



MELIADINE GOLD MINE PROJECT

2020 Annual Report

Prepared for:

Nunavut Water Board
Nunavut Impact Review Board
Fisheries and Oceans Canada
Crown-Indigenous Relations and Northern Affairs Canada
Kivalliq Inuit Association

Prepared by:

Agnico Eagle Mines Limited – Meliadine Division

March 2021

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ABBREVIATIONS

AEMP	Aquatic Ecosystem Monitoring Program
AP	Acid Potential
ARD	Acid Rock Drainage
AWAR	All Weather Access Road
CCME	Canadian Council of Ministers of the Environment
CIRNAC	Crown-Indigenous Relations and Northern Affairs Canada
COQ	Certificate of Qualification
CP	Containment Pond (or Control Pond or Collection Pond)
DFO	Department of Fisheries and Oceans Canada
ECCC	Environment and Climate Changes Canada
EEM	Environmental Effect Monitoring
E&I	Energy & Infrastructure
EoMZ	Edge of Mixing Zone
ERT	Emergency Response Team
FEIS	Final Environmental Impact Statement
GN	Government of Nunavut
GTC	Ground Temperature Cable
HVAC	Heating-Ventilation and Air-Conditioning
IIBA	Meliadine Inuit Impact and Benefit Agreement
IOL	Inuit Owned Land
KHTO	Kangiqliniq Hunter Trapping Organization
KivIA	Kivalliq Inuit Association
Km	Kilometres
KvSEMC	Kivalliq Socio-Economic Monitoring Committee
LMS	Learning Management System
LOM	Life of Mine
LSA	Local Study Area
MDL	Method Detection Limit
MDMER	Metal and Diamond Mining Effluent Regulations
ML	Metal Leaching
MMSO	Marine Mammal and Observation
MSB	Multi-Service Building
NIRB	Nunavut Impact Review Board
NP	Neutralization Potential
NPAG	Non-Potentially Acid Generating
NPC	Nunavut Planning Commission
NPR	Neutralization Potential Ratio
NRCAN	Natural Resources Canada
NWB	Nunavut Water Board
OMS	Operation, Maintenance and Surveillance
OP	Ore Pad
PAG	Potentially Acid Generating
PPV	Peak Particle Velocity
QAQC	Quality Assurance Quality Control
RO	Reverse Osmosis

SEMC	Socio-Economic Monitoring Committee
SEMP	Socio-Economic Monitoring Program
SEMR	Socio-Economic Monitoring Report
SEMWG	Socio-Economic Monitoring Working Group
SP	Saline Pond
SSWQO	Site-Specific Water Quality Objectives
STP	Sewage Treatment Plant
SWTP	Saline Water Treatment Plant
TARP	Trigger Action Response Plan
TASK	Trades Awareness, Skills and Knowledge
TDS	Total Dissolved Solids
TEMMP	Terrestrial Environment Management and Monitoring Plan
TMS	Training Management System
TSF	Tailings Storage Facility
TSS	Total Suspended Solids
VEC	Valued Ecosystem Component
VSEC	Valued Socio-Economic Component
WQ-MOP	Water Quality Management and Optimization Plan
WRSF	Waste Rock Storage Facility
WTP	Water Treatment Plan

DOCUMENT CONTROL

Version	Date (YMD)	Section	Page	Comment
1	2021/03/31	All	All	This has been reviewed by Environmental Staff and will be incorporated into training for all mine staff on behalf of the Mine Manager and Senior Management

Prepared By: Meliadine Environment Department

Approved By:



Robin Allard
General Supervisor Environment

SECTION 1. INTRODUCTION

As required by water license 2AM-MEL1631 Part B Item 2: *The Licensee shall file an annual report with the Board no later than March 31st in the year following the calendar year being reported. The annual report shall be developed in accordance with Schedule B.*

And

As required by water license 2BB-MEL-1424 Part B Item 6: *The Licensee shall file an Annual Report on the Appurtenant Undertaking with the Board no later than March 31st of the year following the calendar year being reported,*

The Meliadine Gold Mine Project operated by Agnico Eagle Mines Limited - Meliadine Division (Agnico Eagle) is located approximately 25 kilometres (km) north of Rankin Inlet, and 80 km southwest of Chesterfield Inlet in the Kivalliq Region of Nunavut. Situated on the western shore of Hudson's Bay, the Project site is located on a peninsula between the east, south, and west basins of Meliadine Lake (63°1'23.8"N, 92°13'6.42"W), on Inuit Owned Land (IOL). The Project components include the 30 km All Weather Access Road (AWAR) between Rankin Inlet and Meliadine, the Itivia fuel farm and laydown area, and the mine site.

Commercial production began at Meliadine on May 14th 2019.

The various components and activities associated with the Project require a number of different authorizations, leases and permits from regulatory agencies including the Nunavut Water Board (NWB), Kivalliq Inuit Association (KivIA), the Nunavut Impact Review Board (NIRB), Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC); Environment and Climate Change Canada (ECCC), and Department of Fisheries and Oceans Canada (DFO).

This report is written to address all of the 2020 annual reporting requirements of the project under these authorizations:

- NWB Type A Water License 2AM-MEL1631;
- NWB Type B Water License 2BB-MEL1424;
- NIRB Project Certificate No. 6;
- KivIA Permit KVCA07Q08;
- KivIA Permit KVCA11Q01;
- KivIA Production Lease KVPL11D01; and
- The Meliadine Inuit Impact and Benefit Agreement (IIBA).

Reporting requirements for the Metal and Diamond Mining Effluent Regulations (MDMER) have been submitted directly to ECCC; results are presented herein to comply with the NWB Type A Water License.

Several appendices complement this report. Following recommendations Agnico Eagle received on the 2019 Meliadine Gold Mine Project Annual Report, a summary table of the 2020 Annual Report Appendices is provided in Appendix 1.

SECTION 2. SUMMARY OF ACTIVITIES

2.1 2020 ACTIVITIES

2.1.1 Exploration activities

As required by water license 2BB-MEL-1424 Part B Item 6i: *A summary of drilling/trenching activities and progressive reclamation of drill/trench sites;*

No trenches were dug in 2020 under this water licence and a total of 638 holes were drilled. Amongst these, 608 were located inside the production lease KVPL11D01 and were conducted under NWB Water License 2BB-MEL-1424. The drill site locations are located in Appendix 2.

The contractor for the drilling was Sarliaq Orbit Garant and drilling was conducted using diamond drills between January to November 2020. Activities included both on ice and on land drilling. Drill sites reclamation included the removal of remaining material and drill casings at each site once drilling was completed. Casings were cut at ground level when they could not be removed.

2.1.2 Construction activities

2020 Construction activities are summarized in Table 11 below:

Table 1. Status the construction, undertaken in 2020

Activity	Status as of Dec 31, 2020
Construction of Pond CP6 and Berm CP6	Completed in 2020
Construction of SP4	Completed in 2020
Construction of Freshwater Treatment Plant Upgrade	Completed in 2020
Installation of Culverts # 6 and #21	Completed in 2020
Expansion of camp (P wing and wings 12, 13, 14)	Completed in 2020

2.1.3 Mining Activities

The Meliadine Gold Mine began commercial gold production on May 14th 2019.

In 2020, the Meliadine Gold Mine began mining activities at Tiriganiaq open pit #2 on May 20th 2020, and continued commercial gold production from the underground operation.

In 2020, a total of 1,354,831 tonnes of overburden waste and of 3,395,398 of waste rock were excavated from the Tiriganiaq open pit #2. A total of 109,392 tonnes of ore was mined from the pit.

From the underground operation, a total of 316,982 tonnes of underground waste was trucked to surface, and a total of 1,293,507 tonnes of ore was mined and trucked to surface.

The following Figure 1 shows the Meliadine site.

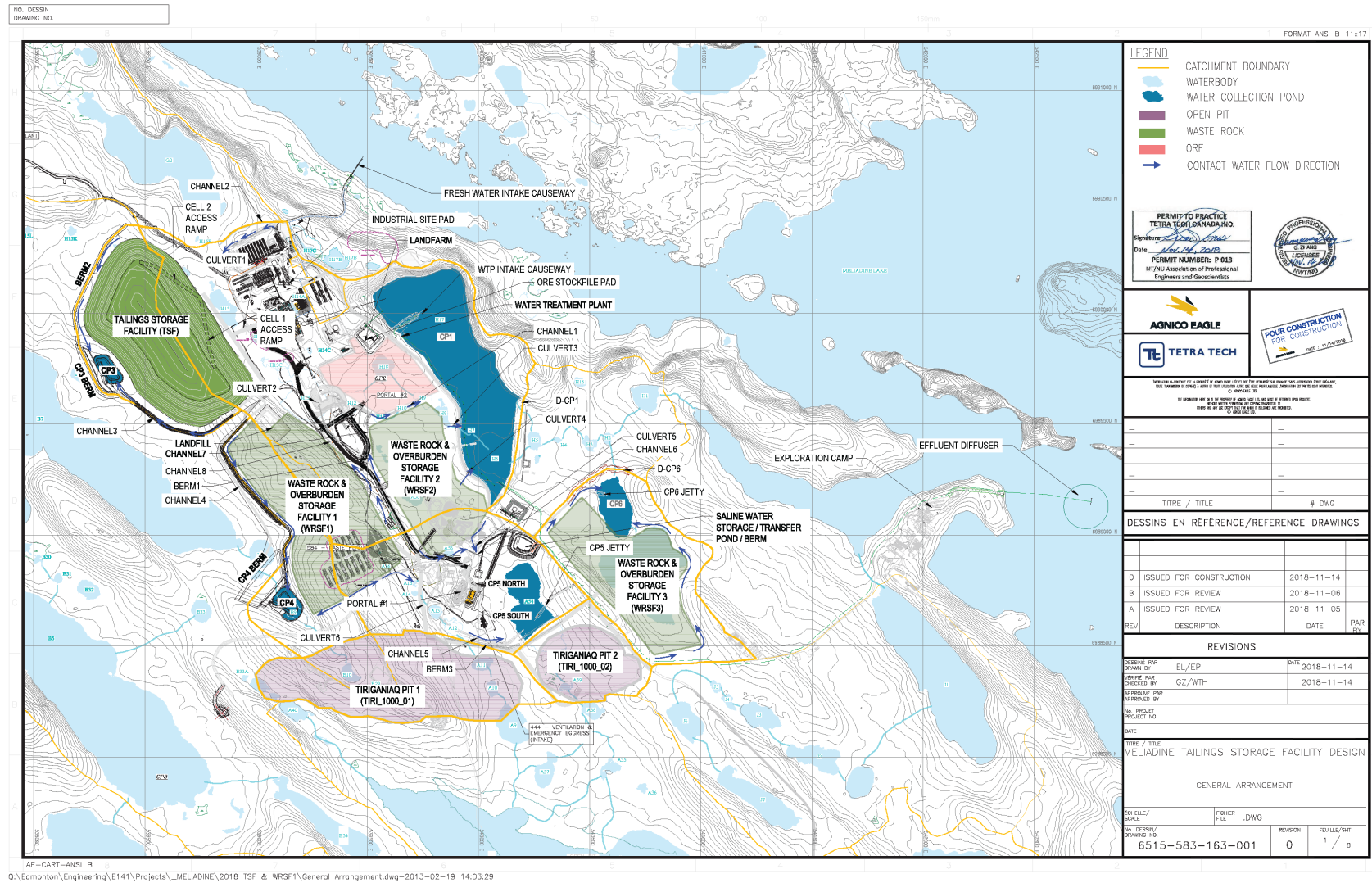


Figure 1. Meliadine Site

2.2 2021 MINE WORK PLAN

The 2021 Mine Plan for the Meliadine Gold Project, prepared for the KivIA as required by Production Lease KVPL11D01 is in Appendix 3 and outlines the activities planned for the project throughout the 2021 year.

In 2021, Agnico's mining plan is to continue to operate Tiriganiaq underground mine and Tiriganiaq open pit#2, and to begin operation of Tiriganiaq open pit#1 at the Meliadine mine site.

A total of 2,172,703 tonnes of rock will be extracted from underground in 2021. The mine plan consists of hauling 421,484 tonnes of waste rock, 79,007 tonnes of marginal and 1,340,934 tonnes of high grade ore to surface. Furthermore, 592,320 tonnes of paste backfill returned underground, and 331,278 tonnes of waste will remain underground as rockfill, for a total backfill quantity of 923,598 tonnes

From the Tiriganiaq open pits #1 and #2, a total of 6,419,059 tonnes will be extracted over the year.

Waste rock and overburden will be trucked to the waste rock storage facilities (WRSFs) until the end of the mine operation, with distribution according to the operation schedule. In 2021, 1,709,500 tonnes of solid tailings will come from the Mill: 435,000 tonnes of solid tailings will be used as underground cemented backfill and 1,274,500 tonnes will be placed in the dry stack within the Tailings Storage Facility (TSF).

Environmental monitoring (wildlife, aquatic effects, groundwater, noise and air) will continue through 2021 in support of all operational undertakings at the Meliadine site as required by the NWB Type A Water License 2AM-MEL1631, NWB Type B Water License 2BB-MEL1424, NIRB Amended Project Certificate No.006, and MDMER regulations.

In 2021, Agnico Eagle is planning to conduct the following activities under production lease KVPL11D01:

- Completion of the contractor garage;
- Completion of the washbay south of the multi-service building (MSB);
- Completion of the oxygen plant expansion;
- Completion of the water treatment complex;
- Construction of a second contractor garage at portal 1 area;
- Construction of the maintenance shop addition
- Construction of the west side gymnasium, adjacent to the MSB;
- Addition of a second grinding thickener
- Addition of a cement handling facility at the paste plant;
- Construction of CP-2 Pond, thermal berm and associated drainage channels.

A general site print is available in Appendix 4.

2.3 QUARRIES

In 2020, no material was taken from quarries under permit KVCA11Q01. The total amount of material taken to date under this permit is 415,817 m³ and the maximum allowed quantity to be taken is 650,000 m³.

In 2020, no material was taken from quarries under permit KVCA07Q08. The total amount of material taken to date under this permit is 414,188 m³. The maximum allowed quantity is 690,000 m³.

SECTION 3. WATER MANAGEMENT ACTIVITIES

3.1 WATER MOVEMENT

3.1.1 Fresh water obtained from Meliadine Lake

As required by Water Licence 2AM-MEL1631, Schedule B, Item 2: *Monthly and annual volume of fresh Water obtained from Meliadine Lake.*

Monthly and annual volume of fresh Water obtained from Meliadine Lake (MEL-11 and A-8) under Licence type A.

A total of 296,823 m³ of fresh Water was withdrawn from Meliadine Lake in 2020, or approximately 93.3% of the total authorized volume (318,000 m³/year) under the Licence. The monthly distribution of fresh Water use is indicated in Table 2.

Table 2. Volume of Fresh Water, withdrawn from Meliadine Lake and A8 in 2020

	January	February	March	April	May	June	July	August	September	October	November	December	2020 Total
Water withdrawn, m ³	29,561	29,248	32,952	30,396	29,182	35,639	25,379	13,538	6,217	6,830	23,495	34,384	296,823

As required by Water Licence 2BB-MEL1424 Part B, Item 6a: *The Licensee shall obtain the daily, monthly and annual quantities in cubic meters of all freshwater obtained from Meliadine Lake at Monitoring Station MEL-1 and MEL-2;*

Monthly and annual volumes of fresh Water obtained from Meliadine Lake (MEL-1 and MEL-2) under Licence type B.

The monthly distribution and annual water usage volumes from MEL-1 and MEL-2 are summarized in Table 3 below; a total of 17,707 m³ or 16.7% of the total authorized volume (290 m³/day ~ 106,000 m³/year) was consumed in 2020.

Table 3. Monthly and annual quantities of freshwater in m³, obtained from Meliadine Lake at monitoring stations MEL-1 and MEL-2 in 2020

	January	February	March	April	May	June	July	August	September	October	November	December	2020 Total
Water withdrawn, m ³	1,257	1,675	1,332	753	698	1,582	1,776	2,382	2,138	1,676	1,601	837	17,708

3.1.2 Fresh water obtained from Meliadine River.

As required by Water Licence 2AM-MEL1631 Schedule B, Item 4: *Monthly and annual volume of fresh Water obtained from Meliadine River for road dust suppression activities.*

In 2020, no water was obtained from the Meliadine River for road dust suppression activities; instead, water was withdrawn from other permitted locations, including small ponds proximal to the All-Weather Access Road (AWAR).

As required by Water Licence 2AM-MEL1631 Schedule B, Item 3: *Monthly and annual volume of fresh Water transferred to Meliadine Lake as a result of dewatering activities.*

No dewatering activities where water was transferred to Meliadine Lake took place in 2020

3.1.3 Mine Water pumped from underground

As required by Water Licence 2BB-MEL1424 Part B, Item 6b: *The Licensee shall obtain the daily, monthly and annual quantities, in cubic meters, of Mine water pumped from the underground;*

And

As required by Water Licence 2BB-MEL1424 Part B, Item 6j: *Report all artesian flow occurrences*

There was no occurrences of artesian flow in 2020. The monthly and annual volumes of mine water pumped from the underground are summarized in Table 4 below.

Table 4. 2020 Monthly and Annual flow volumes of underground mine water pumped to surface

	January	February	March	April	May	June	July	August	September	October	November	December	2020 Total
Water pumped, m ³	534	2,906	10,393	29,314	16,774	11,628	7,909	5,255	5,446	4,002	3,093	6,233	103,486

3.1.4 Effluent discharged from CP-1 to Meliadine Lake

The monthly and annual volumes of effluent discharged from CP1 to Meliadine Lake over 2020 are summarized in Table 5 below.

Table 5. 2020 Monthly and Annual volumes of water discharged from CP-1 to Meliadine Lake

	January	February	March	April	May	June	July	August	September	October	November	December	2020 Total
Water pumped, m ³	-	-	-	-	-	352,954	366,094	83,455	214,846	13,829	-	-	1,031,178

3.1.5 Saline Effluent Discharged to Marine Environment at Melvin Bay

The monthly and annual volumes of saline effluent discharged to sea over 2020 are summarized in below Table 6.

Table 6. 2020 Monthly and Annual volumes of water discharged to sea

	January	February	March	April	May	June	July	August	September	October	November	December	2020 Total
Water pumped, m ³	-	-	-	-	-	-	-	16,477	8,565	5,275	-	-	30,217

3.2 WATER BALANCE WATER QUALITY MODEL REPORTING SUMMARY

As required by Water License 2AM-MEL1631 Schedule B, Item 5: *Summary of reporting results for the Water Balance and Water Quality model as required in Part E Items 11-12.*

Water Balance and Water Quality models were updated to support the August 2020 Water Licence Amendment and to satisfy the Schedule B, Item 5 requirement of the Water Licence (2AM-MEL1631).

A monthly water balance was conducted for the period of 2019 to 2028 under mean climate precipitation years. Facilities considered in the water balance include CP1, CP3, CP4, CP5, CP6, Tiriganiaq Pit 1 and Tiriganiaq Pit 2 open pits, TSF, WRSFs, Ore Pad 2 (OP2), Landfarm, Landfill, and Treatment Plants. Section 3.2.1 describes the water balance design and assumptions used in the modeling process. This

water balance and the facilities it covers falls under the surface contact water component of the water management system, which is considered to function independently of the saline water management system at Meliadine, with the exception of Reverse Osmosis (RO) Plant operation (brine by-product reports to saline water storage whilst treated, desalinated permeate reports to surface contact runoff storage). Thus, a separate monthly saline water balance was conducted for the period of 2021 to 2028 and is described in section 3.2.3. The model also applies mean climate precipitation years, and is comprised of Saline Ponds (SP) SP1, SP4, and Tiriganiaq Pit 2 saline water storage facilities. Further information regarding saline storage ponds and the application of Tiriganiaq Pit 2 as a saline storage pond can be found in the Groundwater Management Plan. Although the saline water balance is independent of the contact runoff water balance, it utilizes the same methodology and similar catchment runoff parameters.

A water quality modelling component was assigned to each of the aforementioned water balance models and is discussed in section 3.2.2 and section 3.2.4 for the surface runoff and saline water balance models, respectively.

3.2.1 Surface Contact Water Balance Results

The surface contact water balance assumes the following:

- Average precipitation year climate conditions. Greater than mean precipitation years are not applied, but were considered in the surface contact water balance which was submitted in support of the August 2020 2AM-MEL1631 Water Licence Amendment Application (available on the NWB ftp site);
- Snow (less sublimation) accumulates throughout the months of November to May, and thaws in June during the annual spring freshet period;
- The water containment ponds (CP1 to CP6) are not used for long-term storage of water and are emptied before spring freshet each year;
- Non-facility areas are divided into natural, disturbed (low-impact), disturbed (high-impact), and pond surface “land-types” which are each assigned a temporally varying coefficient of runoff;
- Facility areas (i.e. WRSF, Ore stockpiles, TSF, Overburden, and Open Pits) are assigned individual temporally varying coefficients of runoff;
- Open Pit Tiriganiaq Pit 2 is used for saline water storage 2021 and thus effectively removed from the surface contact water model (incorporated into saline water balance, section 3.2.3); and
- Other assumptions outlined in the Water Management Plan.

Runoff inflows are calculated by applying monthly precipitation values to the areas of the non-facility surface types described in the assumptions list above. The resulting impact on CP1 water elevations is presented in Figure 2.

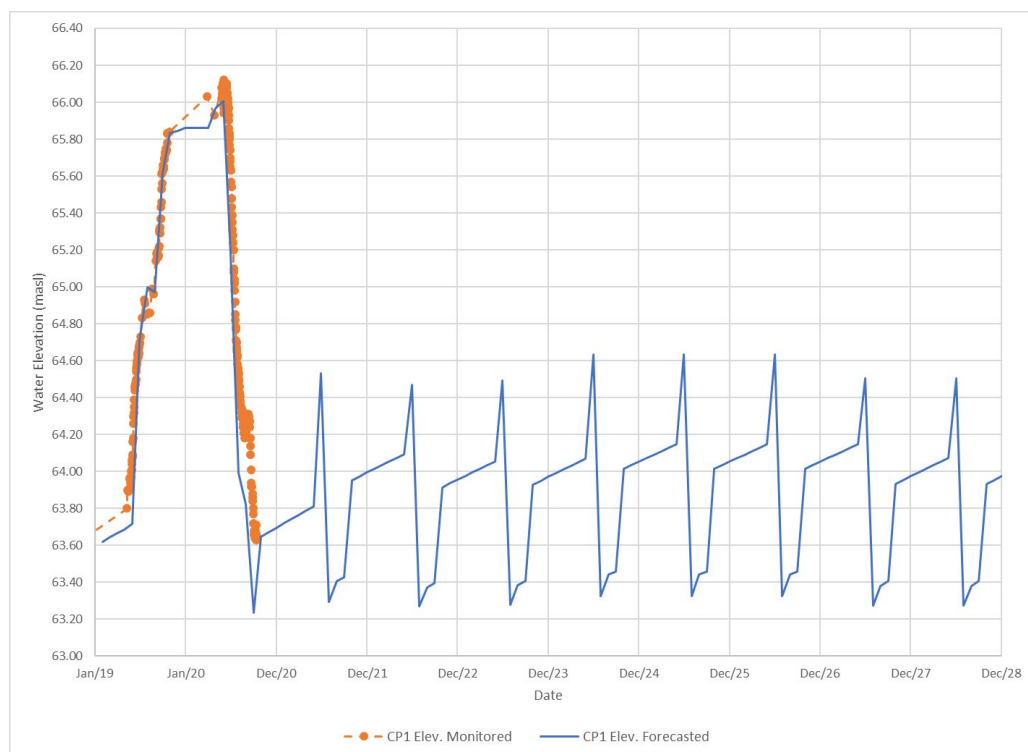


Figure 2. CP1 water elevation forecast. Calibration of the runoff coefficients allowed for alignment of 2020 forecasted water elevations with actual monitoring data.

The model results indicate a cyclical water elevation and volume response in CP1 each year, characterized by a slight increase via winter inflows and a rapid increase during freshet. Water elevations are then drawn down through each discharge season before freeze-up in Q4 of each year. The maximum annual water volume requiring management in CP1 is approximately 633,000 m³. Table 7 presents this metric for other facilities on site captured in the model. Tabular data for the inflows and outflows of each facility are available in Appendix 5.

Table 7. Maximum annual water volumes requiring management under mean precipitation years during mine operation and closure

Facility	Maximum Annual Water Volume (Mm ³)
CP1	0.633
CP2	0.066
CP3	0.109
CP4	0.067
CP5	0.139
CP6	0.030
Water Discharged from EWTP to Meliadine Lake	0.494
WRSF1	0.003
WRSF3	0.011
TSF	0.097
Tiri_1000_01	0.127
Tiri_1000_02 (saline water, includes runoff)	0.374
Landfarm	0.006
Landfill	0.002

3.2.2 Surface Contact Water Quality Model Results

A mass contaminant transport component was applied to the water balance model inflows to generate the water quality model. The process was carried out across two separate iterations (referred to as a lower bound and upper bound models) in which some assumptions varied and differing methods of model calibration were used. More information regarding the differences between water quality model iterations were discussed in the 2AM-MEL1631 Water Licence Amendment Technical Meetings and can be consulted on the NWB ftp site.

Licence Water Quality parameters monitored in 2020 that exceeded 50% of the allowable maximum average concentration were modeled. Total dissolved solids (TDS), total aluminum, and total ammonia fit this criteria and the forecasted concentrations are presented in Figures Figure 3, Figure 4, and Figure 5 , respectively. A Tabular summary including the aforementioned concentrations in each collection pond (CP1 to CP6) over the model duration is presented in Appendix 5.

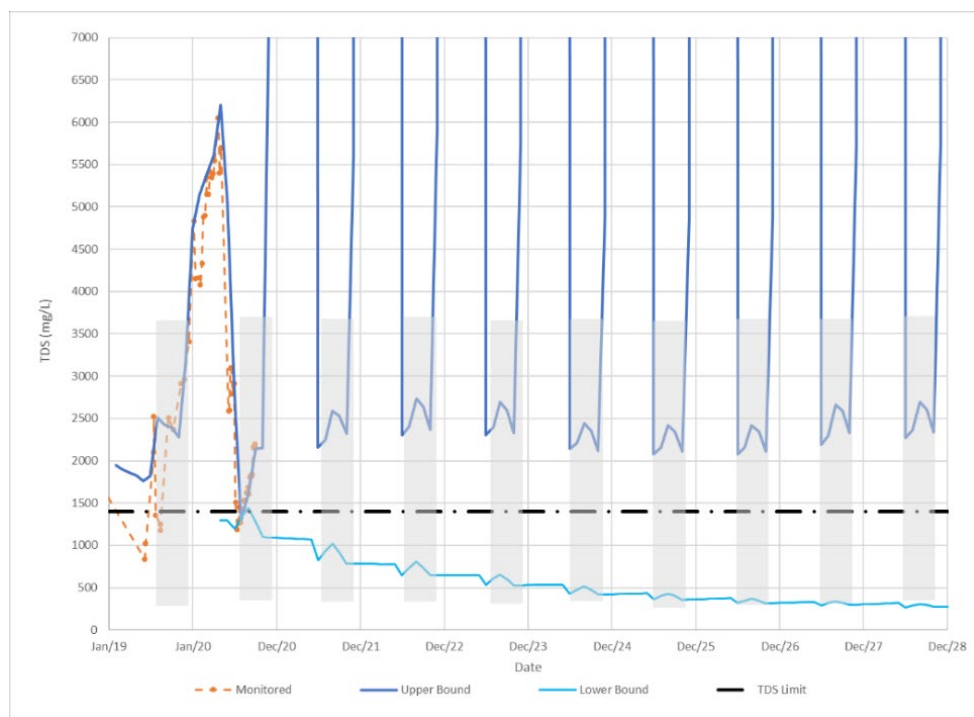


Figure 3. Forecasted upper and lower modeled CP1 TDS concentrations for life of mine and closure. Monitored 2019 and 2020 TDS concentrations demonstrate model alignment. Vertical grey bars represent periods of discharge.

