appeared to be working and operational since the revisions of the groundwater well program.

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.

Term and Condition 25 requires that the Proponent employ legal deterrents to deter carnivores and/or raptors at all landfill and waste storage areas. During the site visit, Agnico Eagle stated that wildlife (including muskox, caribou, wolves, and birds) had been observed around the site and along the AWAR. Since 2017, raptors (Peregrine Falcon) have nested at various quarry sites along the AWAR including quarry 22 which had been used previously used as temporary storage for contaminated hydrocarbon soil until the landfarm was developed. Plans are in place to remediate this quarry site but have been delayed due to the active Peregrine Falcon nests at this quarry site. Lack of wildlife deterrence at this site and other areas at the Meadowbank site does not fully meet the requirements of Term and Condition 25 of the amended Project Certificate No. 004.

Term and Condition 74 requires that the Proponent employ environmentally protective techniques to suppress any surface dust. To date, this condition has not been met by the Proponent as dust suppressants have not been employed along the whole AWAR. The only dust suppressants that

have been applied to date have been at the mine site, along the access road between the Baker Lake facility and the gatehouse, and along along three (3) critical areas at km 10-12, 24-26, and 48-50, as agreed upon with the Baker Lake Hunters and Trappers Organization as well as two (2) additional sites at km 68-70 and 80-84. Further, the Proponent initiated a dust sampling program along the road in 2012 to monitor dust deposition on vegetation along the road with additional studies conducted in 2016. Results from the ongoing studies viewed during the site visit have been provided in Agnico Eagle's 2018 annual report.

3.3 Whale Tail Pit Project Site Visit

3.3.1 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. In its 2018 Annual Report, Agnico Eagle indicated that production at the Meadowbank mine site to mid-2019 was to bridge the gap between the expected cessation of mining at Meadowbank and the expected start of operations at the Whale Tail Pit in Q3 2019. (Agnico Eagle 2019).

The Whale Tail site is comprised of a camp, associated mining infrastructure, and one (1) open pit, North Basin of the Whale Tail Lake. In August 2019 the main camp was opened but still requires additional accommodations wings to be completed. The haul-road expansion was completed in November 2018; however, additional pullouts are required and a final survey of the road was planned for September 2019.

The dike across the Whale Tail Lake to separate the lake into the North Basin and South Basin was constructed in the summer of 2018 with a fish out completed in August and the dike was completed in March 2019. Dewatering of the North Basin was still ongoing at the time of the site visit.

Mining started at the North Basin in the second quarter of 2019 but at the time of the site visit the mine was not yet in full commercial production. Open pit mining has commenced at the Whale Tail pit and commissioning of the long-haul truck fleet was underway. Ore from the pit is being trucked from the Whale Tail site via an approximately 65 km long private haul-road at a rate of 9,000 to 12,000 tonnes per day to the existing Meadowbank Gold Mine for milling.

For the Whale Tail Pit Project, Agnico Eagle continues to use the existing marine infrastructure located at Baker Lake and the all-weather access road between Baker Lake and the Meadowbank site, which support open-water shipping during the construction phase and annual resupply during operations. [Figure 4](#) provides the location of the Whale Tail Pit Project and the site layout.