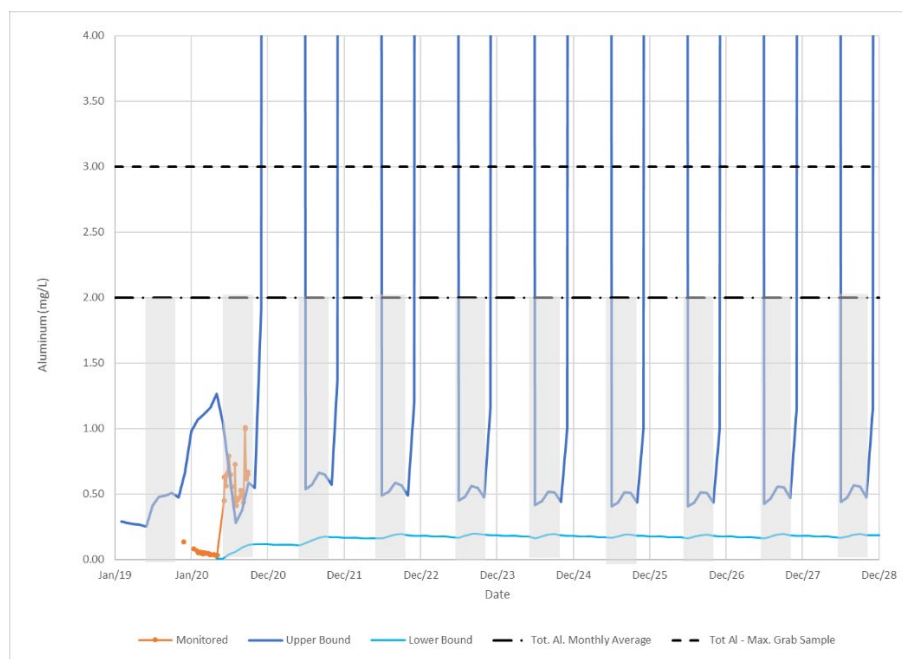


Figure 4. Forecasted upper and lower modeled CP1 total aluminum concentrations for life of mine and closure. Monitored 2019 and 2020 total aluminum concentrations demonstrate model alignment. Vertical grey bars represent periods of discharge.

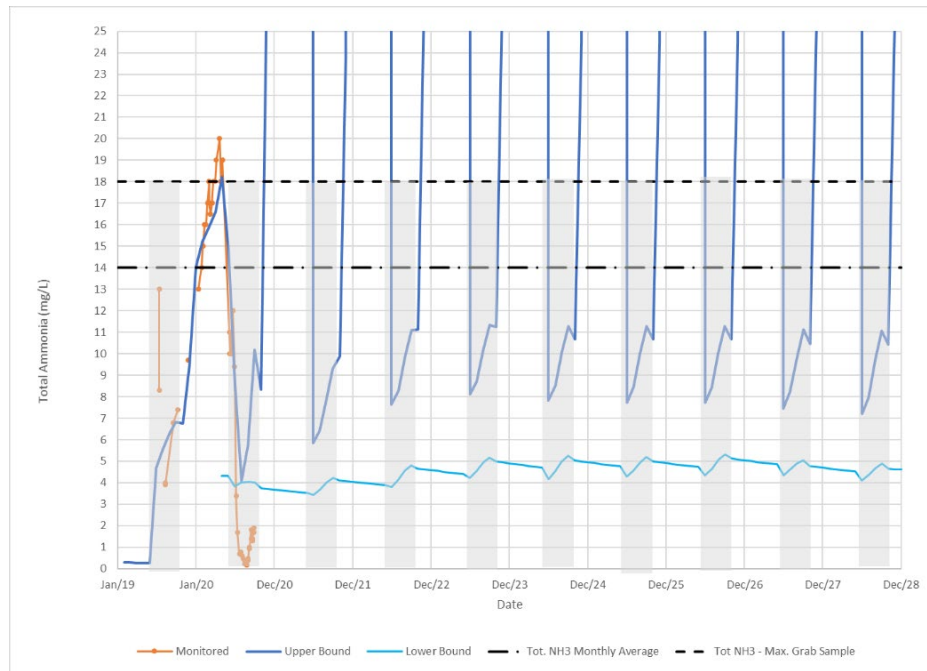


Figure 5. Forecasted upper and lower modeled CP1 total ammonia concentrations for life of mine and closure. Monitored 2019 and 2020 total ammonia concentrations demonstrate model alignment. Vertical grey bars represent periods of discharge.

Under the upper bound scenario, CP1 TDS concentrations consistently exceed the currently Licenced maximum allowable concentration of 1400 mg/L during the annual discharge season. To address this, Agnico Eagle submitted a request to the Nunavut Water Board to permanently amend the Type A Water Licence 2AM-MEL-1631 with an increased maximum average concentration (MAC) for TDS of 3,500 mg/L and a maximum grab concentration (MGC) for TDS of 5,000 mg/L. More detail regarding the proposed amendment and supporting Water Quality and Monitoring Optimization Program (WQ-MOP) can be found in section 3.4. Concentrations of total aluminum and total ammonia are not expected to exceed the monthly average or sample grab limits during the annual discharge season.

3.2.3 Saline Water Balance Model Results

The Saline Water Balance model was built around the inflows and outflows of Saline Pond 1 (SP1), Saline Pond 4 (SP4), and Tiriganiaq Pit 2 from 2021 to 2028. As outlined in the Groundwater Management Plan, SP4 will be removed from available storage capacity in 2025 in order to allow mining of Tiriganiaq Pit 1. This is reflected in Figure 6, which shows a drop in available storage corresponding to the removed storage capacity of SP4.

The model assumes mean climate precipitation data, which is applied to each saline pond catchment between the months of June and October each year. Similar to the surface contact Water Balance, each catchment is divided by area into land subtypes including natural ground with vegetation, disturbed ground, and pond surface, with each subtype having an assigned runoff coefficient that varies by month during periods of precipitation. Variation in the spatial distribution between each land subtype, and subsequently the coefficient of runoff, occurs month to month and over the entire model duration. Figure 6 shows the cumulative saline storage required on site.

Groundwater inflows are applied at the base model rates outlined in the 2019 Tiriganiaq underground hydrogeological model (Golder 2019). Groundwater is assumed to report directly to SP4 until June 2021 after which it reports directly to Tiriganiaq Pit 2 for Life of Mine (LOM) storage. At that time, the transfer of cumulative stored saline water in SP1 and SP4 will begin reporting to Tiri 2.

The model assumes a daily trucking discharge rate over the open water season of 1,600 m³/day. The trucking discharge rate of 1,600 m³/day has been approved by the authorities for 2021, however, requires approval by the Nunavut Planning Commission (NPC) in future years. The model assumes a discharge availability of 90% over the open water season. A waterline (application ongoing under NIRB process) and associated increased discharge rate relative to trucking is not considered in this model.

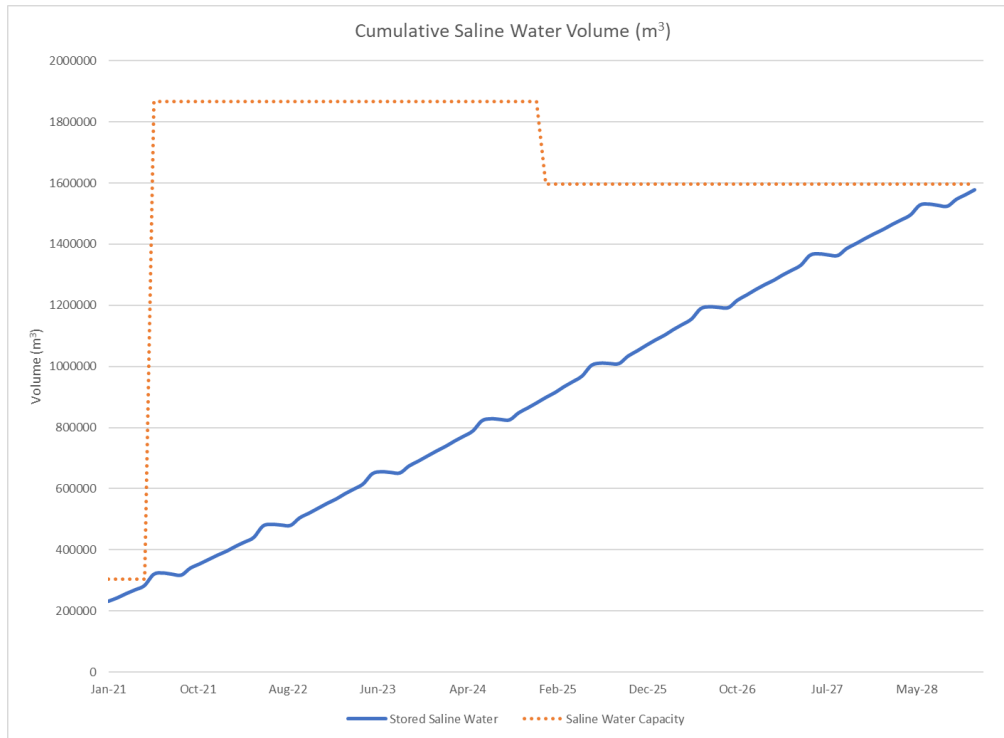


Figure 6 Forecasted saline water storage requirement (blue line) versus actual storage capacity available.

The resulting forecast shows a steady growth rate in saline water accumulation on site over LOM. Activation of Tiriganiaq Pit 2 storage capacity in June 2021 is shown to provide adequate saline storage capacity over LOM under the assumed inflow and discharge conditions until 2028 at which point Tiriganiaq Pit 2 reaches capacity. Although this occurrence is at the end of mine life, these trends are not sustainable due to the year-over-year increase in stored water and saline water storage capacity being at maximum capacity at end of mine life. To allow successful and sustainable management of saline water over life of mine, the long-term strategy of discharge through a waterline, and thus removal of year-over-year storage, is required. This long-term strategy is discussed in further detail within the Groundwater Management Plan. As stated above, the regulatory application for a waterline and associated increased discharge rate is currently ongoing under the NIRB process. Further details discussing the viability and suitability of the trucking discharge to sea strategy in comparison to the waterline discharge to sea strategy can be found in the Groundwater Management Plan.

It should be noted that there is approximately 21,700 m³ of buffer capacity in May 2021 between the stored saline water and available saline water capacity prior to the activation of Tiriganiaq Pit 2 as saline storage. Tabular data for the inflows and outflows of each storage pond are available in Appendix 5.

3.2.4 Saline Water Quality Model

A water quality forecast was generated for the saline water balance in a similar fashion to the surface contact water model. TDS concentrations were assigned to each inflow stream and as starting conditions for the existing saline water in storage. Based on the average concentration collected across all connate water quality samples from 2020 onward, the TDS concentration of groundwater inflows is applied at 55,000

mg/L through LOM. Figure 7 presents the forecasted combined saline water TDS in storage. Tabular data for TDS in each storage pond along with combined saline water TDS is presented in Appendix 5.

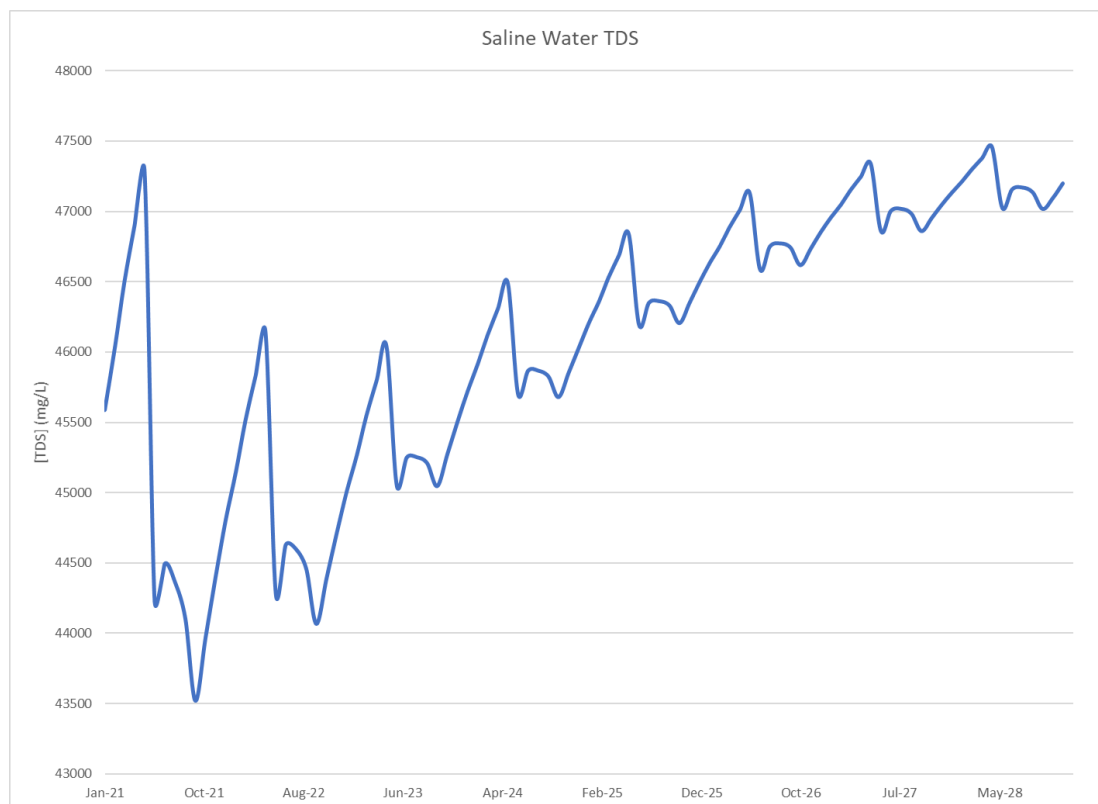


Figure 7. Forecasted TDS concentrations across all combined saline water stored on site.

Despite groundwater inflows transporting a consistent 55,000 mg/L of TDS to saline water storage, the combined forecasted TDS concentrations typically remain below 47,500 mg/L due to both lower starting concentrations of each pond (pre-existing runoff being present in the ponds from past years) and the effect of future precipitation runoff inflows to saline ponds. The latter can be characterized by the steep downward trend in concentration at the start of each freshet period. Subsequently, a brief increase in TDS concentrations each year is due to evaporative processes and reduced precipitation runoff (post-freshet) before again dropping due to increased runoff later in each open water season. The increasing TDS observed each winter season is due to continuous delivery of groundwater to storage while precipitation remains locked as snow and ice.

Overall, an increasing trend in TDS concentrations with smaller fluctuations is observed due groundwater inflows making up an increasingly large portion of the overall saline water volume in storage as time progresses.

3.3 WATER QUALITY MANAGEMENT AND OPTIMIZATION PLAN (WQ-MOP)

On March 24th 2020, Agnico Eagle submitted a request to the Nunavut Water Board to amend the Type A Water Licence 2AM-MEL-1631, on the emergency basis under ss. 43, 52 and 55 of the Nunavut Waters and Nunavut Surface Rights Tribunal Act (2002).

The Emergency Amendment Application was submitted because of the elevated TDS concentrations of the water stored in CP1, and the necessity to discharge this water from CP1 upon 2020 freshet in order to preserve the integrity of the infrastructure (D-CP1 dike) and to mitigate risks to human and environmental health.

The scope of the Emergency Amendment application included the following activities:

- The time-limited discharge (May 2020 – October 2020) of effluent from CP1 into Meliadine Lake not exceeding 3,500 mg/L for the maximum average concentration of TDS (at the regulated monitoring station MEL-14);
- The approval of the “Water Quality Management and Optimization Plan (WQ-MOP), Implementation Plan for Total Dissolved Solids” prepared by Golder Associated Ltd (Golder) (March 2020).

The objective of the WQ-MOP was to formalize a procedure for management of effluent discharges that follows a systematic and science-based framework for determining acceptable effluent quality condition. It was focused on the development of interim targets for TDS effluent discharge and receiving environment conditions at the edge of the mixing zone, but within a framework that could be extended to longer-term water management (Golder 2020).

The WQ-MOP included a water quality monitoring study, required as a condition under Emergency Amendment No. 1 to the Water Licence 2AM-MEL-1631. The aim of the study was to validate the interim TDS targets included in the approved amendment and to produce additional information on receiving environment assimilation. It included three components: water quality monitoring, toxicity testing (acute and chronic) and a plume delineation study. The latter was conducted to assess the vertical and horizontal extent of the effluent plume, with field specific conductivity profiling of the water column.

Results of the WQ-MOP water quality monitoring study are presented in section 7.3.2 and in Appendix 20.

3.4 ADDITIONAL INFORMATION

As required by Water License 2AM-MEL1631 Schedule B, Item 23: *Any other details on Water use or Waste Disposal requested by the Board by November 1st of the year being reported.*

And

As required by water license 2BB-MEL-1424 Part B Item 6n: *Any other details on water use or waste disposal requested by the Board by November 1 of the year being reported*

No additional information was requested in 2020.

SECTION 4. CRITICAL INFRASTRUCTURE MANAGEMENT ACTIVITIES

4.1 GEOTECHNICAL MONITORING

As required by water license 2AM-MEL1631 Part I, Item 15: *The Licensee shall submit to the Board as part of the Annual Report required by Part B, Item 2, a Geotechnical Engineer's Inspection Report. The Report shall include a cover letter from the Licensee outlining an implementation plan addressing each of the Geotechnical Engineer's recommendations.*

And as required by water license 2AM-MEA1631, Schedule B, Item 1:

a. An overview of methods and frequency used to monitor deformations, seepage and geothermal responses;

The performance of the permanent dikes (D-CP1 and D-CP5) is assessed according to the guidelines provided in the Operation, Maintenance and Surveillance (OMS) manual for the facilities. This program consists of both documented visual inspections and geotechnical instrumentation monitoring. In 2020, visual inspections were conducted according to the following schedule:

- Daily – Conducted by personnel working on or adjacent to the water management infrastructure as part of their daily activities, such as environmental technicians, survey staff and dewatering crews.
- Weekly - Conducted during open water season by a qualified engineer or technician;
- Monthly – Conducted during open water season by the Agnico Eagle Responsible Geotechnical Engineer; and
- Annual – Conducted by a third party consulting engineer (Tetra Tech) during open water season.

The visual inspections include observations of cracking, settlement, seepage and deformation in addition to photographs. Any areas of movement are marked both physically on the dikes themselves by spray painting the locations and on plan drawings of the facilities in order to track changes in conditions.

In addition to the monthly documented visual inspection (during open water), a review of the operational performance and assessment of the geotechnical monitoring instrumentation is conducted every month by the Responsible Geotechnical Engineer. The schedule of collecting monitoring data in 2020 generally followed the OMS guidelines and is summarized in Table 8.

Table 8. Summary of 2020 Permanent Dike Geotechnical Monitoring Program

Instrumentation	Frequency of Data Collection
Thermistors	Updated twice per day (data loggers)
Survey Monuments	Monthly
Upstream Water/Ice Elevations	Daily (Open water); Monthly (Ice)

The performance of all other water management and earthworks structures were assessed in 2020 during the Annual Geotechnical Inspection conducted by Tetra Tech. The results of this inspection are available in Appendix 6.

b. A comparison of measured versus predicted performance;

Based on the visual inspections and geotechnical monitoring data, the permanent water retention dikes (D-CP1 and D-CP5) are generally performing as expected, with no significant geotechnical concerns identified in 2020. Deformation, seepage and geothermal response will continue to be monitored as per the OMS guidelines throughout 2021.

No significant geotechnical concerns were noted with any other water management infrastructure during the annual inspection. The results of this inspection and detailed analysis are available in Appendices 6 to 8.

c. A discussion of any unanticipated observations including changes in risk and mitigation measures implemented to reduce risk;

The Trigger Action Response Plan (TARP) level for D-CP1 was reduced from “yellow” to “green” in July 2020, once water levels returned to acceptable operating conditions.

At the time of the 2020 freeze-up, the water level in CP1 were at the target elevation of 63.7m. As such, dike D-CP1 is considered to be under normal operational situation as per the terms of the OMS.

The water level in Dike D-CP5 at freeze-up 2020 was at 65.45 cm indicating normal operational situation as per the terms of the OMS

d. As-built drawings of all mitigation works undertaken;

No mitigation works were undertaken during 2020.

e. Any changes in the design and/or as-built condition and respective consequences of any changes to safety, water balance and water quality;

The access road to the Tiriganiaq 02 Open Pit has been constructed downstream of Dike D-CP5. The area between the dike and road has been graded with crushed rock covering the seepage collection pond that was located downstream of the dike. An as-built drawing of the Tiriganiaq 02 Open Pit access road is included in Appendix 9.

f. Data collected from instrumentation used to monitor earthworks and an interpretation of that data;**4.1.1 Instrumentation at D-CP1**

Horizontal ground temperature cable (GTC) plots indicate a continuing warming trend in the base of the key trench over 2020, with an average increase of +0.5°C occurring over the past year. The plots are shown in Appendix B of the 2020 Annual Geotechnical Inspection Report (Appendix 6). Temperatures in the key trench ranged from an average low of -7.9°C in early June 2020 to an average high of -4.6°C at the end of October 2020. Generally, the horizontal ground temperature cable nodes at the base of the key trench have remained below -3.6°C throughout the year. Bead 11 of HGTC-1 warmed to 1.7°C in October 2020. The

temperature dropped to -1.6°C in November, but still warmer than expected. It recovered the expected temperature range in December.

Vertical ground temperature cable plots shown in Appendix B of the 2020 Annual Geotechnical Inspection Report (Appendix 6) indicate that the dike and foundation remained below 0°C after November 2019 throughout the winter until June/July of 2020.

D-CP1 survey monitoring points M-1 to M-6 indicate a range of total vertical displacement between 32 mm and 73 mm since they were installed on September 19, 2017. The dike operating water levels were based on a settlement of 120 mm; the measured settlement has been less than this to date.

4.1.2 Instrumentation at D-CP5

Horizontal ground temperature cable plots shown in Appendix E of the 2020 Annual Geotechnical Inspection Report (Appendix 6) indicate a slight cooling trend on average of 0.2°C in the key trench from 2019 to 2020. Temperatures in the key trench ranged from an average low of -7.9°C in early June 2020 to an average high of -2.6°C at the end of October 2020.

Three settlement survey monuments were installed over the liner crest in the dike. CP5 survey monitoring points indicate a settlement between 19 and 54 mm since installation. The dike operating water levels were based on a settlement of 100 mm; the measured settlement has been less than this to date.

4.1.3 Thermistors in the P-Area

The P-Area was decommissioned in 2020. The thermistors located on berm DP1B (DP1B-1 and DP1B-2), berm DP2A (DP2A-1) and berm DP3A (DP3A-1, DP3A-2, and DP3A-3) are still in place and temperature measurements are recorded 4 times per year.

4.1.4 Thermistors in Berm CP3

Three (3) GTCs (GTC-01, GTC-02, and GTC-03 Berm CP3) were installed in Berm CP3 to measure the active layer depth in the berm and subgrade ground temperatures. The ground temperatures cable plots are shown in Appendix C of the 2020 Annual Geotechnical Inspection Report (Appendix 6). The maximum active layer depth in 2020 varied from 2.1 m to 2.6 m. The ground temperature at Elevation 63.0 m ranged from -5.4°C to -6.8°C on November 30, 2020.

4.1.5 Thermistors in Berm CP4

Two (2) GTCs (GTC-01, GTC-02 Berm CP4) were installed in Berm CP4 to measure the active layer depth in the berm and subgrade ground temperatures. The GTC plots are shown in Appendix D of the 2020 Annual Geotechnical Inspection Report (Appendix 6). The maximum active layer depth in 2020 ranged from 2.0 m to 2.2 m. The ground temperature at Elevation 63.0 m ranged from -6.8°C to -7.9°C on November 30, 2020.

4.1.6 Other Thermistors

In addition to recently installed thermistors to monitor temperatures in and below critical water management infrastructures, numerous other thermistor cables have been installed around the mine site to monitor natural ground temperatures as part of previous ground investigation campaigns. In 2020, a total of three (3) new thermistor cables were installed on site. Two (2) GTCs were installed at the Tiriganiaq open pit #2 (TIRI02-S and TIRI02-N) to monitor the temperature of the overburden slopes of the pit walls, and one (1) thermistor cable was installed near the center of WRSF1 (WRSF1-HGTC-02)

Top priority (P1) is now given to reading thermistors installed in existing infrastructure, with these readings typically taken on a monthly basis for the first year then quarterly afterwards, with the exception of the dikes and the TSF. Shallow GTCs installed in areas of potential future expansion are given the next priority (P2) with a quarterly reading frequency, followed by deep thermistors in future deposition areas which are read bi-yearly (P3). Also read twice per year are any additional cables located around the site (P4). The updated location of these thermistors is provided in Appendix 10.

Only eight (8) of the previously installed site thermistors were functional in 2020. Readings taken in 2020 in the remaining operational site-wide thermistors are generally consistent with previous trends.

g. A summary of maintenance work undertaken as a result of settlement or deformation of dikes and dams; and berms

No maintenance work was undertaken in 2020 on any dikes, dams or berms as a result of settlement or deformation.

4.2 GEOCHEMICAL MONITORING

In accordance with Water License 2AM-MEL1631 Schedule B, Item 6: *Geochemical monitoring results including:*

a. Operational acid/base accounting and paste pH test work used for waste rock designation (PAG and NPAG rock);

The acid/base accounting and paste pH test work used for waste rock designation is in the report located in Appendix 11 and summarized below.

b. As-built volumes of waste rock used in construction and sent to the Waste Rock Storage Facilities with estimated balance of acid generation to acid neutralization capacity in a given sample as well as metal toxicity;

Waste rock from the open pits was used for construction in 2020 or was delivered to Waste Rock stockpile WRSF1 and WRSF3. Waste rock from underground was used for construction in addition to the TSF.

c. All monitoring data with respect to geochemical analyses on site and related to roads, quarries, and the All Weather Access Road;

All data (mine site and sedimentation/ saline ponds) can be found in the report located in Appendix 11.

d. Leaching observations and tests on pit slope and dike exposure;

No leaching observations were detected on dike exposures or pit slopes were present. Open rock slopes were visible at SP1, SP2, SP4, CP3, CP4 and CP6. No leaching was observed.

e. Any geochemical outcomes or observations that could imply or lead to environmental impact;

No environmental impact implied, with the majority of the tests being observed as NPAG with the exception of a few samples from underground and one sample from Tiri 2, open pit development, which was considered uncertain.

f. Geochemical data associated with tailings solids, tailings supernatant, cyanide leach residue, and bleed from the cyanide destruction process including an interpretation of the data;

The Geochemical data associated with the Filtered Tailings is included in Appendix 11 with a summary explained below in section 4.2.3 A discussion of the tailings supernatant, , and bleed from the cyanide destruction process is included in section 4.2.4 concurrent with the tailings supernatant.

The potential for Acid Rock Drainage (ARD) from Filtered Tailings collected in 2020 was assessed by the same approach described for waste rock, where Neutralizing Potential (NP) was provided by carbonate (NP-Ca) and Acid Potential (AP) was estimated based on total sulphur. NP-Ca ranged from 63 to 102 kg CaCO₃/t, with a median of 77 kg CaCO₃/t. The total sulphur ranged from 1.1% to 2.5%, with a median of 1.5%. These results for 2020 compared to 2019 indicated that the Neutralizing Potential increased for 2020 while the Acidizing Potential decreased.

Based on NP-Ca and total sulphur, the majority of the samples collected to date are primarily classified as uncertain concerning ARD potential using an Net Potential Ratio (NPR) ratio of 2, with all of the samples above an NPR of 1 in 2020. The median was 1.8 which is higher than the median of 1.4, which was observed in 2019.

There have been some indications from the commercial laboratory that the method for determining NP-Total Inorganic Carbon (TIC) has been biased low for Meliadine operational samples, and this is a focus of an on-going investigation. The impact would be that the NP/AP ratio has also been biased low; assuming acid potential remains the same, so there is no additional risk to ARD assessment of the tailings having greater ARD potential. In fact, if the bias were found to be proven, this would mean the tailings have lower ARD potential than previously reported. Findings will be reported under a separate cover as soon as they have been resolved.

g. Results related to the road quarries and the All Weather Private Access Road.

There was no rock removed from the road quarries in 2020. All results related to the ponds can be found in the report located in Appendix 11.

In 2020, Agnico Eagle conducted geochemical testing on waste rock material from underground, open pit development and from SP4 pond that was constructed. Representative samples of this material were analyzed for Acid Rock Drainage (ARD) and Metal Leaching (ML) at the accredited third-party laboratory

(SGS). Geochemical sampling program at Meliadine is comprised of two parts: mine development waste rock and pond material in 2020.

4.2.1 Mine development waste rock

ARD Potential

Neutralization Potential

Neutralization potential (NP) is expected to be primarily provided by calcite and dolomite, with some ankerite (Golder 2014). As a result, carbonate analysis alone would likely be appropriate for determining NP, although both methods were used (i.e. titration and direct carbonate analysis). Complete results are provided in Appendix 11. Golder (2014) indicated that NP from carbonate analysis (NP-Ca) was the more conservative method to determine buffering capacity of the rock and this was used as input into the ARD calculation. The relationship was checked in 2020, and the relationship generally held, especially at low NP values and therefore the continued use of NP-Ca was considered conservative for estimating ARD potential.

Acid Potential

Project prediction studies indicated that the main sulphide minerals in the waste rock was pyrite, but also included arsenopyrite, lesser pyrrhotite, and chalcopyrite (Golder 2014). As a result, the main consideration for acid potential (AP) is the presence of sulphide minerals at Meliadine.

Project prediction studies were confirmed in 2020 sampling with acid-base accounting testing showing that sulphur is primarily present in the sulphide form. Sulphur ranged from below detection 0.02% to a maximum of 6.0%, with a median of 0.26% for the underground waste rock and from 0.09% to a maximum of 0.26%, with a median of 0.19% for the open pit samples.

ARD Assessment

The potential for ARD was assessed using NP-Ca/AP ratios (or neutralization potential ratios, (NPR)). AP was calculated from total sulphur. Ratios below 2 were used to indicate potential for ARD (PAG or potentially ARD generating), whereas ratios above 2 indicate low potential for ARD (NPAG).

The classification of all Meliadine waste rock samples from underground in 2020 are provided in Appendix 11. As predicted by Golder (2014), the majority of operational muck samples collected to date were NPAG. Samples from 2017, 2018 and 2019 have also been included for ease of comparison to historical results. A few samples have a NPR < 1 from the underground waste samples. These few samples are not considered a risk as there is excess buffering in all other samples collected and it is only marginally below the PAG criterion. In addition, a large quantity of waste rock from underground was used as backfill for stopes and other openings in 2020 and these waste rock may have remained underground. Refer to Table 9 for the summary of ARD Guidelines to classify Meliadine Waste. Open pit waste rock samples follow a similar trend to what was seen with the underground waste rock samples and the results are provided in Appendix 11. One sample came back as uncertain but with the excess buffering in the other waste rock there would be no risk of ARD.

Table 9. Summary of ARD Guidelines used to classify Meliadine Waste

Initial Screening Criteria	ARD Potential
NPR < 1	Likely Acid Generating (PAG)
1 < NPR < 2	Uncertain
2 < NPR	Acid Consuming Non Potentially Acid Generating (NPAG)

Metal Leaching

Metal leaching was predicted by Golder (2014) to be low enough that management of waste rock to inhibit leaching was not required. However, based on project screening studies, arsenic was determined to be the main element of interest and analysis of this element (and all regulated elements) were part of operational monitoring since mining began. A statistical summary for arsenic with complete element composition results is provided in Appendix 11 for both underground and open pit waste rock. To ensure arsenic concentrations were within project predictions, results have been compiled and compared against average and maximum arsenic concentrations reported by Golder (2014). Solid phase arsenic concentrations mainly fall within or below the average concentration, with one sample from the open pit exceeding the maximum concentration reported by Golder (2014).

4.2.2 Containment and SP4 Sedimentation Pond

ARD Potential

The potential for ARD from SP4 was assessed by the same approach, in 2020, described above for waste rock, whereby NP was provided by carbonate (NP-Ca) and AP was estimated based on total sulphur. Complete results are provided in Appendix 11. NP-Ca ranged from 21 to 89 kg CaCO₃/t, with a median of 52 kg CaCO₃/t. Total sulphur ranged from 0.05% to 1.3%, with a median of 0.16%. The potential for SP facilities to produce ARD was based on NPR ratios, but also a sulphur limit of 0.1%, meaning that any samples with 0.1% or less sulphur would be NPAG regardless of the NPR ratio. Based on the two criteria, one of the SP4 samples collected was classified as uncertain. This sample is not considered a risk, as there is excess buffering in all other rock that would neutralize any potential ARD in WRSF #1 or in the temporary stockpile.

Metal Leaching

The same approach taken for waste rock was applied to SP4 containment pond samples in terms of comparing against project prediction studies. All regulated elements were analysed in solid samples and are included in Appendix 11. Arsenic concentrations ranged from a minimum of 4 mg/kg to a maximum of 2100 mg/kg, with a median of 55 mg/kg. These values are relatively low compared to waste rock and were within project prediction studies as the maximum value reported by Golder (2010) was 8000 mg/kg. A statistical summary of all results is provided in Appendix 11.

Based on geochemical characterization results obtained to date for the waste rock and pond samples, there is low risk for ARD or metal leaching from the materials. Results are within project prediction studies for the project..

The complete geochemical report is in Appendix 11.

4.2.3 Filtered Tailings

ARD Potential

The potential for Acid Rock Drainage (ARD) from Filtered Tailings collected in 2020 was assessed by the same approach described for waste rock where Neutralizing Potential (NP) was provided by carbonate (NP-Ca) and Acidizing Potential (AP) was estimated based on total sulphur. NP-Ca ranged from 63 to 102 kg CaCO₃/t, with a median of 77 kg CaCO₃/t. The total sulphur ranged from 1.1% to 2.5%, with a median of 1.52%. These results for 2020 compared to 2019 indicated that the Neutralizing Potential increased for 2020 while the Acidizing Potential decreased. The higher sulphur in the filtered tailings compared to waste rock is a result of the sulphides associated with the gold.

Based on the more conservative NP-Ca and total sulphur, the majority of the samples collected to date are primarily classified as uncertain concerning ARD potential using an NPR ratio of 2, with all of the samples above an NPR of 1. The median was 1.8, which is higher than the median of 1.4, which was observed in 2019.

Project prediction studies in the Final Environmental Impact Statement (FEIS) estimated a NPR of 2.7 for the tailings, although that estimate was done using NP from titration (i.e. modified Sobek), which is slightly less conservative than the approach used herein. When the modified Sobek NP is used for the operational studies, the NPR is 2.0, slightly higher than 1.8.

There have been some indications from the commercial laboratory that the method for determining NP-TIC has been biased low for Meliadine operational samples, and this is a focus of an on-going investigation. The impact would be that the NP/AP ratio has also been biased low; assuming acid potential remains the same, so there is no additional risk to ARD assessment of the tailings having greater ARD potential. In fact, if the bias were found to be proven, this would mean the tailings have lower ARD potential than previously reported. Findings will be reported under a separate cover as soon as they have been resolved.

Despite the uncertain classification for the operational tailings samples, Agnico Eagle does not consider the tailings to pose an ARD risk for the site for a number of reasons:

- the tailings are being stored in a facility that will freeze back (i.e. re-develop permafrost) and inhibit water movement within a few years post-operations;
- placement of the tailings includes compacting by a vibrator packer and sloping to shed water off the facility, which will lower oxygen diffusion into the tailings and limit water contact, both established mechanisms to reduce ARD;
- there is enough carbonate in the tailings that ARD may never occur as the actual ratio that ARD onset is expected is much closer to 1.0;
- if ARD could develop, permafrost will develop at least one hundred years before the onset of ARD due to the amount of carbonate in the tailings and arctic climate slowing reaction rates; and
- progressive reclamation is a part of the facility management for closure, meaning a cover will be placed over most of the tailings before the mine ceases operations.

Metal Leaching

All regulated elements were analyzed in solid sample and are included in Appendix 11. Given the presence of arsenic in the ore rock and background concentrations in the area, results for this element are summarized in Appendix 11.

Arsenic concentrations ranged from a minimum of 5,700 mg/kg to a maximum of 15,000 mg/kg, with a median of 9,900 mg/kg. These values are higher when compared to waste rock and the containment ponds and this is not unexpected as the ore is associated with sulphides, most predominately pyrrhotite and arsenopyrite.

Monthly monitoring of CP-3 (sampling location MEL-20), continued in 2020, which collects the drainage from Tailings Storage Facility (TSF), indicates that the effluent met all regulatory requirements for effluent discharge to the environment with the exception of Total Suspended Solids (TSS) and arsenic. The pond was designed as a collection and settling basin for TSS prior to the water being pumped to CP1. Arsenic, which is the metal of concern, had a maximum value of 0.5 mg/L, median value of 0.148 mg/L and a minimum value of 0.08 mg/L in CP-3.

4.2.4 Filtered Tailings Supernatant

Sampling of the filtered tailings supernatant began in June of 2019 and continued in 2020 with sampling occurring on a regular basis. Since this water is recycled through the mill, it also contains cyanide leach residue and the bleed from the cyanide destruction circuit. Water is filtered off the tailings from the filter press and samples are collected from the effluent downstream of the filter press. Since this effluent is recycled through the mill and is not discharged, with the exception of minor effluent associated with the filtered tailings, it is not surprising to see the metals and general parameters becoming concentrated as the mill uses little fresh water to make up the water that is entrained with the filtered tailings.

Appendix 12 indicates the results of the tailings supernatant sampling in 2020. As the water is recycled through the mill, the metals, TDS and other parameters initially increased and then have stabilized in 2019 while others have slowly increased. In 2020 as the Process Plant stabilized, the metals and other parameter were in general more consistent throughout the year but in general, higher than in 2019. The higher values for metals in 2020 may also be affected that a large portion of the mill feed water came from CP1 in 2020 while all feed water in 2019 came from Meliadine Lake which, in general, has lower metals than CP1. Dissolved metals are discussed below rather than total metals as there may be some interference from the solid tailings if the filter press is not functioning as per design.

For dissolved arsenic, values in 2020 were slightly higher than values in 2019 as milling continued throughout 2020.. The minimum value of dissolved arsenic was 3.3 mg/L with the maximum value at 23.3 mg/L. The dissolved arsenic median for 2020 was 12.6 mg/L. These numbers are not unexpected as the gold is associated with sulphides, such as arsenopyrite, and the water is recycled through the mill. Total cyanide values were lower at the start and end of the year and were higher in the middle of the year. Values tended to be more consistent throughout the year indicating that the process was stable. The highest value for Total Cyanide was recorded in May 24 at 110 ppm and the lowest Total Cyanide being recorded on February 2 at 13 mg/L. The median for 2020 was 48 mg/L.

It is important to state again that the water in the mill is recycled and only a small portion of the mill effluent is entrained in the filtered tailings. As discussed in section 4.4.23 Agnico Eagle is monitoring the water quality in CP-3 and the results have indicated that the effluent have met all regulatory requirements for effluent discharge to the environment with the exception of Total Suspended Solids (TSS) and

Arsenic. This water is transferred to CP-1 and is treated for TSS prior to it being discharged to the environment.

4.3 WASTE ROCK VOLUME

In accordance with Water License 2BB-MEL-1424 Part B Item 6c: *An estimate of the current volume of waste rock and ore stockpiled on site;*

An estimate of waste rock and ore stockpiled on site is provided in the below Table 10. The monthly cumulative stockpiles vary (and can go down) according to production and construction needs.

Table 10. Ore and waste rock stockpiled on site (Tonnes)

	Ore cumulative	Ore Underground	Ore Open Pit	Waste pile cumulative
January	192,736	192,736	-	83,489
February	220,468	220,468	-	110,236
March	199,258	199,258	-	85,623
April	151,789	151,789	-	No Survey
May	101,647	101,101	546	74,544
June	89,172	79,320	9,852	No Survey
July	84,032	61,716	22,316	13,173
August	92,550	61,192	31,358	31,952
September	100,503	61,547	38,956	10,620
October	120,311	72,106	48,205	46,017
November	154,247	71,357	82,890	No Survey
December	180,605	59,886	120,719	22,539

4.4 TAILINGS STORAGE FACILITY

4.4.1 Tailings Storage Facility Capacity

As required by Water License 2AM-MEL1631 Schedule B, Item 7: *An update on the remaining capacity of the Tailings Storage Facility.*

Active tailings placement into the tailings storage facility (TSF) continued throughout the year. A total of 642,502 m³ (1,060,128 t) of tailings were placed in the facility in 2020 for a remaining design capacity of 5,468,217 m³ (9,022,558 t) as shown in Table 11.

In addition to tailings, a total of 86,301 m³ (162,246 t) of waste rock was placed as progressive cover material around the side-slopes of the facility in 2020. According to design specifications, an additional 516,875 m³ (971,725 t) of rock remains to be placed.

Table 11. 2020 Volumes of Material Placed in TSF

	Tailings Placed (m3)	Waste Rock Placed (m3)
Total 2020	507,538	75,082
January 2020	43,279	10,589
February 2020	44,385	3,601
March 2020	50,763	30,117
April 2020	54,910	1,690
May 2020	27,839	2,490
June 2020	63,744	4,655
July 2020	77,350	8,325
August 2020	59,960	4,967
September 2020	56,030	6,402
October 2020	56,102	6,511
November 2020	52,322	4,288
December 2020	55,818	2,666
Total 2020	642,502	86,301
Total at end of 2020	1,150,040	161,383
Design Total	6,618,259	1,275,125
Remaining Capacity	5,468,219	1,113,742
	Tailings Placed (m3)	Waste Rock Placed (m3)
Total 2020	507,538	75,082
January 2020	43,279	10,589
February 2020	44,385	3,601
March 2020	50,763	30,117
April 2020	54,910	1,690
May 2020	27,839	2,490
June 2020	63,744	4,655
July 2020	77,350	8,325
August 2020	59,960	4,967
September 2020	56,030	6,402
October 2020	56,102	6,511
November 2020	52,322	4,288
December 2020	55,818	2,666
Total 2020	642,502	86,301
Total at end of 2020	1,150,040	161,383
Design Total	6,618,259	1,275,125
Remaining Capacity	5,468,219	1,113,742

4.4.2 Tailings Freeze-back and Capping Thickness

As required by Water License 2AM-MEL1631 Schedule B, Item 16: *A summary of on-going field trials to determine effective capping thickness for the Tailings Storage Facility and Waste Rock Storage Facilities for the purpose of long term environmental protection.*

No field trials to determine effective capping thickness for the TSF were undertaken in 2020. Tailings freeze-back however, was monitored monthly through the four (4) thermistors installed in 2019 and one (1) historic GTC. The data indicates that tailings material placed during the winter months generally unfroze during the summer season but was freezing back by the end of December 2020.

Temperatures in the original ground below the TSF were generally noted to be below 0°C by December 2020. Figures displaying the GTC data from the various TSF thermistors are located in Appendix I of the 2020 Geotechnical Inspection Report (Appendix 6).

SECTION 5. WASTE MANAGEMENT ACTIVITIES

5.1 LANDFILL AND LANDFARM MONITORING

As required by Water License 2AM-MEL1631 Schedule B, Item 8: *Summary of quantities and analysis of Seepage and runoff monitoring from the Landfill, Landfarm, Waste Rock Storage Facilities, Borrow pits and Quarries.*

Landfill and Landfarm were commissioned in November 2017. No seepage was observed from either facilities in 2020. Monitoring and inspection will continue on a regular frequency.

No seepage was observed around operating quarries and borrow pits located on site and along the AWAR as per regular inspections completed by the Environment Department.

All waste, produced at Meliadine, falls into 4 major categories:

- 1) Hazardous waste;
- 2) General (dry, non-hazardous) waste;
- 3) Food waste; and
- 4) Contaminated soil.

Hazardous waste, such as waste coolant, used oil filters, waste grease, used batteries, sewage sludge etc. is segregated according to material type, stored in sea containers, and shipped south during the sealift season. All hazardous waste on site was shipped by Nunavut Sealink and Supply Inc., to Qikiqtaaluk Environmental Services (QE) facility in Quebec, via Port of Bécancour. Documentation for the transfer of hazardous waste can be found in Appendix 13.

In 2020 a total of 972.907 tonnes of hazardous waste was shipped from Meliadine via one sealift from Rankin Inlet to the Port of Bécancour. A total of 140.860 tonnes of non-hazardous material was shipped south for recycling, including domestic garbage or expired food waste and used tires.

At the port, hazardous and non-hazardous waste was managed by QE and Terminaux Portutaires du Quebec (QSL) on behalf of Agnico Eagle before being transported to *Ministère de l'Environnement et de la Lutte contre les changements climatiques* (MELCC), authorized disposal facilities.

A total of 162 (20 ft) and 4 (40 ft) hazardous waste marine containers were transported to *Solva-Rec Environnement inc.* (Solva-Rec), *Terrapure* and *Métaux Depot*. In addition, 21 (20 ft) marine containers containing used tires were transported to *Revalorisation TPOL Inc.*, and 14 (20 ft) marines containers containing domestic garbage or expired food waste were transported to *Service Matrec*. These compagnies are all registered companies or disposal facilities located in the Province of Quebec.

General waste, such as glass, concrete, wood and ash is landfilled on-site and off-site. Type A landfill was commissioned in November 2017, and in September 2018, the landfill was expanded to contain an extra 11,000 m³ (landfill stage 2).

In 2020, various options to lower the amount of material (namely wood pallets) being sent to the landfill were investigated. Various measures were implemented to improve waste segregation at the source,

allowing for increased volumes of wood and cardboard being burnt rather than landfilled. Furthermore, less construction activities took place in 2020, resulting in less construction waste being landfilled. Waste segregation at the source, in addition to landfill material being compacted mitigates dust emissions from the landfill.

The volume of landfilled waste is estimated through periodic surveys, and the waste placed into Type A landfill during 2020 is estimated to be 1,874 m³, compared to an estimated 4,705 m³ in 2019. This reduction can be explained by the aforementioned waste segregation improvements and also the fact that less construction activities took place in 2020, compared to 2019, resulting in less construction waste being landfilled.

In 2020 remediation activities took place in Landfarm A to remediate the soils. Windrows were aerated fortnightly over a three month period and additional nutrients were added. An estimate of 57.5 m³ of contaminated soil was placed in Landfarm A in 2020 from spill clean up, monthly volumes are indicated in Table 12, as well as an approximate 10 m³ of contaminated gravel and snow.

Table 12. 2020 Volume of waste transferred to the landfarm

Month	Volume of contaminated soil placed in Landfarm A (m ³)
January	3.5
February	0
March	9
April	0
May	0
June	0
July	2
August	30
September	12
October	0.5
November	0
December	0.5
Total	57.5

5.2 INCINERATOR

As per Water License 2AM-MEL1631 Schedule B, Item 10: *Report of Incinerator test results including the materials burned and the efficiency of the Incinerator as they relate to water and the deposit of waste into water.*

Food waste, including food packaging, was incinerated to avoid landfilling the material, and attracting wildlife..

Agnico Eagle hired Consulair to perform an atmospheric emission characterisation program at the outlet of the incinerator. The objectives of this atmospheric emission characterisation campaign, which took place from September 2nd to September 4th 2020, were as follows:

- Evaluate the physical characteristics of the stack's gas flow;
- Evaluate the concentration and the emission rate of the main contaminants emitted by the incinerator;
- Compare the emission results to the applicable standards;
- Ensure that the sampling work respects the recognized quality control criteria.

As can be observed in Table 13, the applicable standards for dioxins and furans (PCDD/F) were met for all tests, as well as the applicable standard for mercury (Hg). The standards originate from the "Environmental Guideline for the Burning and Incineration of Solid Waste" published by the Department of Environment of the Government of Nunavut based on the Canadian Council of Ministers of the Environment (CCME) Canada - Wide Standards for Dioxins and Furans and Mercury Emissions. The complete report can be found in Appendix

Table 13. 2020 Stack Testing Mercury and Dioxin and Furan Results

Applicable Standards		
Contaminants	Test Results	Standards
Mercury (Hg)	0.941 µg / Rm³ @ 11 % v/v O₂	20 µg / Rm³ @ 11 % v/v O₂
Dioxins and Furans (PCDD/F)	0.00516 ng / Rm³ @ 11 % v/v O₂	0.08 ng TEQ / Rm³ @ 11 % v/v O₂

Agnico Eagle also proceeded with incinerator ash testing, the results are provided in the **Error! Reference source not found.**

Continuing the trend observed at the end of 2020 with improved waste segregation, all results were compliant with the Guideline for Industrial Waste Discharge.

Table 14. 2020 Incinerator Ash Monitoring

Parameter	Guideline for Industrial Waste Discharge (mg/L)*	Unit	Annual Average		1/22/2020	2/13/2020	4/6/2020	10/17/2020
			2019	2020				
Arsenic	2.5	mg/L	0.25	0.375	< 0.2	< 0.2	0.3	0.8
Barium	100	mg/L	0.57	0.25	< 0.2	0.4	< 0.2	< 0.2
Cadmium	0.5	mg/L	0.095	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chromium	5	mg/L	6.25	0.275	< 0.1	0.4	< 0.1	0.5
Lead	5	mg/L	0.10	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Mercury	0.1	mg/L	0.0010	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Selenium	1	mg/L	0.10	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Silver	5	mg/L	0.010	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Zinc	500	mg/L	0.10	0.1	< 0.1	< 0.1	< 0.1	< 0.1

* Government of Nunavut Environmental Guideline for Industrial Waste Discharges (D of SD, 2011).

5.3 ADDITIONAL INFORMATION

As required by Water License 2AM-MEL1631 Schedule B, Item 23: *Any other details on Water use or Waste Disposal requested by the Board by November 1st of the year being reported.*

And

As required by water license 2BB-MEL-1424 Part B Item 6n: *Any other details on water use or waste disposal requested by the Board by November 1 of the year being reported*

The Board did not request any additional details on waste disposal in 2020.

SECTION 6. SPILL MANAGEMENT

As per Water License 2AM-MEL1631 Schedule B, Item 11: *A list and description of all unauthorized discharges including volumes, spill report line identification number and summaries of follow-up action taken.*

And

As required by water license 2BB-MEL-1424 Part B Item 6f: *A list of unauthorized discharges and a summary of follow-up actions taken*

In 2020, a total of 24 reportable incidents occurred at Meliadine, compared to 25 in 2019 and 22 in 2018 as indicated below in Figure 8. Total Reportable Incidents from 2018 to 2020 Amongst these incidents, 20 were reported under Water Licence 2AM-MEL1631 and 4 were reported under Water Licence 2BB-MEL-1424.

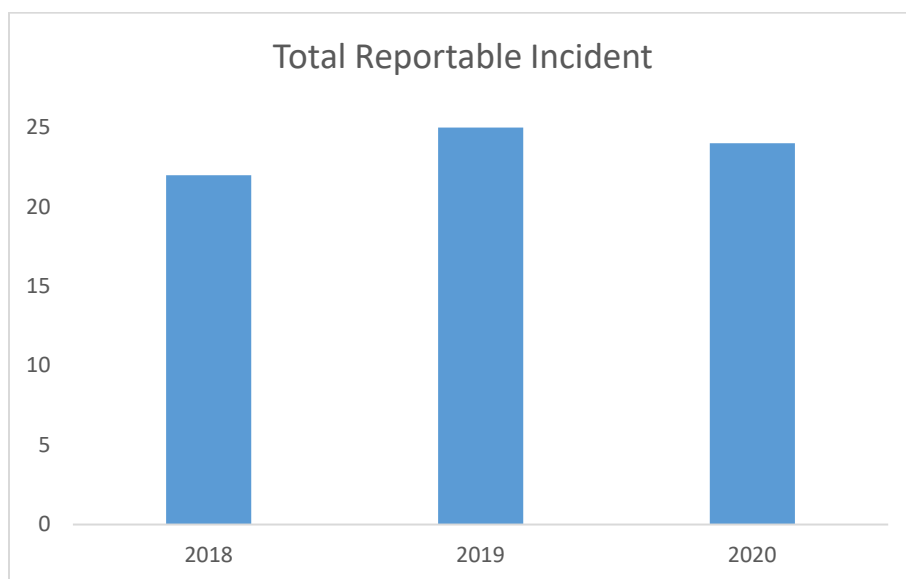


Figure 8. Total Reportable Incidents from 2018 to 2020

All spills were reported to the 24-hour spill reporting line as required by the Government of Nunavut's Environmental Protection Act, paragraph 5.1 (a), the conditions under the Nunavut Water Board License 2AM-MEL1631 Water Licence, part H, item 8(b) or the conditions under the Nunavut Water Board License 2BB-MEL1424, Part H, item 4. For all reportable spills, a follow up report was submitted 30 days or less following the event as required under the Nunavut Water Board License 2AM-MEL1631 Water Licence, part H, item 8(c).

All 2020 reportable spills/exceedances are summarized in Table 15, and complete spill reports and follow up reports can be found in Appendix 15. Non-reportable spills are summarized in Table 16.