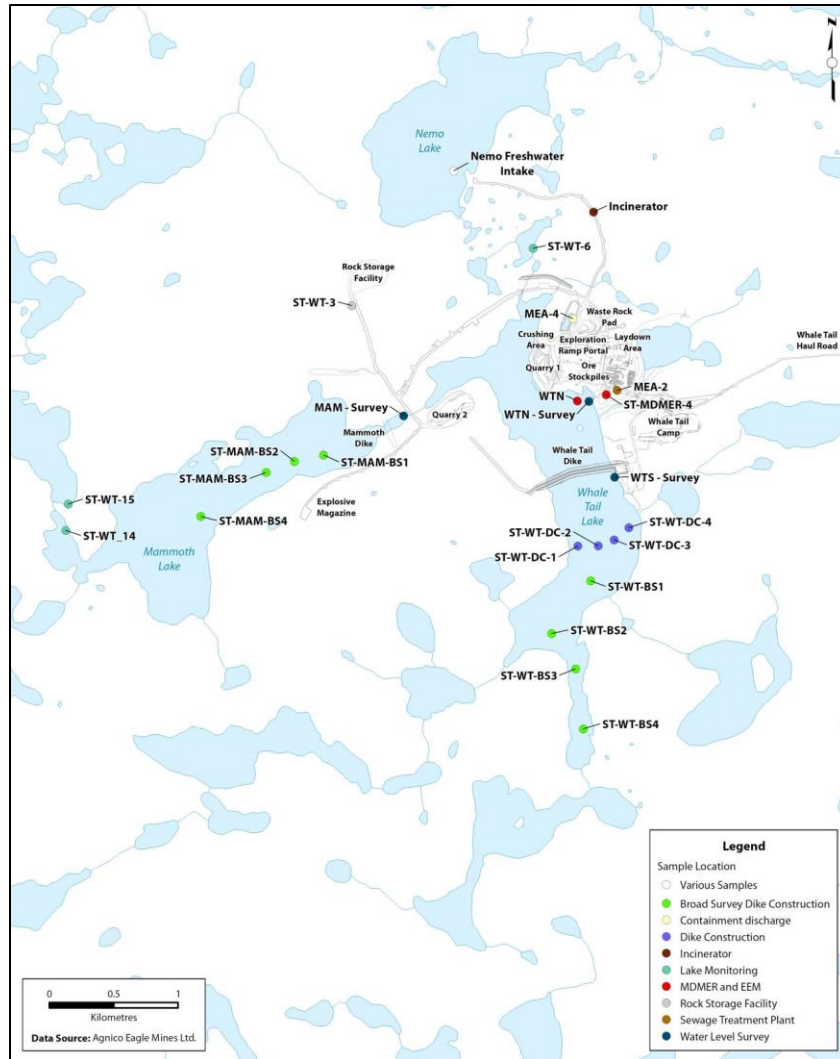


Figure 4: Whale Tail Area (from Agnico Eagle's 2018 Annual Report; Figure 4)

3.3.2 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:

3.3.2.1 Haul-road to the Whale Tail site at the Amaruq property

The Haul-road between Meadowbank Mine Site and Whale Tail site consists of one (1) snowmachine crossing, dust monitoring stations, quarry sites, and environmental emergency equipment at all bridge crossings. The following are general observation noted along the haul-road:

- a) During the site visit, the Haul-road to the Whale Tail site was closed to all traffic (except essential traffic) as caribou were migrating through the area between km 150 and km 175 with the majority of the caribou located on the eastern side of the road. NIRB staff joined

the Environmental Supervisor to conduct the site visit along the Haul-road and at Whale Tail Pit as the Environmental Supervisor needed to conduct monitoring of the caribou along the road (see [Photo 34](#) and [Photo 35](#)).



Photo 34: Caribou herd along the Haul-road



Photo 35: Caribou along the Haul-road

- b) While travelling along the road, a convoy of essential vehicles was travelling from the Whale Tail site to the Meadowbank Mine site. The convoy is always escorted by the Environment Department and it was observed that the convoy consisted of three (3) trucks (Environment Department truck, and two (2) trucks that were being returned to Meadowbank), one (1) bus (containing employees going home for the shift change), and a food truck (see [Photo 36](#)).



Photo 36: View of convoy travelling along the Amaruq Haul-road

- c) In addition to the caribou observed along the Haul-road, several other species of wildlife were observed including geese, sand-hill cranes, and muskox. Agnico Eagle staff stated that caribou, muskox, and wolves were observed occasionally along the Haul-road.
- d) It was noted that environmental emergency seacans with spill kits were not available at all the bridges along the Haul-road to the Whale Tail site (see [Photo 37](#)). In response to questions, Agnico Eagle staff stated that seacans containing booms, shovels, absorbent

pads, and other miscellaneous spill response equipment are anticipated to be located at all the bridges in the coming year.