Table 15. 2020 Reportable spills or limit exceedances

Date of spill/exceedance	Hazardous Material	Quantity for spills or analyses results for exceedance	Unit	Location	Cause of the spill
January 14, 2020	Hydraulic Oil	190	L	West Exhaust Raise	Equipment Failure
January 24, 2020	20% Liquid Calcium Hydroxide	50	L	North End of Process Plant	Equipment Failure
February 19, 2020	Saline Water	300	m ³	Saline Water Treatment Plant	Cracked Floor
March 8, 2020	Engine Oil	1000	L	Warehouse Laydown Row 5	Human Error
March 28, 2020	Emulsion	400	L	Emulsion Plant	Human Error
May 4, 2020	Emulsion	800	L	Portal 1	Human Error
June 3, 2020	Surface Water Run-Off	10	m ³	East of Reverse Osmosis Set-Up	Human Error
June 27, 2020	Jet A fuel and Waste Oil/ Diesel	205 + 100	L	Beside Exploration Garage	Human Error
August 9, 2020	Treated Saline Water	1000	L	CP5 (Between SP3 and RO)	Equipment Failure
August 12, 2020	Fuel	300	L	Tiriganiaq Open Pit # 2	Human Error
August 18, 2020	Diesel	Uncertain	-	Meliadine Lake	Human Error
August 23, 2020	Slurry	15	m ³	South of the Mill	Equipment Failure
August 23, 2020	Treated Saline Water	46 mg/L		TSS Exceedance MEL-26	
September 5, 2020	Mixed Hydrocarbon	100	L	Side of the Road Towards Dyno	Equipment Failure
September 11, 2020	Sewage Water	15,000	L	STP Main Camp	Equipment Failure
September 16, 2020	TSS Exceedance	34	mg/L	TSS Exceedance MEL-26	
September 23, 2020	Diesel	12,229	L	Boiler Fuel Tank, South of MSB	Equipment Failure
September 27, 2020	Hydrex 6240	500	L	Front Area of the SWTP	Human Error
October 3, 2020	Ammonium Nitrate	350	kg	Dyno Laydown	Human Error
October 17, 2020	Diesel Exhaust Fluid	800	L	Main Pad	Human Error
October 20, 2020	Treated Sewage Water	3,000	L	Retention Tank at the South Side fo Explo Camp	Human Error
November 17, 2020	Burnt Diesel Fuel Products	1	L	Corner of B7 Lake	Equipment Failure

December 15, 2020	Hydraulic Oil	280	L	Dome 2	Equipment Failure
December 20, 2020	Untreated Sewage	60	L	P-Wing	Equipment Failure

Green indicates incidents reported under Water Licence 2BB-MEL1424

Orange indicates incidents reported as due diligence

Blue indicates exceedances

A risk assessment for spills was initiated in 2018; Agnico Eagle identified and rectified deficiencies related to fuel spills. In areas of higher risk for spills, such as the fuel dispensing system at Itivia, a lined secondary containment was put in place to lower the risk of spills causing an offsite impact.

Another example of Agnico Eagle lowering the risk of exceedances is that all treated effluent from the Exploration camp STP is trucked either to the main sewage camp lift station or to CP1 – a containment pond.

In 2019, a risk assessment occurred with raw and treated sewage sludge as a result of some of the incidents over the previous years. The result of the assessment was that transferring wastes from the exploration camp to the main camp would be minimized but if it was to occur then the transfer would take place over low effluent generation times when the Sewage Treatment Plant had maximum storage or retention available. In addition to this mitigation, the assessment reviewed the general handling of sewage sludge waste and developed methodologies to minimize the risk. The risk assessment process was ongoing in 2020.

In 2020, the procedure for handling totes and barrels with forklift equipment was updated to work towards reducing fork related spills. The updated procedure reiterates the mandatory use of a spotter for the movement of all totes, drums, chemical bags or any product transported by forklift equipment which has the potential to be spilled when the transport is occurring outside a building or secondary containment area. Furthermore, forklift training has been adjusted to place more emphasis on spill prevention and toolbox meetings were held to review the procedure. Trials have been initiated to test different methods to reduce fork related spills, such as using fork covers, cameras, results of which are still currently being assessed.

Furthermore, in response to the incident that occurred on September 23 where an estimated 10,200 L (the initial volume of 12 229 liters was revised upon calculations of consumptions and levels) of diesel fuel, spilled outside the Meliadine main camp complex, assessments were completed to determine the extent of the impacts.

- A report was completed after a sampling campaign in the area to determine the extent of the potentially impacted area. This report can be found in appendix 15.
- An audit was completed on the fuel systems on site to ensure deficiencies, if any, would be identified and corrective measures implemented

A general action plan was also initiated to ensure items are followed-up and tracked with consistency.

Improvements to the training program led to a better overall understanding of spill reporting procedures. It is believed that employee's increased spill management awareness leads to more events being properly identified as spills and reported as such.

To prevent and ensure all spills are reported internally, spill prevention training continued to be provided to employees in 2020. Training activities include the following:

- All employees and contractors must participate in an induction session online prior to the arrival at the mine site, which includes a training section on spill management (prevention, reporting and cleaning).
- Every employee and contractor who operates a vehicle on site must participate in training on vehicle operation. Spill management is a component of this training session.
- Toolbox talks on spill management are regularly conducted by the environment department, with focus on high risk departments.
- All site personnel receive quarterly updates on environmental performance including total reportable and non-reportable spills.
- Intelix spill reporting software training is provided to department managers on a monthly basis where required.
- A mock spill exercise was completed on July 10, 2020 at the Itivia refueling station and tank farm as per required regulations. Due to COVID-19 restrictions, Rankin Inlet Fire Department, Government of Nunavut and CIRNAC weren't able to attend the mock spill exercise in person, and a hybrid formula with a table top exercise was conducted. Agnico Eagle's Environmental staff reviewed the content of the emergency response equipment with Intertek personnel, as well as reviewed the appropriate radio protocols and ship to shore procedure. The mock scenario involved a cam-lock failure at the Itivia transfer and an approximate 750 L of diesel released, amongst which 250L is contained in the 400 L containment structure. Agnico Eagle's Environmental staff led the exercise, to which Intertek personnel participated. The exercise allowed participants to gain experience on spill intervention and awareness of spill management equipment. Overall, the reaction of participants was satisfactory and it was determined all participants had a sufficient understanding of roles and responsibilities of all spill responders. and lessons learned from the event will ensure a more efficient response in the future, if needed. The detailed mock scenario report can be found in Appendix 16.

Table 16. 2020 Non-reportable spills

Date and time of occurrence	Material Spilled	Estimated quantity (l)	Exact location of incident	Description of incident	Describe immediate corrective actions
Wednesday, January 01, 2020 5:00:00 PM	Motor Oil	3	E&I Dome	Training Department's towerlight was brought in the E&I dome to defrost. As it thawed, a seal broke on the motor and the motor oil leaked on the floor.	Mechanical department was advised immediately when the spill was noticed. They arrived on site, performed an inspection of the motor and plugged the hole on the motor. The towerlight was towed to the equipment downline and the spill was cleaned up and brought to the landfarm.
Wednesday, January 08, 2020 2:30:00 PM	Fuel	2	fuel farm portal 1	The operator was fueling his grader and the fuel gun did not stop when the tank was full	Use diaper to contain the spill and shovel the contaminated snow in a hazmat bag
Thursday, January 09, 2020 1:05:00 AM	Used oil	1	Hazmat seacan to MSB door 5	Remi was putting away a full used oil tote inside the hazmat seacan with 65LOM03. When he was backing out of the seacan the fork hit the tote and busted the plastic. We had to control the leak, bring the tote inside MSB and then pump the used oil inside another empty tote. Approximately 1L of oil spilled from the hazmat seacan to MSB #5.	We cleaned up the spill (shoveled up the oil & snow by hand) and disposed of material adequately.
Thursday, January 09, 2020 9:00:00 PM	Engine oil	1	Parking outside MSB #5	Operator parked 65TRA15 in the MSB parking lot (in front of door #5) and left it running. There was an engine oil leak, so it dripped on the floor until we went to get it to bring it inside the maintenance shop.	As soon as we noticed the leak, we put some absorbent pads on it. Snow that was contaminated was shoveled and disposed of material adequately.
Friday, January 10, 2020 8:30:00 AM	Hydraulic oil	15.38	TSF sub cell 1	Busted hydraulic hose on packer during operation. Some oil spilled on compacted tailings.	Supervisor was notified. Equipment shut down. Maintenance tech was called over and hose was fixed.
Sunday, January 12, 2020 3:30:00 PM	Diesel	1 m3	Gas boy behind the mill	While fueling the scoop the operator over filled the tank. The fueling area is inside a secondary containment area.	Final cleanup was done on the 12th when excavator was available, and material was disposed of adequately.
Tuesday, January 14, 2020 8:00:00 AM	Hydraulic oil	190	West Exhaust raise	Crane operator was warming up the crane, slowly working all hydraulic components. A hydraulic hose busted. Extremely cold conditions.	Spill pads were used and disposed of adequately.
					The crane operator shut down the engine, placed absorbent spill pads and contacted the Maintenance Department to provide further assistance. Comprehensive cleanup was delayed until the crane could be removed. Once the crane was removed, the Energy and Infrastructure department completed the cleanup, using an excavator bucket to break the ice and collect the contaminated snow. Spill pads were disposed of as hazmat and contaminated snow was transported to the landfarm.

Tuesday, January 14, 2020 10:30:00 AM	Hydraulic oil	20	SP4 Waste Rock Pile	The operator went to lift the truck box and a hydraulic hose broke.	Engine was stopped and spill pads were placed on the affected area. The spill pads were placed in an oily solids quatrex bag at the KCG shop.
Thursday, January 16, 2020 12:00:00 PM	Metabisulfite	0.5	Roller off reagent trash	The reagent operator was putting cleaned metabisulfite bags into the roll- off bin. An uncleaned bag was in the pile. The wind blew this bag and its contents out onto the ground where a trail of yellow powder was found.	A skid steer was used to transport the contaminated snow to the mill where it was put into the process circuit.
Friday, January 17, 2020 9:30:00 AM	Fuel	5	Construction Office Parking	The hose connecting the fuel filter broke and caused a leak.	The engine was shut down and spill pads were used to collect the fuel. Material disposed of adequately.
Friday, January 24, 2020 12:30:00 AM	Oil	15	MSB PARKING AREA	Bac04 was parked and idling, mechanic failure caused oil to spill out of Backhoe.	Spill pads deployed to soak up residual oil and pop-up pool was placed to catch any further leak, material disposed of adequately.
Friday, January 24, 2020 9:30:00 AM	Quicklime liquid	50	Outside of North end Process Plant.	Hole on the discharge line on Lime pump inside the Mill was leaking and Lime slurry was spraying on inside wall of Plant. The buildup of Lime found the crack between the cement berm and the outside wall and started leaking outside of the Plant.	Leak was stopped and repaired. Lime spill is being picked up with a Skid Steer and will be disposed of inside the Plant at a sump.
Friday, January 31, 2020 1:30:00 PM	Hydraulic Oil	90	OP1	There was a hydraulic oil spill at op1 on February 1/2020 at 12:30pm from the Hyster 65CLD02 the quantity of the spill was 90 liters of hydraulic oil.	The spill was cleaned up during night shift under supervisor and all the contaminated soil was placed in the land farm after Hyster was moved by the Maintenance department.
Friday, February 07, 2020 1:30:00 AM	Diesel	2	R.O. plant	Employee lost his footing as he was refueling a allman heater at the R.O. plant. The nozzle came out of the tank spout of the allman and a few liters spilled before he released the trigger.	Contaminated snow was scraped and disposed of adequately.
Saturday, February 08, 2020 8:30:00 PM	Hydraulic Oil	38.46	SP4	During drilling operation, a hydraulic hose busted and hydraulic oil spilled out of the drill shack.	Spill contained, cleaned up and material disposed of adequately.
Monday, February 10, 2020 3:00:00 AM	Engine oil	1	TSF sub cell 1	Breeder on tower light froze up and some engine oil spilled out of dipstick after pressure built up in engine. Extreme cold weather conditions.	Spill cleaned up, material disposed of adequately.
Monday, February 10, 2020 4:00:00 PM	Antifreeze	20	SP4	Zoom boom had just been repaired, worker was on his way to the work area when the bottom hose fell off spilling antifreeze on the road and pad until he came to a stop.	Engine stopped and spill pads placed under equipment where fluid was still dripping. Material disposed of adequately.
Thursday, February 13, 2020 1:00:00 PM	Coolant	1	Rankin Inlet	PCK39 was in Rankin Inlet and a small coolant leak was noticed under the truck. The spill was cleaned up and the problem was repaired immediately by the Sarliq maintenance team in town.	Spill contained and material disposed of adequately.

Thursday, February 13, 2020 3:30:00 PM	Hydraulic Oil	15	Portal 1	After having parked the tractor, operator went in the dome. Just when he was going outside the dome he saw that hydraulic oil was leaking out tractor 25.	Spill kit was used, material was disposed of adequately.
Sunday, February 16, 2020 6:00:00 AM	Hydraulic Oil	20	OP2, HG O/S pile	Hydraulic hose failure on Inukshuk's portable crusher.	Crusher was shut down. Spill was cleaned up and contaminated material was disposed of adequately.
Thursday, February 20, 2020 12:00:00 AM	Brine	300	Saline Water Treatment Plant	There is crack in the floor of the SWTP. During normal operations, some process water can accumulate on the floor and migrate towards the crack. It is suspected that the water eventually drains through the crack reaching the gravel pad underneath. The water will eventually drain towards CP5, therefore no contamination will leave the site footprint and no water bodies are impacted.	A consultant inspected the concrete flooring. Holes were drilled through the floor to investigate the extent of the cavity beneath the floor. A weekly inspection of the floor integrity including pictures to document key areas has been implemented as a corrective measure.
Friday, February 28, 2020 5:30:00 AM	Hydraulic Oil	75	SP4 parking	Employee was operating the Haul Truck 1560 at SP4 when a hydraulic fitting loosened, spilling hydraulic Oil	Mechanics applied absorbent layers to recover the spilled hydraulic oil, a spill pan was installed under the ruptured seal. The contaminated material has been disposed of adequately.
Sunday, March 01, 2020 1:00:00 AM	Hydraulic Oil	20	Up the portal 1 to the ore pad, truck park ready to dump	The truck driver was ready to dump his load and saw a little bit of oil on the ground, he immediately used his spill kit (pads) to contain the leak, when he stood by at remuck one the truck left a little puddle of oil, we also used spill kit to contain that leak.	Spill was contained and material was disposed of adequately.
Sunday, March 08, 2020 10:00:00 PM	Engine Oil	1,000.00	Warehouse Laydown Row 5	While getting a tote of Mobil DTE (JDE#270386) oil in a sea can the fork of the telehandler accidentally punctured the tote (1000L) in the back causing it to empty in the c-can and on the ground outside. Approximately 75L is still in the c-can and the remaining spilled outside.	Spill kit was immediately used but was not sufficient for the qty of oil leaking. Operator called for help to get some spill pads brought to the site, they were quickly dispersed to prevent the oil from spreading and they were able to contain the oil in a confined area.
Saturday, March 14, 2020 4:00:00 AM	Hydraulic Oil	60	Waste Rock Facility 1	The operator of the 773 Cat rigid truck tried to dump and the box didn't lift. The mechanic found the hose on the hoist cylinder broken. The hose was broken directly on rubber.	A spill kit was used to absorb excess oil. Material disposed of adequately.
Thursday, March 19, 2020 8:30:00 PM	Transmission Fluid	4	Km 30 AWAR	Hose broke on bus causing spill of 4 L of transmission fluid.	The bus was immediately stopped, mechanic was called, found problem and replaced hose prior to restarting. Spill cleaned up and material disposed of adequately.
Saturday, March 28, 2020 4:00:00 PM	Emulsion	400	Emulsion Plant	On March 28th at approximately 3:00 pm, an estimated 400 L of emulsion was spilled on surface at the emulsion plant. A tele-handler operator punctured	The crack was temporarily plugged while the bin was lifted over another bin and drained; the flat rack was moved by the hyster so the bulk of the spill could be cleaned. The clean and uncontaminated emulsion was put into a bin while the rest was

				an empty emulsion bin while loading it onto the flat-bed truck for transport to surface. As the emulsion plant operator began refilling the bin he noticed the leak and shut down the system immediately. The operators removed the bins from the flat rack to ensure the caps were in place and valves were closed. The bins were then placed back onto the flat rack to be filled. During filling of the second bin, the operator noticed emulsion coming out of the bottom of the bin from a small crack.	put into a separate bin. Emulsion plant personnel removed the damaged bin from the flat-rack using a forklift, and drained the emulsion from the damaged bin into another bin. The flat-rack was moved using a hyster, to provide access to the spill. Spilled emulsion was pumped into an emulsion bin for reprocessing and reuse. A bobcat was used to scrape remaining emulsion residue from the ground. This material was neutralized using an emulsion destruction process.
Thursday, April 02, 2020 10:30:00 AM	Hydraulic oil	50	North side of maintenace garage yard	Hydraulic hose blew underneath the machine causing an oil spill	Leak was immediately stopped, oil on ground was contained and picked up and disposed of in an empty drum
Saturday, April 04, 2020 12:00:00 PM	Transmission Oil	5	KCG Garage Yard	Two workers repaired a transmission on unit # 17-002. During the task, a quantity of oil was not caught by the spill pan.	Spill cleaned up and contaminated material disposed of adequately.
Wednesday, April 08, 2020 6:00:00 AM	Hydraulic oil	75	CP1 Snow Dump	Operator was hauling snow and during unloading a hydraulic hose ruptured	Clean up was initiated immediately moving snow to the contaminated snow dump.
Saturday, April 25, 2020 5:00:00 AM	Transmission Oil	80	WRSF3	A loader operator was clearing snow on WRSF3, he didn't see a rock on the ground and passed over it, the rock broke the transmission plug and an oil spill occurred	Shut down equipment, use of absorbant pad
Saturday, May 02, 2020 5:30:00 PM	Hydraulic Oil	10	CP1 Jetty	Oil was observed next to the pumping station - there were no vehicles/equipment in the area. Mid-march an air compressor was in that area with the snow/ice build up no leak was observed, the assumption is that the compressor had leaked oil and was not detected at the time.	Put down absorbent pads, contaminated material disposed of adequately.
Monday, May 04, 2020 4:30:00 AM	Emulsion	800	Portal 1	The loader operator had placed the forks in a bad position to pick up the emulsion bin and when he was backing up the bin flipped on the side and the lid came off, leading to the spill.	Red ribbon was installed around the area and contaminated material was picked up and put it in two hazmat bags. The material was brought to the DYNO emulsion plant on site where it was adequately disposed of.
Monday, May 04, 2020 2:00:00 PM	0w40	2	drill hole M20-2825 (target TIR-1510	While changing a hydraulic pump on a machine, a spill occurred.	Area was cleanded up with absorbent matting, contaminated material disposed of adequately.
Friday, May 08, 2020 4:00:00 AM	hydraulic oil, Produro 04+	10	road from WRSF3 to CP6	The loader operator was clearing snow on the road between CP4 and WRSF3 when a hydraulic hose broke.	Put down absorbent pads, contaminated material disposed of adequately.
	Hydraulic Oil	2	Road down to Mel Lake diffuser		The truck was moved to the garage, containment put underneath and maintenance shop was called. The

Friday, May 08, 2020 3:30:00 PM				While filling the steamer reservoir with the water truck the team noticed a small oil leak from the truck engine.	residual oil was caught in the snow, shoveled up into a bucket and put in hazmat.
Tuesday, May 12, 2020 3:30:00 PM	Hydraulic Oil	2	Outside 3 Mil tank farm	A hydraulic hose busted.	Put down absorbent pads, contaminated material disposed of adequately.
Thursday, May 14, 2020 1:00:00 AM	Pro Duro T04+	50	KCG Shop yard	The mechanic tried to move a barrel of oil from the yard to the store, using a telehandler. As the barrel was frozen to the ground, they tried using the forks to push the barrel, which punctured the drum.	The barrel was laid on the ground to avoid losing all the product. Absorbent pads were used and disposed of adequately.
Thursday, May 14, 2020 11:30:00 AM	GLYCOL AND BOILER WATER	50	BETWEEN WINGS #4 & #5	During snow removal operation, a patch of discolored snow was noticed between wings 4 and 5.	Area of the leak isolated and system brought back online, contaminated snow disposed of adequately.
Saturday, May 16, 2020 11:30:00 AM	Hydraulic Oil	20	Main Pad	A hydraulic hose broke under an engine.	Contaminated snow disposed of adequately.
Wednesday, June 03, 2020 6:00:00 PM		10m3	East of reverse Osmosis set up	During winter snow remove shovel struck 20" water line. When water line was turned on, a crack was found on the flange beside where the excavator had hit the pipe.	Pump was immediately shut off until repair to the line can be completed.
Saturday, June 06, 2020 9:00:00 AM	Hydraulic oil	15	SP4	A small spill was observed on SP4 ramp.	Oil absorbent rags were used to soak up spill; rags were picked up and brought to the hazmat laydown and put in proper storage.
Friday, June 12, 2020 1:00:00 AM	Hydraulic oil	12	SP4 stockpile	An hydraulic hose busted during a normal excavation work.	Operator shut down the power of the excavator and grab the spill kit right away. He got down of the excavator and laid down absorbent material on the spill. After this, he got back inside the excavator and took off the pressure located in the hydraulic tank permitting this way to reduce or ends the oil leaking. Following this, he called the mechanics and they showed up to fix the problem.
Friday, June 12, 2020 6:00:00 AM	Hydraulic Oil	20	SP4 stockpile	A hydraulic Hose busted during a normal excavation work. Hydraulic Oil spread on the excavator right side. Few drops around 3 or 4 liters fell on the ground below the excavator and the rest on the excavator traction.	Shut down the power of the excavator right away. The operator calls the mechanic and he came right away to address and fix the problem. Material picked up and disposed of adequately.
Friday, June 12, 2020 11:30:00 AM	Hydraulic oil	20	CP4 ramp	hydraulic line on back of excavator was leaking.	Millwright leading operation stopped the excavator. Spilled cleaned up and material disposed of adequately.
Saturday, June 13, 2020 1:00:00 AM	Diesel	50	Power Plant	Snow melted in the area revealing spilled 50L of diesel. It's likely the result of the frost fighter being over filled in winter.	E&I placed contaminated gravel in a separate pile in the landfarm. The gravel will go to the WRSF once free of hydrocarbons.
Sunday, June 14, 2020 1:00:00 AM	Hydraulic oil	3	MSB Parking Area	A small spill was observed during the weekly site clean up event; techs arrived at the scene and absorbent rags were already deployed	Rags were exchanged and used absorbent sand to soak up any left over material

Monday, June 15, 2020 1:00:00 AM	Hydraulic Oil	10	KCG Shop Back-yard	A slow spill occurred on the 1507 haul truck. This truck is parked here since few weeks because of several mechanical issues.	Spill picked up and materials disposed of adequately.
Tuesday, June 16, 2020 9:00:00 PM	Hydraulic oil	0.5	Exploration Camp parking lot	When backing up the vehicle to park it at the exploration camp, a leak occurred on the vehicle's power steering system. Once the vehicle stop the leak has automatically stopped.	As the leak occurred in a small water pound in the parking lot we filled up 3 drums using a trash pump. We also collected all the oil that was on the ground in 4 plastic buckets. Then we put matting material all around to control the spill from spreading and collected the remaining material.
Sunday, June 21, 2020 8:00:00 AM	Motor oil	4	KCG Shop yard	Supposition : A worker unfortunately dropped a 4l motor oil can by his pick up tail gate, then rolled on it without notice the spill.	Absorbent pad have been used by mechanics and disposed of adequately,
Tuesday, June 23, 2020 11:00:00 AM	Fuel	5	Jetty 1	fuel system of the pump was linked to an external tank - the return line for the fuel was returning into the pump's day tank rather than the external tank, this occurred until the day tank overflowed.	stopped leak, put spill pads down, and installed an absorbent boom between the spill and the water to ensure there could be no fuel reaching the water. Environment department was called and clean up was completed.
Saturday, June 27, 2020 3:30:00 AM	Jet A fuel	205	Beside Exploration garage Flatbed fuel cache	While unloading JET A fuel drums off of Flat rack near exploration garage at Exploration camp ,operator had one fork go over the top of pallet causing an puncture in one drum .	The spill was contained and material disposed of adequately.
Sunday, June 28, 2020 10:30:00 AM	Sewage water	20	Paste plant	The toilet at the paste plant have to be empty by a vacuum truck and the pipe to empty it is broken, so the toilet container as overflow and drop outside on the ground	Spill picked up and material disposed of adequately.
Monday, June 29, 2020 4:00:00 PM	Hydraulic oil	80	WRSF 3	When the haul truck operator lifting the box to dump the rocks the hydraulic hose broke. The operator, unaware of the situation, drove 100 m to the pit where another worker noticed the spill.	The operator parked the truck and called the mechanics. The mechanics brought a drip tray and used absorbent pads to contain the oil leaking from the machine. Material disposed of adequately
Wednesday, July 08, 2020 10:00:00 AM	Non-contaminated water	90	Road near the mill	During a test of a new waterline there was a leaking joint (the waterline ran from CP1 to the Mill).	The pumping was stopped, and the leak was repaired.
Saturday, July 11, 2020 10:00:00 AM	Coolant	40	OP2	A radiator busted.	Equipment was shut down, spill pads were installed under loader, material was picked up and disposed of adequately.
Sunday, July 12, 2020 4:00:00 PM	Hydraulic Oil	20	OP2 pad	A hydraulic hose busted on boom of WA500 loader.	Equipment was shut off and spill pads were put under the loader. The material was picked up and disposed of adequately and the hose was replaced.
Monday, July 20, 2020 11:30:00 PM	Hydraulic Oil	40	OP2 pad waste pile	A hydraulic hose blew on a WA500 loader.	Equipment was shut down and repaired. Spill pads were put on the ground to control spill, picked up and disposed of adequately.
Tuesday, July 21, 2020 1:30:00 PM	Fuel	10	Discovery camp	While fueling the overpack for the drill from the fuel bell, the pump was shut down and the hose left on the overpack hole which emptied a bit by gravity.	Sand was dug to recover all the fuel. Material picked up and disposed of adequately.

Wednesday, July 22, 2020 12:00:00 AM	Hydraulic Oil	30	Batch Plant	A hydraulic Hose busted on the haul truck.	The operator stopped the equipment and put some spill kit underneath the spill. The spill was collected, and contaminated material was brought to the KCG shop. Reparation was done right away.
Sunday, July 26, 2020 2:30:00 PM	Coolant	20	P2 area	A coolant hose busted on an articulate truck.	Spill pads were used, material cleaned-up and disposed of adequately.
Wednesday, July 29, 2020 4:00:00 PM	Hydraulic Oil	10	OP2 muck pile	Will testing scoop in muck pile, an o-ring busted on a tilt cylinder hose.	Absorbent pads were used, material was cleaned-up and disposed of adequately.
Tuesday, August 04, 2020 6:00:00 AM	Hydraulic Oil	2	Parking	The oil filter exploded when the equipment was parked in the parking.	The spill was cleaned up and the contaminated material was disposed of adequately.
Thursday, August 06, 2020 11:30:00 PM	Ferric Sulfate	500	Tailing Dewatering Building	A 988 loader tore through a sea can and punched a 1000L ferric sulfate tote.	Supervisor, ERT and environment were notified. Work in the area was stopped. Situation was assessed. JHA was written up to begin clean up. Contaminated material was disposed of adequately.
Friday, August 07, 2020 8:30:00 PM	Rock Drill Oil	2	Portal 1 on Emulsion Pad	Up on arrival to the fuel truck a spill was observed under the equipment, it was oil from the rock drill.	A spill kit was used, the spill was contained and cleaned up, the contaminated material was disposed of adequately.
Sunday, August 09, 2020 12:00:00 PM	Treated saline water	1,000.00	CP5 - between SP3 and RO	During the commissioning of the truck fill station there were multiple leaks on the existing line and new filter system between SP3 and the discharge to sea truck loading area. All water from the spill will lead towards CP5.	The pumps were stopped and the leaks repaired.
Wednesday, August 12, 2020 8:10:00 PM	Fuel	300	Tiri 2	During the loading of the 1506 haul truck by the 1250 excavator, a rock fall from the bucket and hit haul truck fuel tank.	The Haul Truck operator backed forward to park into a safe location, he notified his supervisor and used a complete spill kit to reduce the spreading. The mechanics arrived few minutes after and plugged rags into the hole to limit the spreading radius and collected the rest of the spill into a barrel.
Thursday, August 13, 2020 5:00:00 AM	Coolant	60	WRSF3	A hose busted on the top of the radiator.	A spill kit was used, the spill was contained and cleaned up, the contaminated material was disposed of adequately.
Saturday, August 15, 2020 4:30:00 AM	Engine Oil	1	OP2	There was an engine oil leak while the vehicle was parked.	A spill pad was used, the spill was contained and cleaned up, the contaminated material was disposed of adequately.
Sunday, August 16, 2020 8:30:00 PM	Hydraulic Oil	30	P2 Area	While dumping a load of Ore on P2 area, an O-ring busted on a hydraulic hose causing a 30l spill.	Absorbent pads were used, the spill was contained and cleaned up, the contaminated material was disposed of adequately.
Friday, August 21, 2020 11:00:00 PM	Coolant - Glycol	30	WRSF3	A coolant hose busted on the D8 Bulldozer.	The spill was cleaned up and the contaminated material was disposed of adequately.
Sunday, August 23,	Treated Effluent	NA	MEL-26	During discharge to sea, regulatory samples were collected at compliance point MEL-26 on August 23, 2020.	As due diligence, Agnico Eagle Mines Ltd. has stopped discharge on August 31, 2020 until the cause of this exceedance is identified and appropriate corrective measures are implemented.

2020 1:00:00 AM				Partial results from the sample were received on August 31, 2020, indicating TSS levels of 46 mg/L and volatile TSS levels of 35 mg/L.	
Sunday, August 23, 2020 2:00:00 PM	Slurry without chemical	15 m3	South of the mill (Grinding Area)	There was a communication problem between the trash screen #2 and the HMI	The mill was stopped, the material was picked up and disposed of adequately.
Sunday, August 23, 2020 6:30:00 PM	Oil	5	Parking - East MSB	While going for the site cleanup, the worker noticed an ongoing spill under Tractor 18, parked in the east side of the MSB building.	The spill was cleaned up and the contaminated material was disposed of adequately.
Monday, August 24, 2020 1:00:00 AM	Granular Activated Carbon	5 gallons		Worker was relocating a tote of tis granular activated carbon and when he went to place it in front of another tote containing the same substance. The worker went to close and his fork punctured a hole in the tote allowing a small amount of the substance to leak out.	The spill was cleaned up and the contaminated material was disposed of adequately.
Monday, August 24, 2020 1:00:00 AM	Propylene Glycol	20	Vent raise room 5	The open pit had a blast on the evening of Aug 24th and a boulder flung approx. 360m through the roof of room 5 damaging the large heating coil, this coil was filled with propylene glycol.	Environment was called and a perimeter was established, the glycol was cleaned up using absorbent pads and the rest was mopped up in the furnace rooms. The contaminated material was disposed of adequately.
Tuesday, August 25, 2020 8:00:00 PM	Hydraulic Oil	70	On North Wall Rock Breaker	A hydraulic hose broke on the rock breaker causing oil to spill inside the facility, and approximately 70L migrated outside the building onto the pad.	Absorbent pads were used, the spill was contained and cleaned up, the contaminated material was disposed of adequately.
Wednesday, August 26, 2020 8:30:00 AM	Hydraulic Oil	70	Buggy bin	A hose came loose.	Equipment was turned off; spill kit was deployed and environment was called for support- drip tray was also installed. The contaminated material was disposed of adequately.
Saturday, September 05, 2020 1:00:00 AM	Hydrocarbon	100	Side of the road towards Dyno	On September 5th, at approximately 11:00 pm, an estimated 100 L of mixed hydrocarbons spilled from an overturned Hyster RS46-36. The spill consisted of approximately 80 L of hydraulic oil, 15 L of transmission fluid and 5 L of diesel, which released from the vehicle due to damage sustained in the accident.	The spill was confined to a drainage channel, which is part of the sites' managed water system. No contaminants migrated off-site. A series of soil berms were rapidly constructed using an excavator, which blocked the steady flow of water in the channel, upstream and downstream of the source. The berms successfully prevented the spill migrating away from the overturned vehicle. Spill pads were deployed to absorb the hydrocarbons from the surface of the pooled water. The water was then removed and treated in the snow cell, using an oil/water separator. Soil within the channel with potential exposure to hydrocarbons was excavated and transported to the landfarm. Approximately 36 m3 of soil and gravel were removed. A Mini-RAE VOC detector was used during the excavation to verify contaminated material was removed.
Saturday, September 12,	Sewage Water	1,500.00	STP Main Camp	On September 11th 2020, at 11:45pm an overflow switch failed to trigger in the	In response to the overflow, the treatment plant operator redirected influent flow to another tank. Effluent contained within

2020 12:45:00 AM				main camp sewage treatment plant, which caused a treatment tank to overflow, resulting in approximately 1.5m ³ of untreated sewage to spill to the ground. No contaminants migrated off-site.	the building was removed using a vacuum truck and input back into the system. A soil berm was deployed to isolate the spill at the source. Effluent contaminated gravel on the industrial pad was removed and disposed of in accordance with the waste management plan.
Saturday, September 12, 2020 12:30:00 PM	Hydraulic Oil	35	Itivia	A fitting attached to the hydraulic hose on the boom of the Kone Crane gave away, approximately 35 litres of hydraulic oil was released onto the ground.	Spill pads were used to contain the spill and were disposed of adequately.
Wednesday, September 16, 2020 1:00:00 AM	Treated Effluent		MEL-26	Preliminary results for a sample collected at MEL-26 September 16, 2020 were received on September 18, 2020, indicating TSS levels of 34 mg/L, exceeding the maximum authorized concentration in a grab sample set out in MDMER. (Note that in order to rule out the possibility of a lab error a request was made to reanalyze the sample, which yielded a final result of 31 mg/L confirming the exceedance)	As due diligence, Agnico Eagle Mines Ltd. stopped discharge on September 18, 2020 and launched an investigation into the cause of the exceedance.
Thursday, September 17, 2020 5:00:00 AM	Coolant	40	WRSF3	A bolt broke down on a bracket, resulting in a 40 litres coolant spill.	Absorbent layers and buckets were used to contain and clean up the spill and contaminated material was disposed of adequately.
Thursday, September 17, 2020 6:30:00 AM	Treated saline water	50	Discharge to sea pump station	The PVC piping downstream of the discharge to sea pump station at Itivia broke in 2 places. Treated saline water discharged for an estimated 10 seconds.	The operator/driver pressed the emergency stop.
Wednesday, September 23, 2020 7:00:00 AM	Diesel	12,229.00	Boiler Fuel Tank, South Side of MSB	A mechanical or electrical failure caused the automated fuel pump to continue filling the daily fuel tank, even though it was full. As the daily tank was continually overfilled excess fuel was released out of the vent pipe onto the ground outside the boiler set up. The fuel soaked into the pad by the boiler fuel tank and migrated down through the slope to the pad on the north side of the MSB (outside the warehouse bay doors).	Spill pads were placed to stop the fuel migrating and to absorb visible fuel. Utilizing the hysteresis, seacans in the effected area were moved to a designated location in the heavy equipment parking area. A back hoe created berms to contain the flow of fuel. Two sumps and shallow trenches were created to direct fuel into the sumps. The sumps were pumped into totes, the contaminated fuel will be shipped off site as hazardous waste.
Sunday, September 27, 2020 5:00:00 PM	Hydrex 6240	500	Front area of SWTP	While lifting a tote, forks broke through the tote causing the spill	Upon puncturing the tote, the operator acted quickly by using the loader to tip the tote onto its side, preventing it from emptying completely. Spill pads and absorbent booms were deployed in an initial attempt to prevent the spill from spreading. The material itself was a sludge-like consistency and did not absorb deep into the compacted pad. However, the spill occurred on a sloped area, so the material spread out over a large surface area.

					Workers manually began to shovel material into an empty tote, until a back-hoe arrived. The back-hoe was then used to scrape up a few inches of gravel/sand which helped to soak into the coagulant. The pile of contaminated gravel was then transferred into approximately 25 quatrex bags which will be shipped south as hazardous waste.
Thursday, October 02, 2020 1:00:00 AM	Ammonium nitrate	350	DYNO Laydown	A seacan containing bags of ammonium nitrate was punctured by heavy equipment causing approximately 350 kg of product to be released to the ground. The spill was initially reported as 400 kg. However, after weighing the remaining product inside the seacan, a more accurate estimate of 350 kg was calculated. The damage was discovered October 2nd and it is thought to have occurred during snow removal earlier this year.	Any spilled material would have likely been collected during snow removal and transported to a snow storage area. Material spilled inside the seacan was collected for use. Potentially contaminated gravel was scraped up using a bobcat and disposed of as hazmat. The damaged seacan was emptied and will no longer be used.
Tuesday, October 06, 2020 9:30:00 PM	Coolant	20	OP2	A coolant hose busted.	The engine was stopped and absorbant pads were used to clean the spill. The contaminated muck was put into a Quatrex bag and brought to the Oily-Solid Seacan near TIRI02.
Friday, October 09, 2020 6:00:00 PM	Diesel	20	Water Management Garage	An external diesel tank for a water pump (portable day tank) flipped onto its side during transport due to the heavy load not being properly secured. The level of the tank was high but not completely full.	A spotter was used for this task. and he intervened right away to flip the tank back upright. Absorbent spill pads were used to collect any liquid on the road, and the gravel was shoveled into pails and brought to the landfarm.
Saturday, October 10, 2020 10:00:00 AM	Fuel	80	Fuel Farm	While refueling the fuel truck, and trying to disconnect the loading fitting, a valve near the fitting wasn't properly closed and fuel present in the hoses came out.	The valve was closed and absorbant layers and material was used to clean up the spill. They were placed in a quadrex bag.
Saturday, October 17, 2020 4:30:00 AM	Diesel Exhaust Fluid	800	Main Pad	Operator removed a tote of urea from a seacan. The forks were longer than the tote and punctured another tote which had already been removed.	After the tote was punctured, the operator quickly flipped it upside down to stop the entire tote emptying onto the ground. As the spill occurred on an industrial pad in the middle of site, any migration of the product would be contained within the pad. According to the SDS, urea is low risk to the environment. As the risk to the environment was very low, it was determined a recovery attempt would not be made in a high traffic area.
Tuesday, October 20, 2020 8:00:00 AM	0/40 Duron (Hydraulic Oil)	5	Outside of Dome 1 -(tractor park)	While a worker was moving a pail into back of tractor basket, the basket door closed causing the pail to tip over and leak some oil.	Some of the product was able to be soaked up with absorbent pads. The rest was scraped up using a shovel. This material (some oily gravel) was put into the designated Oily Solids quatrex bag in the Orbit Garant hazmat sorting station.
Tuesday, October 20, 2020 11:30:00 AM *	Treated Sewage Water	3,000.00	Retention tank at the south side of Explo Camp	The operator of the water truck failed to close the outlet valve on the truck after his previous discharge to CP1. Upon returning to the retention tank to retrieve another load, pumping was initiated, and the operator sat in the truck to wait for it to fill. Five minutes later, the	The water from the sewage treatment plant is sampled on a weekly basis (sample location MEL-7). The results from previous weeks (water chemistry and fecal coliforms) had all been below the effluent quality limits established in Part D, Section 11 of the 2BB-MEL1424 Licence. As this water met discharge requirements, excavating the tundra or building berms to recover

				operator noticed the issue and shut off the pump.	a portion of the water would have caused unnecessary damage. The water was permitted to disperse naturally.
Wednesday, October 21, 2020 3:00:00 PM	Copper Sulfite	0.1	Temporary Chemical Storage	Copper sulfite was removed from a seacan and residual copper sulfite dust blew around onto snow causing snow to turn blue.	Snow with copper sulfite was removed and brought back into the Mill.
Wednesday, October 28, 2020 10:00:00 AM	Hydraulic oil	15	Base of Ore Silo	While the excavator was working a hydraulic hose broke, resulting in the release of hydraulic oil onto the ground.	The operator stopped the equipment quickly and stopped the leak. The contaminated material was cleaned up and brought to the landfarm.
Saturday, October 31, 2020 6:30:00 AM	Hydraulic oil	50	Portal 2 just on the Side the Dome	After parking the men carrier next to the dome at portal 2, a fitting broke between the shift and the oil escaped from the tank.	The spill was cleaned up using absorbent material and the contaminated material was disposed of adequately.
Monday, November 02, 2020 11:00:00 PM	Hydraulic Oil	80	WRSF3	A hose was not crimped the right way on the haul truck from the factory. When the haul truck started, the hose disconnected, and the spill occurred.	The engine was stopped, and spill pads were used of to clean the spill and disposed of in Quadrex bags.
Tuesday, November 03, 2020 11:30:00 AM	Hydraulic Oil	2	Road to crusher at Tiri2	A worker was working with the telehandler when the hydraulic hose burst.	The spotter acted quickly and installed spill pads all over the area. The contaminated spill pads were disposed of adequately.
Tuesday, November 17, 2020 7:00:00 PM	Burnt Product Diesel Fuel	1	Corner of B7 Lake	A fire within the pump shack of a drill rig was extinguished, leading to potentially contaminated material being released onto the snow and ice on the shore of Lake B7.	On November 19 the Orbit Garant drilling team was able to plow all of the contaminated snow and ice into a large pile. This material was then brought to the Snow Cell on site where it will be stored until the summer and treated through the oil-water separator.
Monday, November 30, 2020 2:00:00 PM	Sewage Water	20	STP Main Camp	Sucker truck operators arrived at the STP to transfer 2-3 loads from the old EQ tank to the new EQ tank to help with the initial startup. They hooked their hose onto the line at the base of the old EQ tank and opened the 3" ball valve on the tank to start feeding into the sucker truck. They accomplished one load into the new EQ tank but on the second load when they went to close the ball valve on the EQ tank it would not close all the way. A frost fighter was brought over to warm up the valve to see if freezing was the issue. On their second attempt they were still unable to 100% close the valve. They then made the decision to install a threaded plug to stop the EQ tank from leaking until a new valve could be installed. In the process of them removing their hose from the sucker truck to install the plug the pressure was greater than expected	The spill froze between two sea-cans. The valve was repaired, and the contaminated snow was taken to the snow cell.

				and they were covered in sewage waste.	
Friday, December 11, 2020 7:00:00 AM	Hydraulic Oil	20	WRSF3	Just after starting the Haul Truck 1506 a hydraulic filter felt down and hydraulic oil spilled on the ground.	The contaminated material was cleaned up and disposed in a quadrex bag and stored in the oily solid container.
Friday, December 11, 2020 9:00:00 AM	Hydraulic Oil	15	WRSF3	While starting the equipment at WRSF3 to clean some spill rock, the operator noticed a hydraulic oil spill (located on the breaks).	The equipment was shut down, absorbent layers were used and disposed into the hydraulic oil tote.
Friday, December 11, 2020 5:00:00 PM	Fuel	50	WRSF1	While pushing some rocks with the Loader WA 600 at the waste dump, a rock hit the fuel tank valve spreading gas on the ground.	The operator stopped and set a 100 gallon bucket under the leak. The mechanic was called and came with the lube-truck. A spill pan was placed under the leak and the vacuum was used to collect the fuel leaking in it. The contaminated material was disposed in a quadrex bag and stored into the oily solid container.
Tuesday, December 15, 2020 1:30:00 AM	Hydraulic Oil	280	Dome 2	A broken hose on HTR21 resulted in the hydraulics leaking out onto the ore pad.	The Spill kit was deployed, and bench scraped by E&I operations. The affected ore was processed through the mill, and approximately 1 cubic meter of pad material was transported to the landfarm A.
Wednesday, December 16, 2020 5:00:00 AM	Hydraulic Oil	30	access road between WTP and wh laydown	A hose busted, resulting in a Hydraulic Oil spill of 30 L.	Contaminated snow was brought to the snow cell.
Wednesday, December 16, 2020 12:00:00 PM	Petroleum Product	5	In front of KCG Shop	Mechanic were trying to fix the coolant system oil tank of the drill DI-650, 20-0902. The repair did not work and the spill occurred.	Contaminated snow was put inside a drum and pad were disposed in oily solid quadrex bag.
Thursday, December 17, 2020 5:00:00 AM	Prestone	10	KCG shop in front of the dome	Environment team was performing a site inspection and found that a coolant spill occurred. Mechanic supervisor did not see it during the morning and think it must have happened during night shift.	Contaminated snow will be disposed in a drum.
Sunday, December 20, 2020 1:00:00 AM	Untreated sewage	60	P-Wing	At approximately 17:00 on December 20, 2020, the Environment Department was notified of a spill of an unknown amount of raw sewage/retention tank water. The spill was later estimated to be approximately 60 L. It occurred when a Victaulic fitting failed, which was connecting two segments of piping together. The piping transports water from the retention tank of the newly installed P-Wing to the main camp lift station.	The water pooled in a depression at the toe of the pad behind P-Wing, making the recovery of the liquid
					straight forward. The sucker truck was used to recover the pooled water, which was later deposited into
					the MSB lift station.
Wednesday, December 23, 2020 10:00:00 AM	Diesel	45	KCG shop	A mechanic was working on PC-1250 excavator. There are protection valve on the diesel tank to make sure that no spill occurred during fuel filter change. He did not plug the hose with cap,	The leak was capped to stop more diesel from spilling. Absorbent pads used to absorb diesel. Contaminated material was scraped up and stored in large drums.

				thinking it would be ok with the protection valve closed. The protection valve failed for an unknown reason and the diesel start to spill under the excavator.	
Thursday, December 24, 2020 4:00:00 PM	Glycol	5	In front of water management dome1	A leak on the ground was noticed at a seacan containing a diesel pump.	Spill pads were used and disposed of as hazmat
Friday, December 25, 2020 10:30:00 AM	Hydraulic Oil	40	Behind Warehouse	While an operator was trying to hook up to a bucket with the hydraulic attach the hydraulic hose busted underneath the machine causing some of the hydraulic fluids to spill on the ground.	Spill pads were immediately placed underneath the machine and on all contaminated area. Once the machine was towed for repair all spill pads were put in a plastic bag and disposed in a hazmat container and the spill on the ground was scooped up and was brought to the landfarm A.
Tuesday, December 29, 2020 1:00:00 PM	Untreated Sewage	20	Wing 10	Snow accumulated during a blizzard putting pressure on the plumbing under wing 10. The weight of the snowbank broke the pipe allowing sewage from the line to spill.	Pipe was repaired and spilled material was transferred to CP1 for treatment.

SECTION 7. MONITORING

Site Sampling Stations and EEM Receiving Environment Sampling Locations are illustrated in Figure 9 and Figure 10.

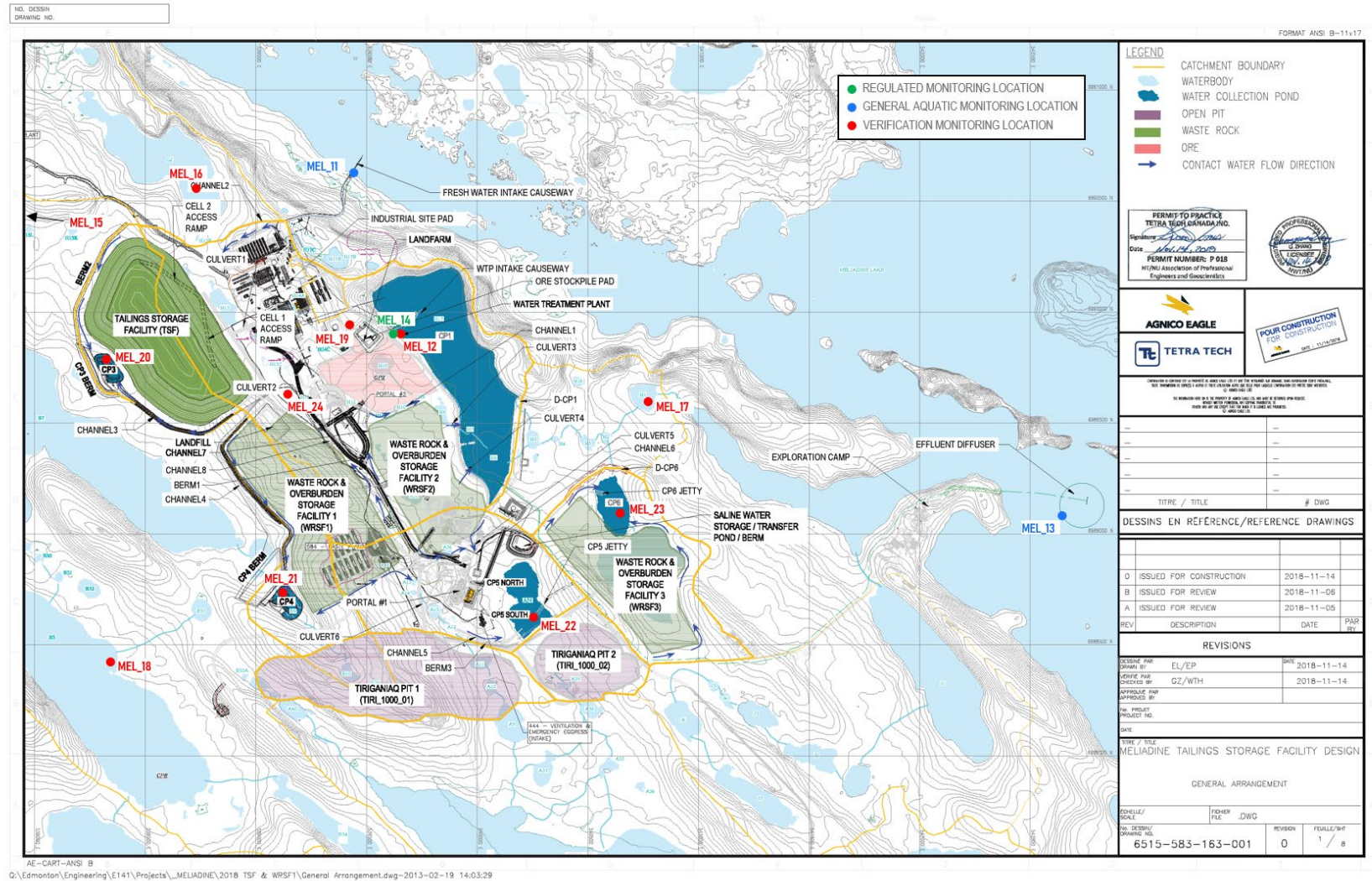


Figure 9. Meliadine Site Sampling Locations

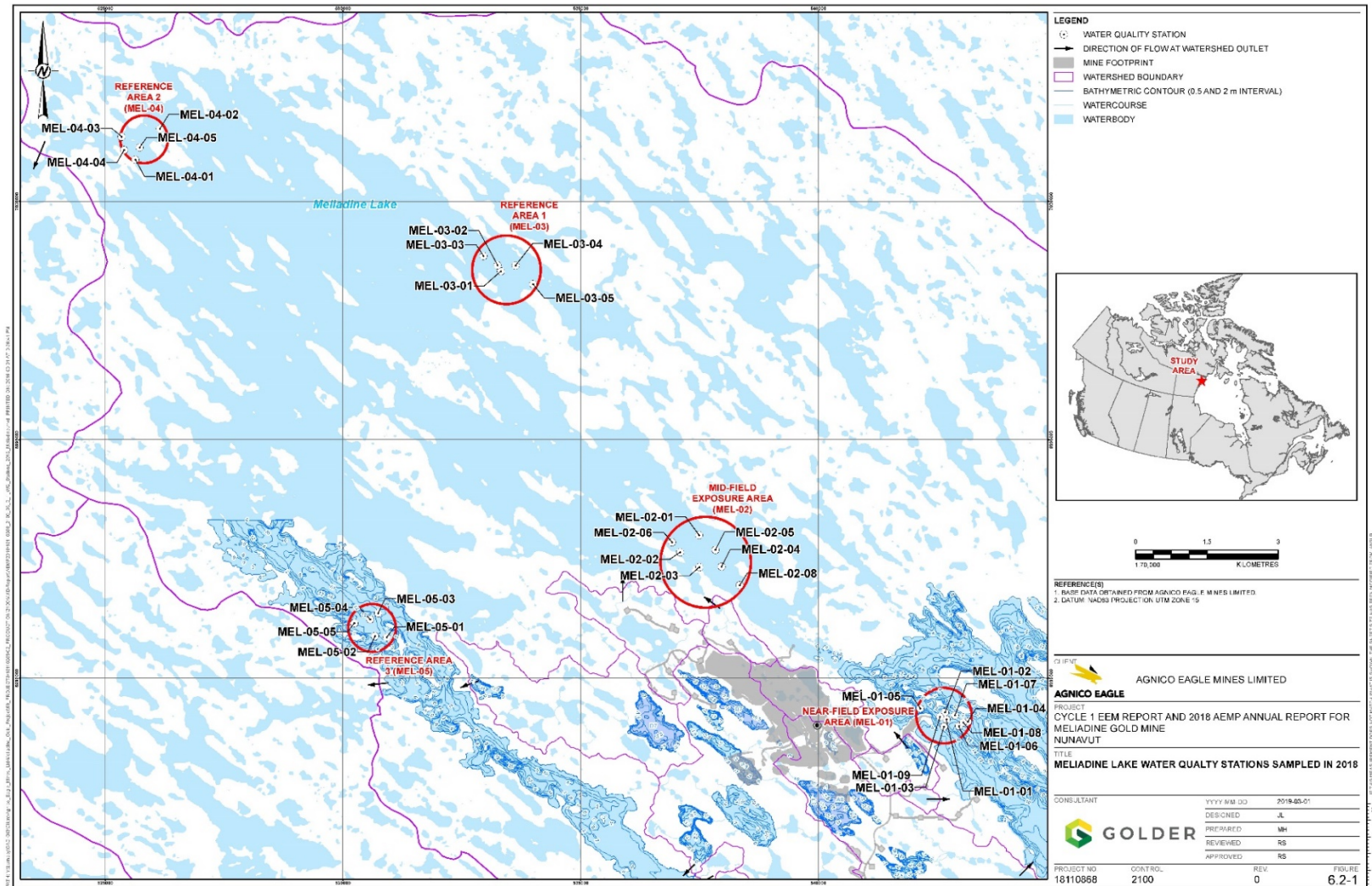


Figure 10. EEM Receiving Environment Sampling Locations

As required by Water License 2AM-MEL1631 Schedule B, Item 14: *The results of monitoring related to the Environmental Management and Protection including:*

a. Aquatic Effects Monitoring Program;

Refer to section 7.1, all results can be found in Appendix 17.

b. Metal and Diamond Mining Effluent Regulation (MDMER) Monitoring;

Refer to section 7.2 all results can be found in Appendices 18

c. Mine site Water quality monitoring, including groundwater monitoring; and

Refer to section 7.3, all results can be found in Appendix 19.

d. Visual AWAR Water quality monitoring

Refer to section 7.54.

and

As required by Water License 2BB-MEL-1424 Part B Item 6d: *Tabular summary of all data generated under the Monitoring Program,*

Sampling is no longer required from the Water Licence 2BB-MEL-1424, explanation is provided in section 7.3.1.