Photo 37: Spill response equipment not observed at one of the bridges along the Amaruq Haul-road

- e) The one (1) snowmachine crossing is located along the Haul-road near km 127 and there were no signs of extreme slopes or rocks at the crossing (see [Photo 38](#) and [Photo 39](#)).



Photo 38: Snowmachine crossing near km 12



Photo 39: Slope on the other side of the snowmachine crossing near km 12

3.3.2.2 Whale Tail Site

- a) The Whale Tail site was extremely active with drilling occurring at the North Basin and the site moving into full operations (see [Photo 40](#) through [Photo 44](#)).
- b) Exploration activities were also ongoing with haul trucks moving rock and ore from the underground via the portal (see [Photo 45](#) and [Photo 46](#)).



Photo 40: Overview of the Whale Tail Pit Site



Photo 41: View of Whale Tail Pit – North Basin



Photo 42: Nemo Lake Freshwater Intake



Photo 43: Long Haul Truck at Meadowbank Mine Site



Photo 44: View of the North Basin from the Dike Across Whale Tail Lake



Photo 45: Entrance to the underground portal



Photo 46: Haul Trucks

- c) It was noted during the 2019 site visit that Agnico Eagle had started to segregate and store all domestic, hazardous, and combustible wastes in marked seacans prior to these materials being incinerated at the Meadowbank site or shipped to the appropriate and approved off-site disposal facilities (see [Photo 47](#)).



Photo 47: Seacans used for waste segregation and storage area at Whale Tail Site

- d) Water was observed within the secondary storage containment facility for the fuel tank farm at the Whale Tail Pit site but there was no visible sheen on the water or discernable hydrocarbon odours (see [Photo 48](#)).



Photo 48: Whale Tail Pit Fuel Tank Farm Facility

3.3.3 Site Observations based on NIRB's Project Certificate No. 008

The following provides a summary of observations made with respect to the relevant terms and conditions related to Project Certificate No. 008. [Appendix B](#) provides a more detailed summary of pertinent terms and conditions of Project Certificate No. 008 relevant to the construction and operations of the Whale Tail Pit Site.

3.3.3.1 Air Quality

Condition 2: Dust Management and Monitoring Plan

During the site visit, it was noted that dust suppressants were not being applied to the whole AWAR (see [Section 3.2.3.2](#) for further discussion), along the haul-road to the Whale Tail site nor at the Whale Tail site. Agnico Eagle noted that water is the only dust suppressant being used along the Haul-road; however, none was applied due to the heavy rains received. Further, it was observed during the site visit that no dust suppressants were applied at the Whale Tail site including at the North Basin Pit which was later confirmed by the Agnico Eagle staff (see [Photo 41](#), [Photo 49](#) and [Photo 50](#)). The reason for not applying suppressants at the time was due to the heavy rains received in August. Dust monitoring continues to be conducted along multiple stations along the Haul-road which was observed during the site visit (see [Photo 51](#)).



Photo 49: Dust over the North Basin Pit



Photo 50: Dust over the Whale Tail site



Photo 51: Dust Monitoring Station along the Haul-road

3.3.3.2 Thermal Monitoring

Condition 8: Waste rock thermal monitoring and seepage management

During the site visit NIRB staff were informed that thermal monitoring of the waste rock storage facility had not started as the facility is being developed and thermistors have not been installed; however, thermistors have been installed along the dike that separates the North Basin from the South Basin. Seepage management and monitoring is ongoing.

3.3.3.3 Wildlife and Terrestrial

Condition 31: Road Traffic Management

During the site visit it was noted that traffic monitoring logs for traffic along the Haul-road between the Whale Tail Pit site and the Meadowbank mine site are maintained by dispatch. Any vehicle entering and leaving the Haul-road is required to radio in to the operator of the pits.

Condition 32: Safety barriers, berms and crossing with project infrastructure

During the site visit, it was noted that discussions are ongoing with the Baker Lake Hunters and Trappers Organization in the development of the wildlife crossings for the Haul-road, but that there are currently no specific caribou/wildlife crossings in place. In addition, it was observed that the Haul-road has not been sloped specifically to assist wildlife in crossing the road. NIRB staff also witnessed that caribou which attempted to cross the Haul-road from the east to the west side appear to have a difficult time and tended to find more gentle sloped areas along the road before crossing.