7.1 AQUATIC ECOSYSTEM MONITORING PROGRAM (AEMP)

The AEMP is the monitoring program used to evaluate short-term and long-term effects of the mine on the aquatic environment. Other objectives of the AEMP include evaluating the accuracy of predictions in the FEIS and providing information to inform management decisions.

The scope of the 2020 AEMP focused on water quality monitoring in Meliadine Lake and three smaller waterbodies in close proximity to the mine. In addition to the routine water quality monitoring in Meliadine Lake, a targeted phytoplankton study was completed in Meliadine Lake in August as an indicator of the overall health of the aquatic ecosystem in Meliadine Lake.

A separate water quality monitoring program was completed in Meliadine Lake in 2020 as a condition of the 2020 Emergency Amendment. The WQ-MOP was implemented to verify that an increase in the TDS discharge limit from 1,400 mg/L to 3,500 mg/L in surface contact water discharged to Meliadine Lake is protective of aquatic life in the lake. Monitoring for the WQ-MOP happened concurrent to water quality monitoring for the AEMP, and, where appropriate, the results and conclusions presented in the WQ-MOP report (Golder 2020) were incorporated into the overall assessment of water quality in Meliadine Lake.

The water quality data collected under the AEMP and WQ-MOP in 2020 was evaluated to answer this question: *Has water quality changed as the result of activities at the mine, and if so, do those changes align with what was predicted and approved in the Project Certificate?*

The complete AEMP report can be found in Appendix 17.

7.1.1 Effluent Quality Discharged to Meliadine Lake

Effluent quality and toxicity testing in 2020 validated that a TDS discharge limit of 3,500 mg/L in treated effluent discharged to Meliadine Lake is safe for aquatic life. Considering the treated effluent is (a) non-toxic at full strength, and (b) rapidly diluted within a short-distance from the point of release in Meliadine Lake, the risk of mine-related effects to aquatic life (algae, invertebrates, and fish) in Meliadine Lake are low.

No follow-up actions or mitigation are recommended for 2021 other than routine effluent chemistry and toxicity testing in accordance with regulatory requirements for the project.

7.1.2 Water Quality in Meliadine Lake

Water collected in close proximity to where effluent was released in Meliadine Lake was safe for human consumption, with no exceedances of the Guidelines for Canadian Drinking Water Quality published by Health Canada. The concentrations of some parameters have increased in the east basin, but the magnitude of the change is well below levels of concern for people's health. In 2020, the maximum TDS concentration in the east basin near the mine was 90 mg/L, which is over 5-times lower than the Health Canada drinking water guideline of 500 mg/L meant to protect "good tasting" water.

Water samples collected throughout 2020 were measured at concentrations below what are conservatively associated with effects to fish, invertebrates, and algae. Federal water quality guidelines and site-specific water quality objectives (in the case of fluoride, arsenic, and iron at Meliadine) are conservative, meaning the guidelines are set at concentrations meant to protect the most sensitive aquatic species. If, as was observed in 2020, concentrations are well below aquatic life guidelines, there is a high degree of confidence that water in Meliadine Lake is safe for fish and other aquatic organisms living in the lake.

As part of the original assessment for the Mine, it was expected that water quality in the lake would change as a result of discharge; however, the context of that change in terms of the magnitude of change (i.e., above a normal range) and the spatial extent of that change (i.e., limited to the mixing zone, east basin, or to the lake outlet) is examined.

The normal range describes water quality before construction, and also includes recent information on water quality in reference areas sampled further away in Meliadine Lake each year. In 2020, some water quality parameters like total dissolved solids and chloride were above their normal range, indicating concentrations have increased slightly over time, but changes are small, consistent with FEIS predictions, and well below guidelines.

Plume delineation studies were conducted to evaluate the spatial extent of change. The discharge was dispersed within a short distance of the diffuser, and beyond 100 m, the plume was largely not detectable compared to background conditions. Furthermore, when discharge ceased, or flows were reduced (as was the case during most of August), the concentration of effluent was less than 1% within 100 m of the diffuser.

While some parameters have increased over time in the east basin of Meliadine Lake relative to baseline / reference conditions, the difference between areas constitutes a minor change as described in the FEIS, as concentrations remain well below guidelines meant to protect aquatic life and drinking water quality.

Spatial and temporal changes in water quality will continue to be monitored as part of the AEMP in 2021. Other monitoring scheduled for 2021 in Meliadine includes biological monitoring for fish and benthic invertebrate community health on the 3-year cycle under the Environmental Effects Monitoring (EEM) program. This will be the second EEM study conducted at Meliadine. Additional fish and benthic invertebrate monitoring is planned for the same time under the AEMP, and as was the case in 2018, the intention is to coordinate sampling between the AEMP and EEM program as outlined in the AEMP Design Plan.

7.1.3 Water quality in the Peninsula Lakes

Water quality monitoring at the Peninsula Lakes (Lake A8, Lake B7, and Lake D7) was completed twice in July and August to evaluate whether non-point source discharges (i.e., dust, or alteration of watersheds) is affecting water quality beyond the minor changes that were predicted in the approved project. Based on their location relative to mine infrastructure, minor changes in water quality were predicted as part of the FEIS, meaning some parameters would increase relative to baseline levels, but that water quality guidelines for aquatic life and drinking water quality would be met. Lake B7, which is close to the tailings storage facility (TSF), and Lake A8, which is adjacent to the Tiriganiaq open pits, are more susceptible to mine-related changes in water quality than Lake D7, which is located east of Lake B7.

Results from 2020 demonstrate that changes in water quality at the Peninsula Lakes align with predictions in the FEIS: some parameters have increased relative to the baseline period, but current conditions support freshwater aquatic life and human uses, although current human use of both Lake B7 and Lake A8 are limited due to their location relative to mine infrastructure. Importantly, the spatial extent of potential non-point source mine-related changes to water quality in lakes on the peninsula appears to be localized to the lakes in close proximity to mine, and do not extend farther out to Lake D7.

Overall, the year-over-year changes in water quality that were detected in Lake B7 and Lake A8 for some parameters do not warrant management actions or mitigation based on the adaptive management strategy in the Response Framework. Continuation of the waste management and water management strategy, coupled with on-going efforts to control off-site dust migration, will help keep water quality within the range of minor changes predicted in the FEIS.

There were no exceedances of water quality guidelines for the protection of aquatic life, human health drinking water quality, or site-specific water quality objectives (in the case of fluoride, arsenic and iron) for water samples collected from Lake A8, Lake B7, and Lake D7 in 2020. People are not permitted to source drinking water from Lake A8 or Lake B7 during operations given safety concerns with accessing these lakes, nonetheless, the fact water quality met guidelines for safe consumption in 2020 provides an additional level of assurance with which to assess water quality in the other lakes further away from the site, on the peninsula.

In alignment with the original assessment (Agnico Eagle 2014), some parameters have increased relative to the baseline period, most notably arsenic in Lake A8 and Lake B7 and lithium in Lake B7. For the majority

of other parameters, concentrations have either plateaued or decreased as the mine has transitioned from peak construction to operations. Although water quality has changed, the absolute concentrations remain below guidelines or Site-Specific Water Quality Objectives (SSWQO) for the protection of aquatic life.

On-going monitoring of temporal trends in water quality at the Peninsula Lakes will continue in 2021 as outlined in the AEMP Design Plan.

7.1.4 Phytoplankton health in Meliadine Lake

Phytoplankton (algae) monitoring has been conducted annually as a targeted study in Meliadine Lake since 2015, rather than a core component of the AEMP. To date, monitoring data from the phytoplankton study has been used as a line of evidence, along with chlorophyll-a and nutrient concentration data, to determine if activities at the mine have contributed to increased primary productivity in Meliadine Lake.

Of the biological studies included in the AEMP, phytoplankton monitoring is the only program conducted annually (fish and benthic invertebrate studies are conducted every 3-years coinciding with the EEM cycle). In this respect, the information on the health of the phytoplankton community is valuable for linking annual changes in water quality to an indicator of the ecological health of Meliadine Lake.

The first step in the assessment of the health of the phytoplankton community involves looking for differences among stations (near-field, mid-field and reference) and across years (before mine discharges began vs after). If changes are noticed, the next step is to determine if the changes are part of the natural variability in phytoplankton or if activities at the mine are contributing to the change. Patterns in nutrient levels at each station are used to help determine whether differences in the phytoplankton community are related to the mine. Even if the change is attributed to the mine, other biological communities may not be impacted if the magnitude of the change is not too severe.

The phytoplankton community had noticeably lower biomass and richness (number of taxa) across all 5 study areas in 2020, which was attributed to natural variability. Prior to 2020, there was some plausible evidence supporting the notion that nutrient loading (phosphorus in particular) during the pre-construction period had contributed to an increase in biomass in 2015 relative to the results from 2013. Results from 2020 show nutrients released to Meliadine Lake are not contributing to year-over-year increases in primary productivity as evidenced by higher total biomass in the near-field area of Meliadine Lake.

Quantitative analysis of the structure of the community using multivariate analysis provided an additional line of evidence to support the conclusion that lake-wide reductions in biomass and richness in 2020 were natural. The phytoplankton community has been different than the mid-field exposure area and reference areas dating back to the baseline period, but in 2020, the phytoplankton communities in the near-field and mid-field areas became more similar to one another compared to previous years. Results to date indicate that the phytoplankton community in the near-field area is diverse and healthy.

During the pre-construction and early construction phase of the project, loading of phosphorus to Meliadine Lake from the sewage treatment plant (STP) at the exploration camp was suspected of contributing to the increase in phytoplankton biomass observed in 2015. Concerns regarding potential for nutrient enrichment led to changes in how sewage is managed on site in late 2017, with all sewage treated at the main camp STP. The effect of this change was a reduction in phosphorus loading to the lake in recent years, even with the substantial increase in the volume of water discharged each year from CP1. Recent water quality data

from 2018 through 2020 shows water and waste management has been effective at reducing total phosphorus loading to Meliadine Lake.

Nitrogen loading has increased since 2018, coinciding with discharge of surface contact water that when in contact with waste rock, picks up residual blasting material containing nitrogen parameters. In 2020, approximately 5-times as much nitrogen was discharged to Meliadine Lake compared to 2019. The substantial increase in the volume of water discharged from CP1 was the main reason for the increased loading. Despite the increased loadings, the magnitude of changing nitrogen concentrations in the east basin of Meliadine Lake were relatively low compared to baseline and more recent monitoring results from 2018 and 2019. Furthermore, some nitrogen parameters that appear to be increasing in the east basin also trended higher at the reference areas in 2020 due to natural variability regional patterns of change. Overall, any minor change in nutrient concentrations in the near-field area aligns with predicted changes in the Water Licence Application that stated nutrient concentrations would increase relative to baseline, but there would be no effect on aquatic life. Six years of phytoplankton monitoring support this conclusion.

Collectively, the phytoplankton community and nutrient data provide useful information to help detect potential effects to primary productivity resulting from nutrient enrichment in Meliadine Lake. Phytoplankton monitoring will be continued in 2021 to supplement water quality monitoring and to monitor for mine-related effects.

7.2 MDMER AND EEM SAMPLING

This section relates to the monitoring programs conducted under the Metal and Diamond Mining Effluent Regulations (MDMER) and its Environmental Effects Monitoring (EEM) Studies. Reporting requirements for MDMER have been submitted directly to Environment and Climate Change Canada; list of the sampling location GPS coordinates can be found in Table 17.

Table 17. MDMER and EEM GPS coordinates

Station ID	GPS coordinates
MEL-14 (Effluent characterization)	63°2'15.5"N 92°13'06.3"W
MEL-13 (Water Quality Monitoring Exposure Area)	63°01'44.6"N 92°09'14.6"W
MEL-03-01 (Water Quality Monitoring Reference Area)	63°06'52.2"N 92°20'23.6"W
MEL-26	62°48'01.99"N 92°06'00.05"W
MWE-1/WC (Water Quality Monitoring Exposure Area)	62°47'49,24"N 92°05'52,97"W
MWREFA-2	62°46'55,38"N 92°07'0,43"W

In 2020, discharge of treated effluent from CP-1 to Meliadine Lake started June 5th and ended October 4th. The Melvin Bay final discharge point (MEL-26) was in operation between August 10th and October 8th, during which it was temporarily stopped twice : between September 1st to September 15th and between September 23rd to September 30th.

As requested in Schedule 6 of the Metal and Diamond Mining Effluent Regulations, monthly mean concentrations, pH range and volume of effluent (generated) were submitted directly to ECCC and can be shared upon request.

7.3 MINE SITE WATER QUALITY

As required by Water Licence 2AM-MEL Schedule B-13: *The results and interpretation of the Monitoring Program in accordance with Part D and Part I and Schedule I.*

7.3.1 Licensed Water Sampling Stations

Below is a short description of each of the monitoring stations from the Water Licences 2AM-MEL1631 and 2BB-MEL-1424. All water sampling results can be found in Appendix H-3. Also, for stations regulated by MDMER or Water Licence limits, graphs with critical parameters are presented.

7.3.1.1 MEL-1 Raw water supply intake at Meliadine Lake

MEL-1 is the raw water supply intake at Meliadine Lake for the exploration camp. No sampling is required, only volume records as provided in section SECTION 3.

7.3.1.2 MEL-2 Raw water supply intake at Pump, A8 or other Lakes

MEL-2 is the raw water supply intake at A8 or other lakes. No sampling is required, only volume records as provided in section SECTION 3.

7.3.1.3 MEL-5 Bermed Fuel Containment Facilities

MEL-5 was the point of discharge for the bermed fuel containment facilities for the exploration camp. Since it was decommissioned, sampling is not required any longer.

7.3.1.4 MEL-6 Landfarm Treatment Facility

MEL-6 is the effluent from the Landfarm Treatment Facility prior to release. The landfarm is not decommissioned yet but no water was released since 2016 as the water is transferred to the landfarm oil separator system and treated before being discharged in CP-1.

7.3.1.5 MEL-7 Effluent from Exploration camp STP

MEL-7 is the final effluent discharge from the biodisk at the exploration camp. Since November 2017, the treated water from the exploration STP is trucked to CP1 or to the Main Camp STP depending on recent water quality trends. Monitoring for this station still occurs to ensure the efficiency of the treatment system but discharge directly to Meliadine Lake no longer occurs.

7.3.1.6 MEL-8 Point of discharge or runoff from the Non-Hazardous Waste Landfill

MEL-8 was the point of discharge from the non-hazardous waste landfill for the exploration camp. Since it was decommissioned, sampling is not required anymore.

7.3.1.7 MEL-SR-1-TBD

MEL-SR-TBD are surface runoff – runoff downstream of construction areas at Meliadine Site and Itivia Site, seeps in contact with roads, earthworks and any runoff and/or discharge from borrow pits and quarries. These are regulated monitoring stations in the Water Licence which includes discharge limits that must be achieved to maintain compliance.



Figure 11. Total Suspended Solids (TSS) results for MEL-SR samples

In 2020, no TSS exceedances occurred at stations MEL-SR-TBD. All TSS concentrations were below the Type A Water Licence maximum concentration of any grab sample of 100 mg/L. Furthermore, average concentrations for each MEL-SR station sampled in 2020 did not exceed the allowable maximum average concentration of 50 mg/L TSS.

Straw logs were installed at Meliadine site, along AWAR and By-Pass Roads and at Itivia Site to mitigate sediment transport and TSS levels in areas where surface runoff was expected or observed during freshet.

The collected samples also showed pH values within the compliant range, and no visible sheen of oil and grease were observed.

7.3.1.8 **MEL-11 Water Intake**

MEL-11 is the water intake from Meliadine Lake. It is an aquatic monitoring location which is subject to compliance assessment to confirm that sampling is carried out using established protocols, including quality assurance/quality control provisions, and addresses identified issues. General monitoring is subject to change as directed by an Inspector, or by the Licencee, subject to approval by the NWB.

7.3.1.9 **MEL-12 Water treatment plant (Pre-treatment)**

MEL-12 is sampled in the effluent water treatment plant (EWTP) (pre-treatment) sampling port with the water coming from CP1. The sample is not taken directly in the pond. It is a verification monitoring program, which is to be carried out for operational and management purposes by the Licencee. Monitoring parameters and locations are internal for Licence.

7.3.1.10 **MEL-03-01 Reference area in Meliadine Lake (MDMER reference station)**

MEL-03-01 is sampled in Meliadine Lake. It is also the MDMER reference station for final discharge. It is a general aquatic monitoring location which is subject to compliance assessment to confirm sampling is carried out using established protocols, including quality assurance/quality control provisions, and addresses identified issues. General monitoring is subject to change as directed by an Inspector, or by the

Licencee, subject to approval by the NWB.

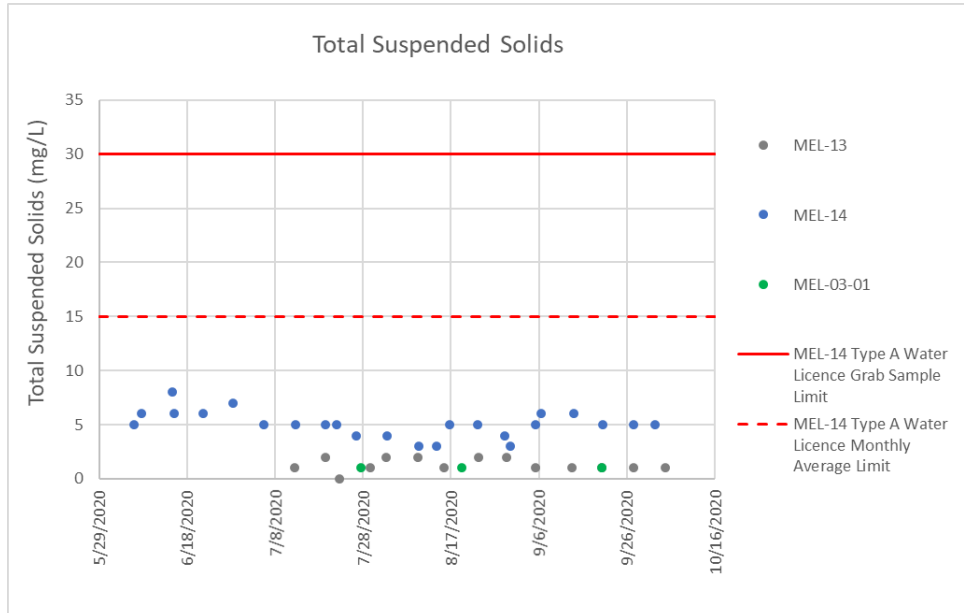


Figure 12 and Figure 13 below show the analytical trends of interest (TSS and TDS concentrations) for MEL-03-01 for 2020.

7.3.1.11 **MEL-13 Mixing Zone in Meliadine Lake (MDMER exposure station)**

MEL-13 is sampled in the mixing zone in Meliadine Lake. It is also the MDMER exposure station for final discharge. It is a general aquatic monitoring location which is subject to compliance assessment to confirm sampling is carried out using established protocols, including quality assurance/quality control provisions, and addresses identified issues. General monitoring is subject to change as directed by an Inspector, or by the Licencee, subject to approval by the NWB.

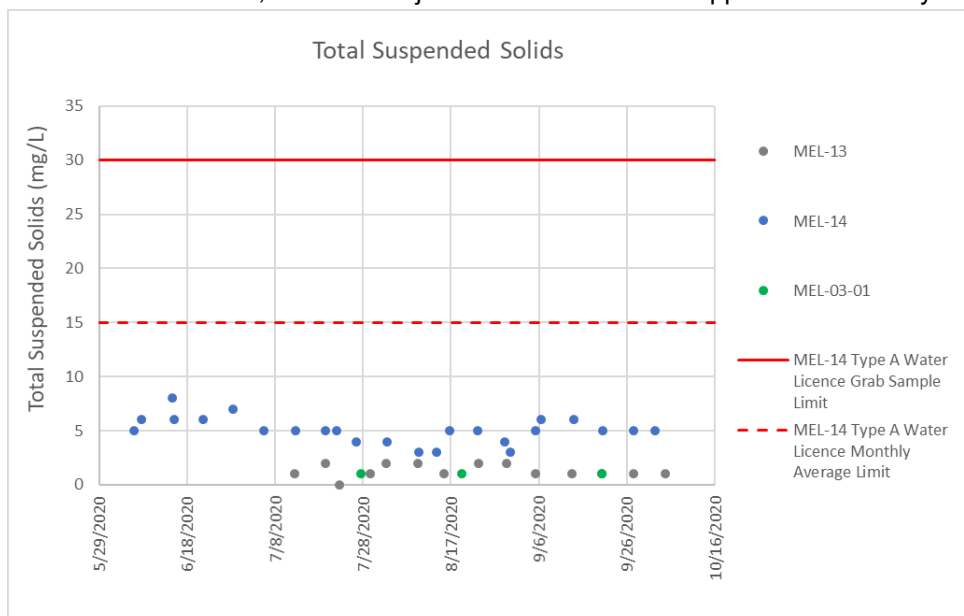
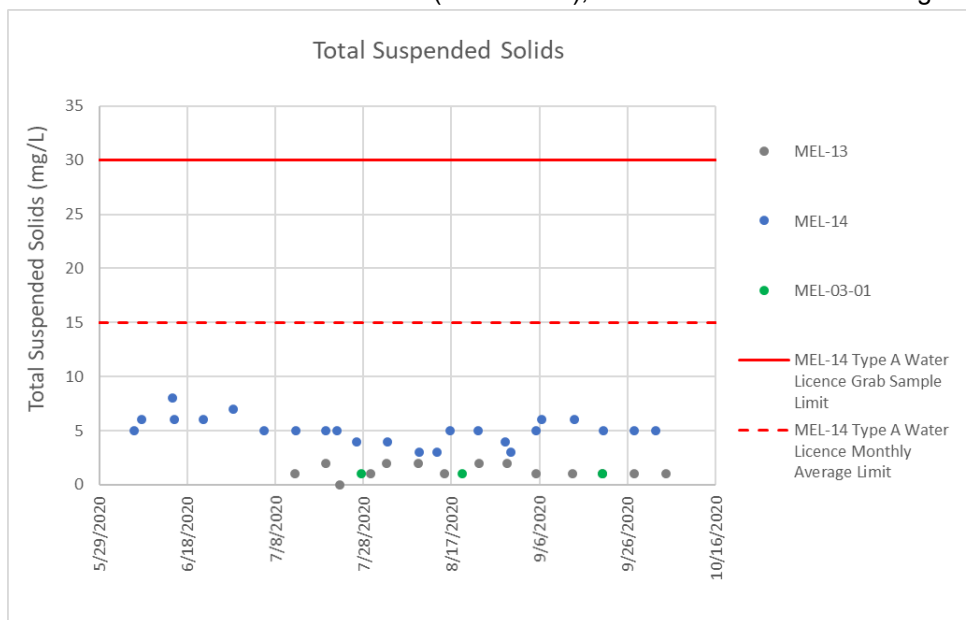


Figure 12 and Figure 13 below show analytical trends of interest (Total Suspended Solids [TSS] and Total Dissolved Solids [TDS] concentrations) for MEL-13 for 2020. Station MEL-13 was also monitored as part of the WQMOP program (section 7.3.2).

7.3.1.12 ***MEL-14 Water treatment plant (Post-treatment)***

MEL-14 is the final discharge point (FDP) monitoring station and is sampled in the effluent water treatment plant (EWTP) (post-treatment) prior to the water being discharged to the environment. It is a regulated monitoring station in the Water Licence and in the MDMER regulation. It includes discharge limits that must be achieved to maintain compliance. The TDS Maximum Average Concentration (MAC) and Maximum Grab Concentration (MGC) were raised to 3,500 mg/L and 5,000 mg/L for the MEL-14 station as part of the Emergency Amendment No. 1 to the Water Licence (NWB 2020), for the time-limited discharge of 2020



(May – October).

Figure 12 and Figure 13 below show the analytical trends of interest (Total Suspended Solids [TSS] and Total Dissolved Solids [TDS] concentrations) for MEL-14 for 2020. Station MEL-14 was also monitored as part of the WQMOP program (section 7.3.2).

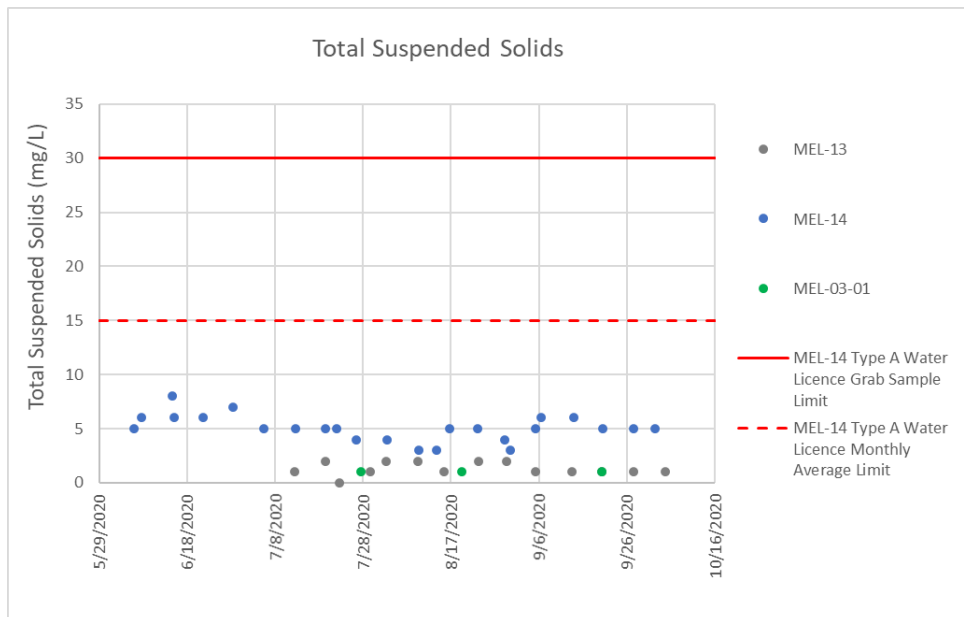


Figure 12. Total Suspended Solids (TSS) results for MEL-03-01, MEL-13 and MEL-14 samples

In 2020, TSS results for MEL-14 did not show any particular trend, with no significant increase or decrease of concentration. The yearly average concentration was 5 mg/L and the highest result was 8 mg/L. No exceedance occurred in 2020 for this parameter with all grab sample and average concentrations within permitted limits (of 30 and 15 mg/L, respectively). For MEL-13 and MEL-13-01 monitoring stations, the TSS results ranged between <1 mg/L (below the laboratory detection limit) and 2 mg/L.

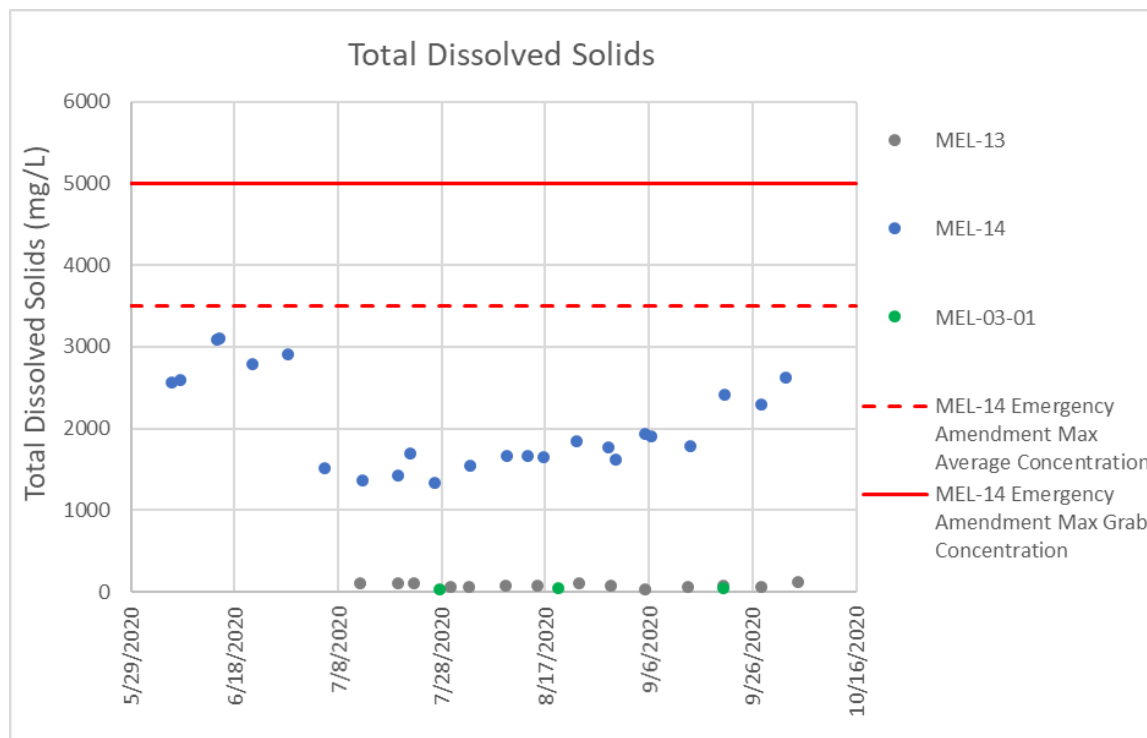


Figure 13. TDS results for MEL-03-01, MEL-13 and MEL-14 samples

With regards to TDS, all MEL-14 samples were compliant with the 3,500 mg/L maximum average concentration and 5,000 mg/L the maximum grab concentration from the Emergency Amendment No. 1 to the Type A Water Licence. The average TDS concentration at MEL-14 in 2020 was 2055 mg/L (not including pre-discharge sampling) and the highest measured concentration was 3,100 mg/L. The TDS concentration decrease observed in July can be correlated to an influx of snow and ice melt directly within the pond. Increasing TDS over the remaining discharge period is likely due to a combination of factors, including concentration through evaporation and TDS loading at upstream inflow sources.

For station MEL-13, the average TDS concentration in 2020 was 80 mg/L and the highest result was 125 mg/L. Finally, the average TDS concentration at MEL-03-01 in 2020 was 38 mg/L and the highest result was 40 mg/L.

Weekly toxicity tests collected at station MEL-14 as a component of the WQMOP (section 7.3.2) and MDMER demonstrated the effluent was non-acutely lethal.

7.3.1.13 **MEL-15 Local Lake E3**

MEL-15 is sampled in lake E3 located west of the mine site. It is a verification monitoring location which is sampled for operational and management purposes by Licencee.

7.3.1.14 MEL-16 Local Lake G2

MEL-16 is sampled in lake G2 located north west from the mine site. It is a verification monitoring location which is sampled for operational and management purposes by Licencee.

7.3.1.15 MEL-17 Local Pond H1

MEL-17 is sampled in lake H1 located east from the mine site. It is a verification monitoring location which is sampled for operational and management purposes by Licencee.

7.3.1.16 MEL-18 Local Lake B5

MEL-18 is sampled in lake B5 located south-west from the mine site. It is a verification monitoring location which is sampled for operational and management purposes by Licencee.

7.3.1.17 MEL-19 CP-2

MEL-19 was a containment pond identified as CP2 in the 2015 Water Management Plan and in the Licence. This was planned as a small pond for the collection of the natural catchment drainage from the outer berm slopes of the Landfarm and industrial pad. CP2 was not required under the actual construction of the site and resultant runoff pathways and accumulation areas. In the Licence, MEL-19 was identified as a verification monitoring location which would have been sampled for operational and management purposes by Licencee. As it is not in place, MEL-19 was not sampled in 2020.

7.3.1.18 MEL-20 CP3

MEL-20 is sampled in CP3 (collection pond) which is the collection of drainage from the Tailings Storage Facility (TSF; dry stack tailings) located west of the mine site. It is a verification monitoring location which is sampled for operational and management purposes by Licencee.

7.3.1.19 MEL-21 CP4

MEL-21 is sampled in CP4 (collection pond) which is the collection of the drainage from the Waste Rock Storage Facility (WRSF1) located west of the mine site. It is a verification monitoring location which is sampled for operational and management purposes by Licencee.

7.3.1.20 MEL-22 CP-5

MEL-22 is sampled in CP5 (collection pond) which collects the drainage from WRSF1 and WRSF2. CP-5 is located in the previous footprint of Lake A54 and is located south of the mine site. It is a verification monitoring location which is sampled for operational and management purposes by Licencee.

7.3.1.21 MEL-23 CP-6

MEL-23 is sampled in CP6 (collection pond) which collects the drainage from WRSF3 located east of the mine site. It is a verification monitoring location which is sampled for operational and management purposes by Licencee.

7.3.1.22 MEL-24 Seepage from the landfill

MEL-24 is seepage from the landfill between the landfill and Pond H3. The natural depression at this location can also drain water not related to seepage from the landfill. It is a verification monitoring location which is sampled for operational and management purposes by Licencee.

7.3.1.23 **MEL-25 Secondary Containment at the Itivia Fuel Storage Facility**

MEL-25 is sampled from the secondary containment area at the Itivia Site Fuel Storage and Containment Facility. It is a regulated monitoring station in the Water Licence. It includes discharge limits that must be achieved to maintain compliance.

Two notices for discharge from MEL-25 were sent in 2020 to the appropriate agencies. The first notice was sent on June 17th, and the second on September 7th. All water quality results for station MEL-25 met the Type A Water Licence discharge criteria.

Approximately 1,000 m³ of water was discharged in June and approximately 1,000 m³ of water was discharged in September.

7.3.1.24 **MEL-26 Melvin Bay Final Discharge Point**

MEL-26 is sampled at the Melvin Bay final discharge point (FDP; end of pipe before offsite release) for treated saline effluent. It is a regulated monitoring station under MDMER. It includes discharge limits that must be achieved to maintain compliance. Figure 14 below shows the TSS concentrations as a critical parameter for samples collected at station MEL-26 in 2020.

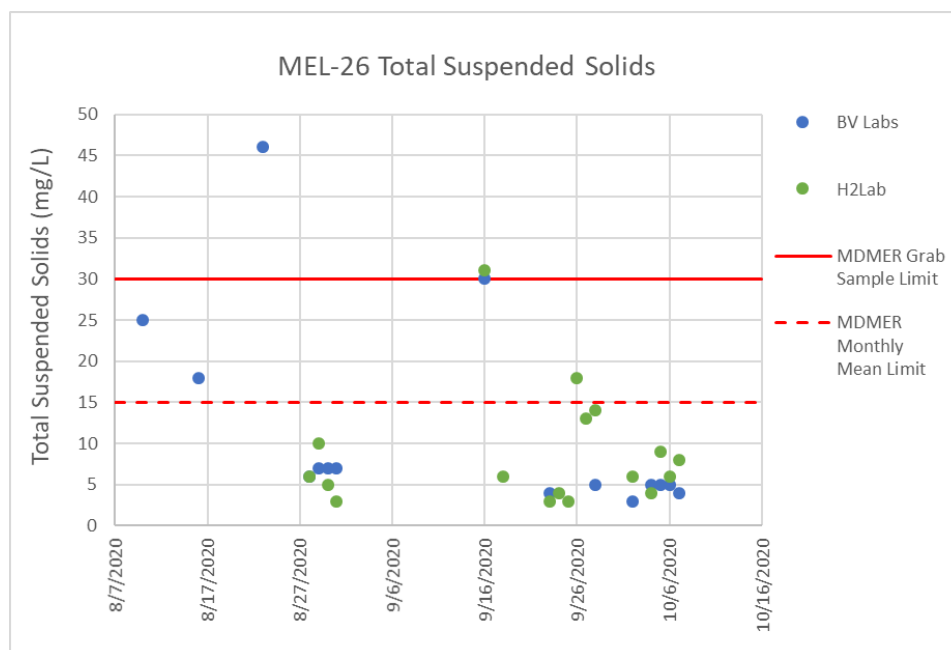


Figure 14. TSS results for MEL-26 samples

As seen in Figure 14, MEL-26 samples collected on August 23rd and September 16th were reported with TSS concentrations of 46 mg/L and 31 mg/L, respectively, which exceeded the limit of 30 mg/L for any given grab sample to comply with MDMER authorized limits.

Both exceedances were reported to the 24-hour spill reporting line as required by the Government of Nunavut's Environmental Protection Act, paragraph 5.1(a), and by the conditions under the Nunavut Water

Board Licence 2AM-MEL1631 Water Licence, part H, item 8(b). Monthly averages for TSS concentrations in August, September, and October were all below the maximum monthly mean allowable value of 15 mg/L (at 12.7, 11.9 and 5.5 mg/L, respectively).

All acute lethality and sublethal toxicity testing at MEL-26 collected as per MDMER were compliant, passing as non-lethal.

Regarding the August 23rd TSS exceedance at MEL-26, Agnico Eagle identified the following potential causes for the observed exceedance:

- Algae growth may have contributed to the exceedance. Already identified as a potential explanation for previously observed exceedances, evidence of algae in SP3 was also observed in 2020. Volatile suspended solids results seem to indicate that algae represent a considerable proportion of the TSS measured in the MEL-26 sample.
- The presence of sediments in the trucks used to transport the water from the Meliadine site to the Itivia site (i.e. discharge point MEL-26 into Melvin Bay) and filter malfunctions may have contributed to the exceedance.
- Investigation of a possible interference in the TSS analysis from the external accredited laboratory resulting from saline water is also ongoing. This interference may have resulted in an overestimation of the TSS levels when processing water with high dissolved solids (TDS). Additional verifications on this matter are underway.

Once the August 23rd exceedance was reported, Agnico Eagle proceeded with a detailed audit of the saline water management infrastructures and developed an action plan to mitigate potential sources of TSS (the TSS Action Plan). The TSS Action Plan was reviewed and updated regularly to ensure proper follow-up on mitigation measures were put in place in relation to TSS levels. The TSS Action Plan included the following:

- Samples were sent to H2Lab (in addition to regulatory sampling), to shorten the delay for samples to be processed and to allow a quicker determination of TSS concentration.
- Sampling frequency was increased with daily samples taken in multiple locations of the process.
- The SP3 pond was emptied, rinsed and cleaned by September 8th, to mitigate any further algae issues.
- The SP3 pump was elevated to increase the distance between the pump intake and the bottom of the pond where sediment could be present.
- The SETP final treated water tank was cleaned.
- Pressure indicators before and after the bag filters at the truck loading station were installed. Pressure and flow were monitored to identify any potential issue related to filter malfunction or the need to change the filters.
- Frequent filter inspections and replacements were carried out at the truck loading station.
- Continued investigation of the possibility of an overestimation of the TSS levels related to an interference caused by the high TDS in the saline water.

Furthermore, with respect to the September 16th exceedance, it is believed that one of the trucks may not have been cleaned properly. This was assessed to be the probable cause of the elevated results for this specific event. A procedure for truck inspection was then implemented to confirm cleanliness of each truck before their filling and transport to Itivia. This process was maintained until the discharge was stopped on

October 8, 2020. When discharge resumes in the future Agnico Eagle will continue with this enhanced inspection procedure.

In response to the September 16th exceedance, the following additional mitigation measures were put in place:

- A rigorous truck verification plan was developed, including a systematic visual inspection of each truck tank prior to being filled.
- An "Environmental Sampling Checklist" was compiled, to ensure the daily sampling routine at each of the multiple locations was carried out properly by Agnico Eagle's Environment personnel.
- All trucks were cleaned thoroughly by September 20th.
- The discharge station at Itivia was inspected for potential TSS loading sources – other than hoses, no sources were identified. Clean hoses were used upon resuming discharge.
- Mitigation measures from the TSS Action Plan, such as the daily samples taken at multiple locations of the process, pressure monitoring of the filters and frequent filter replacement at the truck loading station were also maintained when discharge to sea was resumed.

As the August 23rd exceedance and the September 16th exceedance were better understood, Agnico Eagle's water management practices were reviewed to ensure lessons learned were incorporated to prevent re-occurrence. The measures taken will result in an improved TSS management process in 2021 open water season.

Optimization of Agnico Eagle's organizational structure has also continued at the Meliadine site and additional resources have been allocated to water management to achieve increased follow-up and improved redundancy and robustness of our process.

7.3.2 WQ-MOP

Under the approved Water Licence Emergency Amendment No. 1, Meliadine Mine discharged water from CP1 to Meliadine Lake from June 5 to October 4, 2020 with the temporarily revised TDS criterion of 3,500 mg/L as a maximum average concentration (MAC) and 5,000 mg/L as a maximum grab concentration (MGC). The water quality monitoring program as described in Phase 2 of the WQ-MOP was undertaken from June 5 to October 4. The monitoring program included:

- Weekly in situ water quality measurements and sample collection at MEL-14 for water quality analysis, weekly acute toxicity testing, and monthly chronic toxicity testing beginning during the second monthly event.
- Weekly in situ water column water quality measurements and sample collection at the edge of the mixing zone stations in Meliadine Lake (MEL-13-01, MEL-13-07, and MEL-13-10) for water quality analysis and monthly chronic toxicity testing.
- Monthly in situ water column water quality measurements and sample collection at mid-field (MEL-02-05) and far-field (reference) stations (MEL-03-02, MEL-04-05 and MEL-05-04) in Meliadine Lake for water quality analysis and chronic toxicity testing.
- Hourly in situ water quality (temperature and specific conductivity) monitoring data logging stations at each of the three edge of mixing zone stations.
- Completion of two plume delineation studies during the discharge (in July and August) with stations extending 250 m away from the diffuser.

Figure 15 and Figure 16 below show the analytical trends of Total Dissolved Solids (TDS) concentrations for the Meliadine Lake EoMZ, Mid-field and Reference stations in 2020. MEL-14 results are presented in section 7.3.1.12 above.

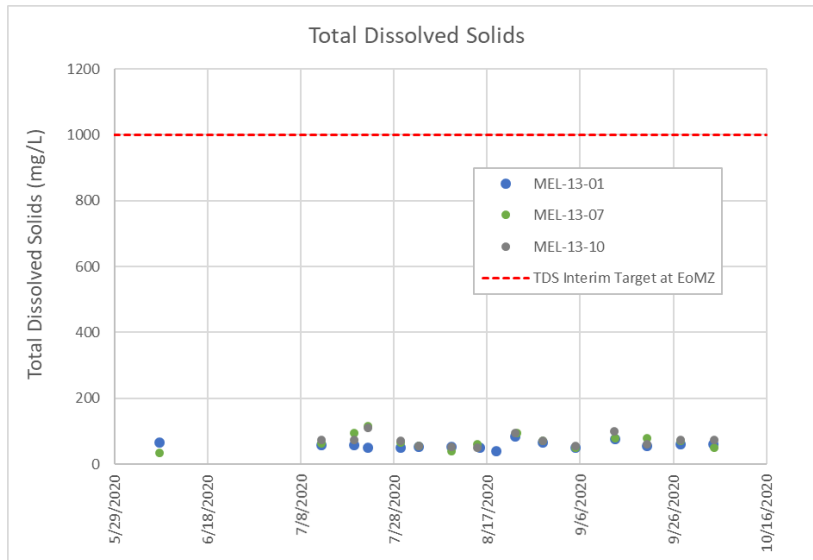


Figure 15. TDS results for Edge of Mixing Zone (EoMZ) in Meliadine Lake

The WQ-MOP TDS interim target applicable in the receiving environment at the edge of the mixing zone for the protection against chronic toxicity to representative aquatic species was set at 1,000 mg/L as part of Emergency Amendment No. 1 of the Water Licence. As shown in Figure 15, all TDS concentrations for samples collected at EoMZ stations are well below that target, with a maximum of 115 mg/L.

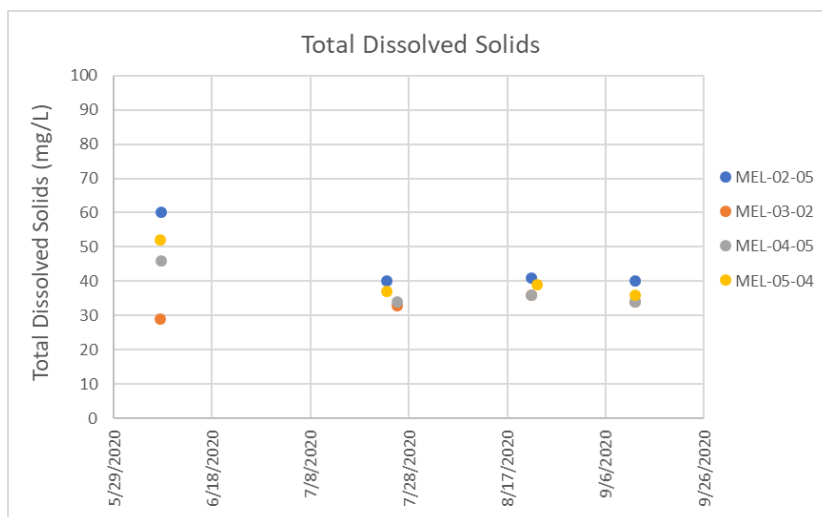


Figure 16. TDS results for Mid-field and Reference stations in Meliadine Lake

The average TDS concentration at mid-field and reference stations in Meliadine Lake was 39 mg/L, and the maximum 60 mg/L.

As part of Emergency Amendment No. 1 to Water Licence, Agnico Eagle committed to establish and work collaboratively with a Water Management Working Group (WMWG), which was to be a platform to exchange water quality data collected in accordance with the Emergency Amendment Monitoring Plan (i.e., WQ-MOP) and to discuss the progress of water management activities at CP1.

The members of the Working Group included:

- Agnico Eagle
- Nunavut Water Board (NWB)
- Kivalliq Inuit Association (KivIA)
- Crown-Indigenous Relations and Northern Affairs (CIRNAC)
- Environment and Climate Change Canada (ECCC)

Monthly meetings occurred with the WMWG, where Agnico Eagle provided updates of the water quality and toxicity testing monitoring results and the interpretation of those data through the support of a third-party consultant (Golder Associates Ltd.). Working group meetings included an initial meeting on June 3, 2020 to discuss the Terms of Reference for the Working Group. Discharge data review meetings were then subsequently held on 25 June, 2 July, 26 August, 16 September, 2 October, and 6 November 2020.

An outcome from each of these discharge data review meetings was the regular provision of summary monitoring data and evaluation to the public through a variety of public access forums. Copies of the presentations and meeting minutes, including any responses to information requests or issues raised by the parties during the meetings, were submitted to the NWB for uploading to the Project NWB FTP site.

Mutually agreed key messages were also broadcast and uploaded to the Mine's public-access website and other social media platforms (e.g., http://aemnunavut.ca/emergency_amendment/, the Mine's Facebook page, etc.). The key messages were focused on the quality of the discharge and its influence on Meliadine Lake and based on the results of the water chemistry and toxicity testing during monitoring. They were initially drafted following the July 2 meeting, one month after the initiation of discharge. These key messages were ratified by the Working Group following the August 26 meeting after review of the previous month's data. They remained consistent through the remaining discharge period:

- Constituents in the discharge are not being released at levels which are harmful in Meliadine Lake.
- The monitoring data confirms that the diffuser is working as planned and that the water being released is not harmful to Meliadine Lake.
- The release of the water is going as planned and testing and continuous monitoring shows that harmful effects on the environment, fish and other aquatic life are not occurring.
- Discharge volumes are lower than planned, as precipitation has been lower than average this year.

- Agnico Eagle is working on alternative strategies for discharging CP1 water into Meliadine Lake, one of which consists of recirculating CP1 water into the Process Plant.
- Meliadine Lake is the source of freshwater for the camp and we have not observed changes in the drinking water quality at the camp.

Tabular water quality results for the WQ-MOP sampling (including the plume delineation results) can be consulted in Appendix 20. As mentioned above, weekly acute toxicology samples collected at MEL-14 monitoring station demonstrated the effluent was non-acutely lethal. Monthly chronic (sublethal) toxicology tests at EoMZ, Mid-field and Reference stations were compliant as well.

7.3.3 Underground sampling

Water samples collected in the underground mine over 2020 include diamond drill hole (DDH) water intersects and underground saline contact water.

DDH water intersects are flushed prior to sample collection as a means to provide representation of “non-contact” groundwater within the fractured rock surrounding underground mine. DDH water samples were collected as water was intersected (45 total samples over 2020) and analyzed for relevant parameters to provide a representation of the background connate groundwater quality, which is the primary contributor of saline water received by the underground mine.

Water quality results for DDH samples collected in 2020 are provided in Appendix 21. In general, results for the 45 samples indicate stable and consistent concentrations for most parameters. Figure 17 and Figure 18 below show concentration trends over 2020 for TDS and total metals listed under MDMER Schedule 4 (arsenic (As), copper (Cu), lead (Pb), nickel (Ni), zinc (Zn)).

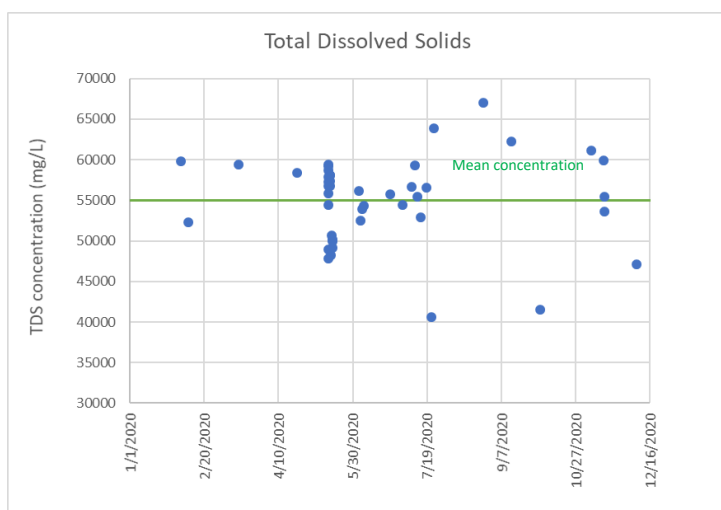


Figure 17. TDS concentration in DDH water intersect samples – 2020

Results showed an average TDS concentration of 55,000 mg/L, with values ranging from 40,600 mg/L to 67,000 mg/L.

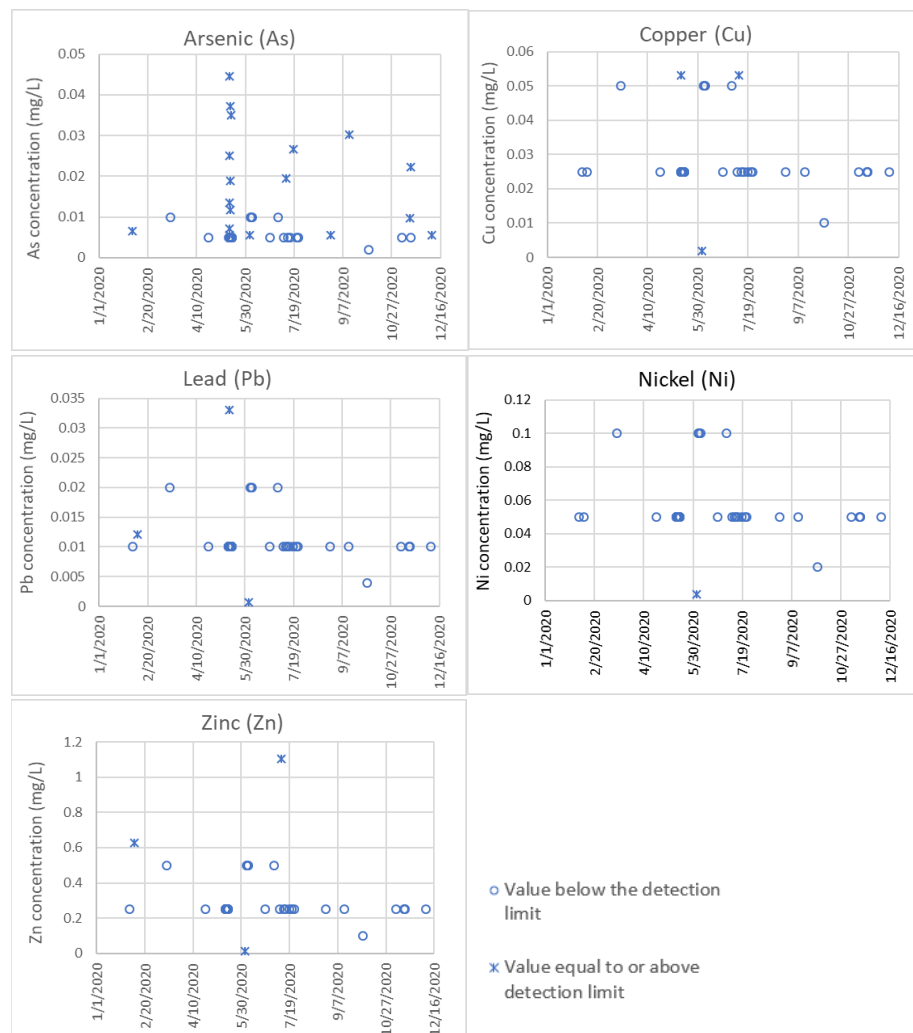


Figure 18. Total metals (As, Cu, Pb, Ni, Zn) concentration in DDH water intersect samples – 2020

Concentrations for MDMER Schedule 4 total metals (As, Cu, Pb, Ni, Zn) are mostly below the laboratory detection limits for the 2020 DDH water intersect samples. Few samples showed total metal concentrations equal to or slightly above the laboratory detection limits; those samples are indicated by the “x” in the graphs above.