3.3.4 Recommendations and Direction of Whale Tail Site Visit

Based on the observations made during this site visit, all Whale Tail Site 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. Based on

the topic's community members discussed at the public information session, Agnico Eagle must ensure that the potential adverse effects to the terrestrial, marine, and socio-economic environment should be adequately mitigated.

The Monitoring Officer noted the following successes at the Whale Tail pit facilities:

- Segregation and storage of all domestic, hazardous, and combustible wastes appear to be conducted appropriately.

Agnico Eagle appears to be in compliance with a majority of the terms and conditions contained within the Whale Tail Pit Project Certificate No. 008; 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 will be looking at the following during the next site visit:

- Ensure sufficient spill response equipment/material are put in place along the Haul-road at each major waterbody crossing.

Additionally, in order to fully meet the requirements of the Project Certificate terms and conditions, and to ensure that potential adverse impacts to the environment are adequately mitigated, the NIRB Monitoring Officer has identified the following issues that require follow-up and corrective action from the Proponent:

Term and Condition 2 requires that the Proponent verify commitments to the utilization of dust suppressants along the AWAR, the Amaruq Haul-road and any other roads and trails associated with the Project. To date, this condition has not been met by the Proponent as dust suppressants have not been employed along the whole AWAR, the Amaruq Haul-road and the Whale Tail Pit site roads.

Term and Condition 32 requires the Proponent to work with 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. During the site visit it was noted that there are currently no specific caribou/wildlife crossings in place along the Haul-road and that the road has not been sloped in such a way to assist wildlife to easily cross the road.

4 CONCLUSION

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 or the Haul-road, or not applied frequently enough.

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Date: October 2, 2019
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Title: Manager, Project Monitoring
Date: October 2, 2019
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NIRB File Nos. 03MN107 & 16MN056

REFERENCES

Agnico Eagle (Agnico Eagle Mines Ltd). 2019. *Meadowbank Gold Project 2018 Annual Report*. Prepared by Agnico Eagle Mines Limited – Meadowbank Division. April 2019.

NIRB (Nunavut Impact Review Board). 2018a. *In the matter of an application by Agnico Eagle Mines Limited for Mine Development of the Meadowbank Gold Mine Project Proposal in the Kivalliq Region of Nunavut, NIRB Project Certificate [No. 004]*. Prepared by the Nunavut Impact Review Board for the Meadowbank Gold Mine Project. Third amendment issued December 21, 2018.

NIRB (Nunavut Impact Review Board). 2018b. *In the matter of an application by Agnico Eagle Mines Limited for the development of the Whale Tail Pit Project in the Kivalliq Region of Nunavut, Project Certificate NIRB [No. 008]*. Prepared by the Nunavut Impact Review Board for the Whale Tail Pit Project. Issued March 15, 2018.

Appendix A: 2019 NIRB Site Visit Observations for Select Terms and Conditions for the Meadowbank Gold Mine Project

T&C No.*	Topic	Site Observation
Water Quality and Waste Management		
8	Groundwater Monitoring	During the site visit all five wells in place were operational.
18	Tailings Management Strategy	a) Thermistors, installed in 2012 to measure freezeback, were still observable during the site visit. b) Tailings have been deposited into the South Cell of the tailings facility since 2016 and have been slowly being winding down in 2019.
Waste Management		
25	Managing attraction of carnivores and/or raptors to reduce or eliminate attraction at all landfills and waste storage areas	No deterrents were noted to be in place at the landfill (no fences or other forms of deterrence observed during the site visit) or at the waste storage areas (including quarry sites used previously as temporary contaminant storage areas) to detract wildlife or raptors from these areas.
26	Site maintained clean of debris	NIRB staff 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.
27	Fuel and hazardous materials storage	NIRB staff noted that fuel and hazardous materials associated with Agnico Eagle's Meadowbank project appeared to be stored in a safe and environmentally protective manner.
All-weather Private Access Road		
32	Amended all-weather access road	a) One (1) manned gate was operational at kilometer 5 recording traffic, including ATVs while a second unmanned gate is located at the entrance of the Meadowbank Mine site. b) 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 from either the mine site or from Baker Lake and the gatehouse keeper maintains a daily log and have public sign Agnico Eagle's <i>All Weather Private Access Road Safety Rules & Procedures for Road Access</i> policy prior to being granted access to the road. c) Road signs 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. d) Observed speed limit signs along the AWAR.
Wildlife and Terrestrial		
56	Maps of caribou	A 2018 caribou migration map showing caribou migration routes was posted on a bulletin board at the main camp (near the door to the gym).

	migration corridors	
59	Deterrence of caribou at the tailings facility	No wildlife tracks were observed on the North or South cells of the tailings facility as noted in previous years.
Noise		
62	Noise	There was no discussion on the noise monitoring program for the 2018/2019 year during the site visit.
Air Quality		
71	Atmospheric monitoring stations	Air and partisol monitoring stations have been in place at two (2) stations around the Meadowbank Mine Site since 2010.
72	On-site Incinerators	The Meadowbank site dual chamber forced air incinerator remains in service for the combustion of all non-hazardous, combustible materials at the site. To reduce the quantity of wastes being burned at the incinerator, a composting program was established in 2019.
74	Dust Suppressants	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 to monitor dust deposition distance from the road. Dust canisters are placed 25, 50, 100, 150, 300, and 1000 metres away from the AWAR.
Other		
81	24-hour security at the Baker Lake Facility	A security office was located at the shore with Agnico Eagle employees on site and areas were kept clean with seacans well organized.

NOTES: *PC = NIRB Project Certificate No. 004, Amendment 003 (December 2018)

Appendix B: 2019 NIRB Site Visit Observations for Select Terms and Conditions for the Whale Tail Pit Project

T&C No.*	Topic	Site Observation
Air Quality		
1	Active and Passive Monitoring of Dustfall	Active and passive monitoring of dustfall for criteria air contaminant concentrations is ongoing at the Whale Tail site.
2	Dust suppression on roads	Dust monitoring along the Haul-road commenced in the summer of 2018 with monitoring stations located at km 133, 151, 169. 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.
Noise and Vibration		
5	Noise Monitoring Stations	Noise monitoring stations were installed in 2018 and operational
Geological Features, Soils and Permafrost		
10	Site-specific Permafrost Monitoring, Mapping and Thermal Analysis	No additional permafrost monitoring or thermal analysis have been conducted by the Proponent.
Hydrogeology and Groundwater Quantity and Quality		
15	Groundwater Monitoring Plan	At the time of the site visit, no information was available on whether any additional site-specific hydraulic data were collected; however, Agnico Eagle staff stated that the monitoring wells were installed.
Surface Water Hydrology, Surface Water Quality and Sediment Quality		
23	Trophic status of the Mammoth Lake and downstream environments	No additional studies have been conducted to support the conclusions that change in the trophic status in Mammoth Lake would not impact fish productivity.
Vegetation		
25	Invasive Species	Agnico Eagle noted that the protocol to ensure that vehicles are not bringing in any invasive species to site is to inspect all vehicles prior to receiving at the barge in Quebec. Further, a consultant has been hired to train staff from the environment department in the identification of potential invasive species around the site.
Terrestrial Wildlife		
31	Road Traffic Management	Caribou and muskox were observed along the haul-road with the haul-road only open to essential traffic due to caribou migration at time of site visit.
36	Raptor Mitigation Measures	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. With the exception of the raptor nests identified at the

		quarry sites along the all-weather access road, Agnico Eagle noted that no additional raptor nests were identified at any of the Whale Tail facilities and no raptor deterrence was conducted for the 2018 year.
Human Health		
63	Methylmercury concentrations	In response to NIRB staff questions, Agnico Eagle stated that that methylmercury studies were conducted on site and are still ongoing.

NOTES: *PC = NIRB Project Certificate No. 008 (March 2018)