Underground contact water samples were collected monthly for water quality analysis from a port located in-line with a suspended sediment treatment system located on level 300, prior to clarification treatment

and redistribution. This sampling point is a combination of sump (contact) water originating from the various levels of the mine, including groundwater, make-up water, drilling water, and paste line flushing water. Due to the reconfiguration of the underground water management system, the Sump 125 sampling location (sampled 2016 - 2019) was not sampled in 2020. Further information about the groundwater quality monitoring program is available in Section 4.1.2 of the Groundwater Management Plan.

Underground contact water and non-contact groundwater sampling is a verification monitoring program carried out for operational and management purposes by the Licencee.

7.3.4 QA/QC Sampling

The objective of quality assurance and quality control (QA/QC) is to assure that the chemical data collected are representative of the material being sampled, are of known quality, are properly documented, and are scientifically defensible. Data quality was assured throughout the collection and analysis of samples using specified standardized procedures, by the employment of external Canadian Association of Laboratory Accreditation (CALA) laboratories, and by staffing the program with experienced technicians.

All analytical chemistry analyses are performed by an external CALA accredited laboratories. In most cases, these analyses are performed by Bureau Veritas (BV) Laboratories, an accredited facility located in Ottawa, Ontario. Agnico Eagle may also require the services of other laboratories, such as BV Laboratories in Edmonton (Alberta), ALS (BC), SGS in Lakefield (Ontario) and H2Lab in Val d'Or (Quebec). All data from these labs undergoes a rigorous internal QA/QC process, including the use of duplicate samples. The laboratory certificates of quality control are presented in Appendix 18, following the corresponding certificates of analysis.

Sublethal toxicity tests were performed by AquaTox Testing & Consulting Inc. and Bureau Veritas Laboratories. Testing was conducted as stipulated in the corresponding Environment Canada Biological Test Methods. QA/QC measures implemented by the laboratory, including the use of reference toxicants, met the acceptable limits. QA/QC laboratory data is presented within the toxicity reports in Appendix H-1.

Field blanks and field duplicates were collected in 2020 as part of the internal quality control procedures. A field blank is a sample prepared in the field using laboratory-provided deionized water to fill a set of sample containers, which is then submitted to the laboratory for the same analysis as the field water samples. Field blanks are used to detect potential sample contamination during collection, shipping and analysis. Duplicate field water quality samples are collected simultaneously in the field at the same sampling location and using identical sampling procedures. They are used to assess sampling variability and sample homogeneity. In 2020:

- MDMER and EEM monitoring programs consisted of: 9 duplicate samples and 8 field blanks which were collected from a total of 50 samples, representing 18.0% and 16.0% of samples taken, respectively;
- STP monitoring program consisted of: 3 duplicate samples and field blanks which were collected from a total of 51 sampling events, representing 5.9% of samples taken; and

- Surface water monitoring programs (including WQMOP) consisted of: 19 duplicate samples, 13 field blanks and 1 equipment blank which were collected from a total of 139 samples, representing 13.7 % of samples taken.

Overall, collected and analyzed duplicate samples represent 13% of the field samples collected throughout 2020, which is higher than the QA/QC duplicate program objective of 10%.

Analytical precision is a measurement of the variability associated with duplicate analysis of the same sample in the laboratory. Duplicate results were interpreted using the relative percent difference (RPD) between measurements. The equation used to calculate the RPD is:

$$RPD (\%) = \frac{(A - B)}{(A + B)/2} \times 100$$

Where A is the field sample concentration, and B is the duplicate sample concentration.

Large variations in RPD values are often observed between duplicate samples when the concentrations of analytes are low and approaching the method detection limit. Consequently, a RPD equal to or higher than 20% for concentrations of field and duplicate samples that both exceed 10 times the method detection limit (MDL) is considered notable. The analytical precision of one QA/QC sampling event is characterized as:

- High, when less than 10% of the parameters have variations that are notable;
- Medium, when 10 to 30% of the parameters have variations that are notable;
- Low, when more than 30% of the parameters have variations that are notable.

Results of the QA/QC data (RPD calculations) are presented in the tables included in Appendix H-3 for the MDMER and EEM, STP and Surface Water monitoring programs. The following is a brief summary of the QA/QC results, per sampling program:

- MDMER and EEM: All duplicate samples collected were considered as having high analytical precision. Some duplicate samples collected at stations MEL-14 (2 duplicates), MEL-26 (3 duplicates) and MEL-03-01 (1 duplicate) showed notable RPD values for less than 10% of analyzed parameters.
- STP: The three duplicate samples collected were considered as having a high analytical precision. One duplicate sample showed a notable RPD value, representing less than 10% of analyzed parameters.
- Surface Water: One QA/QC sampling event at station MEL-18 is rated as having a medium analytical precision (with 17% of the parameters having notable variations). All other QA/QC sampling events conducted within the surface water quality program (including WQMOP) are rated as having high analytical precision. Duplicates collected at stations MEL-11, MEL-17, MEL-21 and MEL-23 showed notable RPD values, for less than 10% of analyzed parameters.

Results show that the QA/QC plan was followed and samples were collected by qualified technicians. QA/QC methods are further discussed in the Quality Assurance/Quality Control Plan.

Temperature, pH, dissolved oxygen, turbidity and specific conductivity are measured in the field using hand held meters such as HACH test kit – 2100 Q Portal Turbidimeter (turbidity), Oakton PCS35 Meter (pH and conductivity), and Eureka Manta II (pH, dissolved oxygen and conductivity). The instruments are calibrated before each sample event to ensure optimal performance and record of the calibration are kept in a calibration log. The calibration data regarding these instruments is presented in Appendix H-2.

QA/QC methods and results for specific field programs (i.e., AEMP) are discussed separately in their respective reports.

7.3 SEEPAGE

As required by Water Licence 2AM-MEL1631 Schedule B, Item 8: Summary of quantities and analysis of Seepage and runoff monitoring from the Landfill, Landfarm, Waste Rock Storage Facilities, Borrow pits and Quarries.

In 2020, no seepage was observed from the landfill or the landfarm, no seepage was observed from borrow pits or quarries.

7.5 VISUAL AWAR WATER QUALITY MONITORING

Pre-freshet and freshet inspections were conducted at Itivia, crossings along the AWAR and the Bypass Road in 2020. These inspections are conducted to monitor for and document potential hazards such as blockages impeding free flow of water resulting in ponding, washing out of roads and unintentional rerouting of flow, detecting the presence/absence of flow, erosional concerns and turbidity plumes. Inspections were weekly at minimum over freshet. During inspections, areas for concern were noted and corrected appropriately (i.e., straw log deployment, notifying the Energy & Infrastructure (E&I) Department for maintenance requirements). A total of 6 Itivia inspections were carried out prior to and during freshet 2020, between April 15th and June 16th. A total of 8 All Weather Access Road (AWAR) and Bypass Road inspections were carried out prior to and during freshet 2020, between April 15th and June 16th.

On June 7th, higher temperatures increased snowmelt which had an impact on three areas on the AWAR/Bypass Road. A small section of the Bypass Road at km 3.5 experienced flow on top of the road, which caused erosion. Straw logs were deployed downstream (south of the road) to mitigate sediment, if any, transport. During the inspection, E&I Department pumped water across the road to mitigate erosion and cleared culvert C11 from snow and ice to allow flow. On the following AWAR and Bypass Road inspection (June 13th), the road had been repaired. Seepage was observed on the downstream side (south) of the Bypass Road; the flow was slow and the water clear.

Kilometer 21.5 experienced marginal pooling over the east side of the road on June 7th, causing erosion. At km 30, water was pumped from the west side of the road to the east to prevent water from flowing over the road. No turbidity plume was observed at these locations.

On June 10th, km 9 experienced flow on top of the road, causing erosion. Straw logs were deployed to mitigate sediment transport; no turbidity plume was observed. The E&I department started pumping water across the road on June 13th to mitigate erosion of the road at km 9.

The inspection completed on June 13th indicates that most of the snow was melted from the increasing temperatures.

Inspections were regularly conducted at Itivia, along the AWAR and Bypass Road throughout the year, and in response to rainfall. Any visual turbidity plumes or erosion at Itivia, along the AWAR/Bypass Road, at culverts or at bridges were documented by Environmental Technicians.

7.6 BLAST MONITORING

In compliance with Term and Condition 11 of NIRB Project Certificate No. 006,, Agnico Eagle has developed a Blast Monitoring Program. The objective of the Blast Monitoring Program is to minimize the effects of blasting on fish and fish habitat, water quality and terrestrial Valued Ecosystem Components (VECs).

Peak particle velocity (PPV) and overpressure monitoring data were recorded throughout 2020 during blasting activities at Meliadine. During 2020, four surface locations were monitored: Collection pond 6 (CP6), Saline Pond 4 (SP4), Tiriganiaq Open pit 1 (TIR01) and Tiriganiaq Open pit 2 (TIR02). The locations of the blast monitoring stations used in 2020 for each area are shown in Table 18 and Table 19 and Figure 19, Figure 20 and Figure 21 below.

Table 18. Tiriganiaq Open pits 1 & 2 (TIR01 & TIR02) Surface blast monitoring station coordinates

LOCATION	EASTING	NORTHING	DESCRIPTION
Location #1	539427.536	6988596.942	Temporary location used for TIR02
Location #2	541938.477	6989017.942	Temporary location used for TIR02
Location #3	540262.772	6988922.029	Temporary location used for TIR02
L75 Electrical Bay	539839.028	6988534.308	Permanent location used for TIR01 & TIR02
Explo Camp	541927.162	6989073.053	Permanent location used for TIR01 & TIR02 (installed 2020-08-20)
Comm Tower P1	539803.785	6988836.212	Permanent location used for TIR01 & TIR02 (installed 2020-08-20)

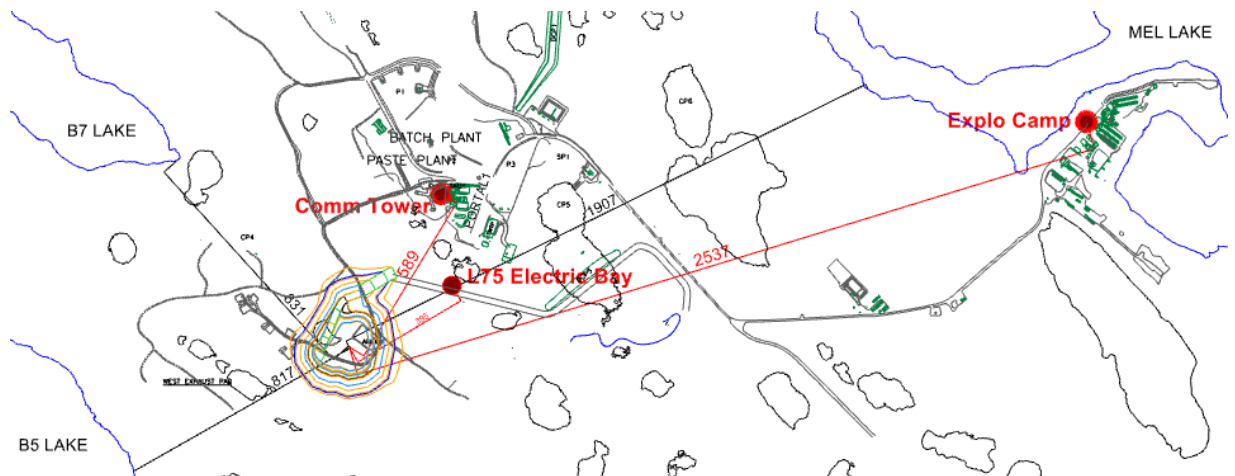


Figure 19. Surface Blast Monitoring Station Locations used for Tiri01 Blasts (Distance in Meters)

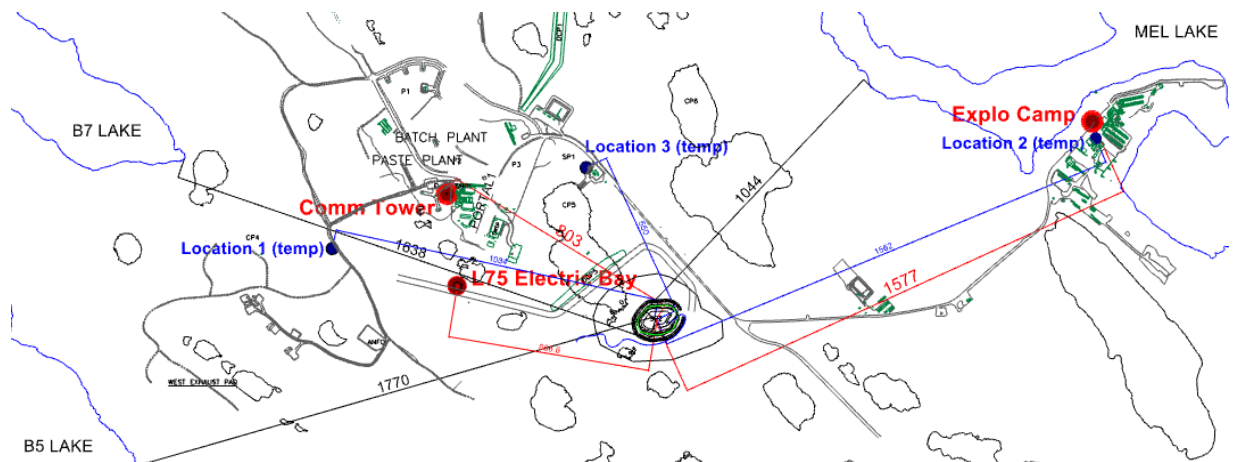


Figure 20. Surface Blast Monitoring Station Locations used for Tiri01 Blasts (Distance in Meters)

Table 19. Collection Pond 6 (CP6) and Saline Pond 4 (SP4) surface blast monitoring station coordinates

LOCATION	EASTING	NORTHING	DESCRIPTION
Location #1	539183.702	6988648.508	location used for CP6 and SP4
Location #2	538842.913	6988344.787	location used for CP6 and SP4
Location #3	539486.166	6988594.147	location used for CP6 and SP4
Location #4	540166.527	6989275.260	location used for CP6 and SP4
Location #5	541930.569	698,076.405	location used for CP6
L75 ELECTRICAL BAY	539839.028	6988534.308	Permanent location used for CP6

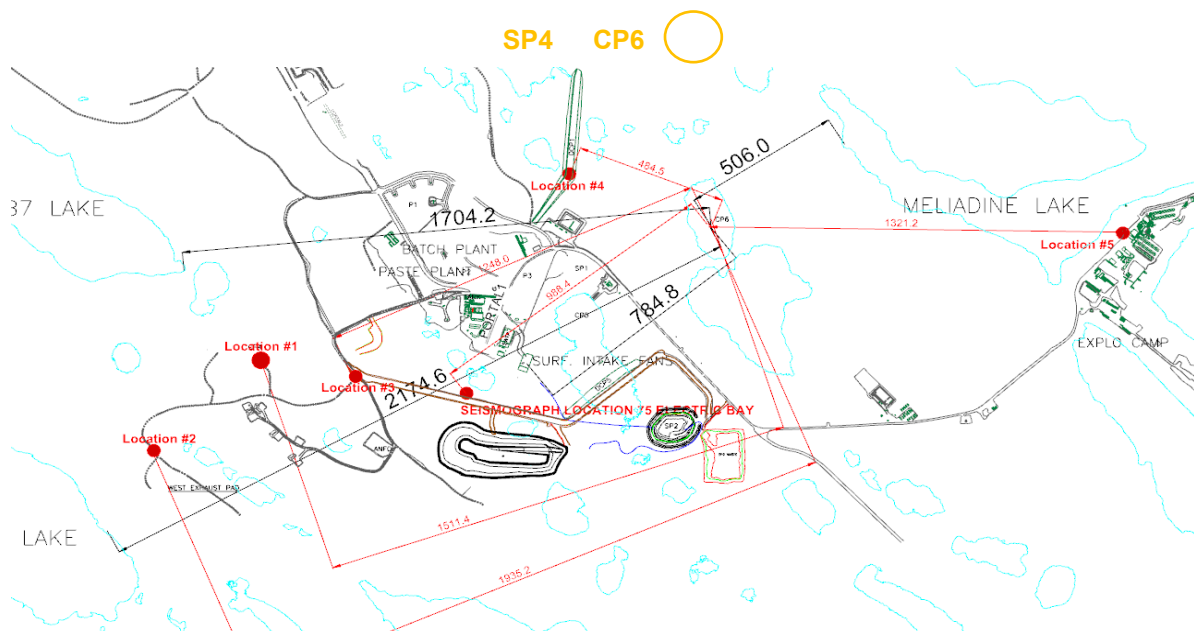


Figure 21. Surface Blast Monitoring Station Locations Used for CP6 and SP4 Blasts (Distance in Meters)

To improve vibration monitoring practices and data accuracy, permanent monitoring installations were commissioned on August 20th 2020, which allow the seismograph to be directly anchored into the bedrock via attachment to a steel rod drilled through the tundra. These permanent stations thereafter replaced the temporary locations used earlier in the year and throughout 2020. The L75 Electric Bay station has always been anchored in the bedrock as it is installed underground.

Blasts were monitored using an Instantel Minimate Blaster, which is fully compliant with the international Society of Explosives and Engineers performance specifications for blasting seismographs (Instantel, 2005). The transducer is installed as per the model specifications and measures transverse, vertical and longitudinal ground vibrations. Transverse ground vibrations agitate particles in a side to side motion. Vertical ground vibrations agitate particles in an up and down motion. Longitudinal ground vibrations agitate particles in a back and forth motion progressing outward from the event site (Instantel, 2005). The Minimate Blaster calculates the PPV for each geophone and calculates the vector sum of the three axes. The final result is the Peak Vector Sum (PVS) and is the resultant particle velocity magnitude of the event:

$$PVS = \sqrt{T^2 + V^2 + L^2}$$

Where:
 T = particle velocity along the transverse plane
 V = particle velocity along the vertical plane
 L = particle velocity along the longitudinal plane

Detailed blast monitoring data compilation and results are available in appendix H-4. Of the data collected, one data point exceeds the threshold limits. This anomalous data set (which has a corresponding higher than average overpressure value) is most probably attributed to improper placement of the instrument; ‘the most common result of an improperly placed transducer is an abnormally high reading’ (Nomis Seismographs User Guide, 2018). This reading was the very first reading taken from the newly commissioned permanent monitoring installation at the Communication Tower location, and after analysis it was found the wind was triggering the seismograph constantly due to improper attachment to the anchor rod. The corresponding reading of the same blast recorded at the Exploration Camp location did not show any abnormalities. Adjustments were made to the seismograph attachment for the next blast which consequently provided more consistent results.

The 2020 Meliadine Blast Monitoring Report for the Protection of Nearby Fish Habitat can is shown in Appendix 22.

7.7 NOISE MONITORING

The objective of the noise monitoring program is to measure noise levels at a minimum of three previously determined monitoring locations over at least two 24 h periods. Results are compared to FEIS predictions for the 24-h L_{eq} , the $L_{eq-nighttime}$ design target, and the site’s noise monitoring criteria.

Since high winds in the area tend to significantly reduce the amount of available data, technicians aim to conduct two or more monitoring events for each station, lasting two to four days each. In 2020, two monitoring events were successfully conducted for all stations (NPOR006a, NPOR008 and NPOR017a).

According to conditions of the Project Certificate, NPOR014 was not required to be monitored in 2020, since mining activities related to the Discovery Pit were not occurring.

Noise monitoring stations are illustrated on following Figure 22.

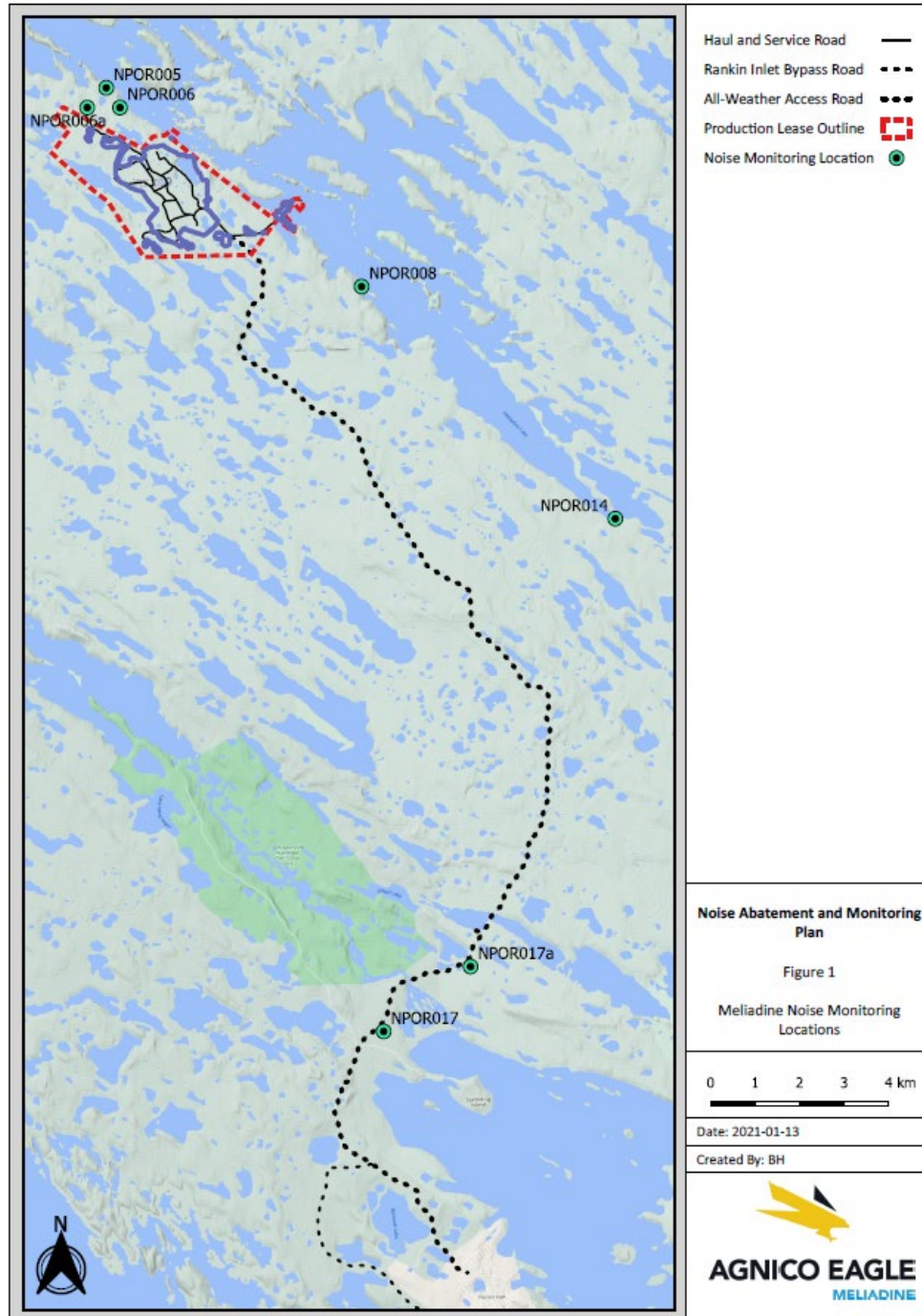


Figure 22. Meliadine Noise Monitoring Locations

Following processing of the data in accordance with standard methods (Alberta Energy Resource Conservation Board Directive 038), sufficient valid data was available for the calculation of at least two 24-h L_{eq} values for each monitoring station in 2020. Final values are shown in Table 20

Table 20. Summary of noise monitoring results in 2020. Values exceeding FEIS predictions are in bold. Values exceeding the noise monitoring criterion or design target are underlined. “-” indicates not applicable. “NM” indicates not required to be measured in 2020.

Location	Monitoring Start	Monitoring End	Noise Monitoring Criterion $L_{eq}(24\text{ h})$ (dBA)	FEIS Prediction $L_{eq}(24\text{ h})$ (dBA)	Measured $L_{eq}(24\text{ h})$ (dBA)	Design Target L_{eq} (nighttime) (dBA)	Measured L_{eq} (nighttime) (dBA)
NPOR006a	08/05/2020 3:03 PM	08/08/2020 3:32 PM	45	39.8	41.8	-	-
	08/11/2020 8:25 AM	08/14/2020 10:18 AM			30.8		-
NPOR008	08/01/2020 1:47 PM	08/04/2020 6:58 AM	45	41.7	40.1	40	39.5
	08/27/2020 1:48 PM	08/31/2020 3:29 PM			<u>46.8</u>		<u>44.3</u>
NPOR014	NM	NM	45	44.7	NM	-	-
NPOR017a	08/05/2020 1:44 PM	08/08/2020 1:03 PM	45	43.4	38.9	-	-
	08/10/2020 3:26 PM	08/13/2020 8:29 AM			38.3		-

For NPOR006a, one 24-h L_{eq} measurement marginally exceeded the FEIS prediction of 39.8 dBA, at 41.8 dBA. Review of sound recordings indicated this was generally due to infrequent aircraft flyovers causing elevated noise peaks lasting 1-2 minutes during 5 of the 57 monitoring hours. Since the exceedance was marginal, only occurred during one event, and the noise monitoring criterion was not exceeded, the event was not investigated further.

For NPOR008, one exceedance of the site's noise monitoring criterion (45 dBA, 24-h L_{eq}) and night-time design target (40 dBA) occurred, both during monitoring event 2 (August 27 – 31). Elevated sound levels during this event were due to frequent helicopter flyovers (1-2 per hour throughout each day) causing brief (1-2 min) but significant sound peaks. Although no mine-related activity is ongoing in this area, this station is located under the flight path for helicopters between the Exploration Camp and the Discovery Pit area. During monitoring event 2, a fuel tank recovery operation was ongoing, resulting in frequent helicopter flyovers. This is expected to be an isolated incident, and is not representative of the typical sound environment in this area. Historically and during the first 2020 monitoring event at NPOR008, no exceedances have occurred for this site, and to date no noise-related complaints have been received. Sound levels at this location will therefore continue to be observed in 2021 to determine whether a trend is beginning or whether the 2020 exceedance was an isolated event.

For NPOR017a, no measured values exceeded the FEIS prediction or noise monitoring criterion in 2020. To date, no noise-related complaints have been received for the Meliadine site, and no changes to noise mitigation plans are proposed at this time.

The complete Noise report can be found in Appendix 23.

7.8 AIR

7.8.1 Air Quality monitoring

Through its ambient air quality monitoring program, Agnico Eagle aims to measure airborne particulates, dustfall, and the gaseous compounds (NO₂ and SO₂) using a combination of active and passive sampling methods. In accordance with the Plan, monitoring in 2020 included year-round passive measurement of dustfall at four onsite sampling stations, as well as NO₂ and SO₂ at two locations, over one month averaging periods. Agnico also conducted the second year of summertime dustfall transect sampling at two locations along the AWAR. One transect along the AWAR and one transect along the Rankin Inlet Bypass Road could not be sampled due to COVID-19 related restrictions. After being sent for professional repairs and calibration in 2019, all four Partisol units were re-installed in October 2020 for the analysis of suspended particulates (TSP, PM_{2.5}, and PM₁₀) at two onsite monitoring stations.

Dustfall Locations are identified in Figure 23.

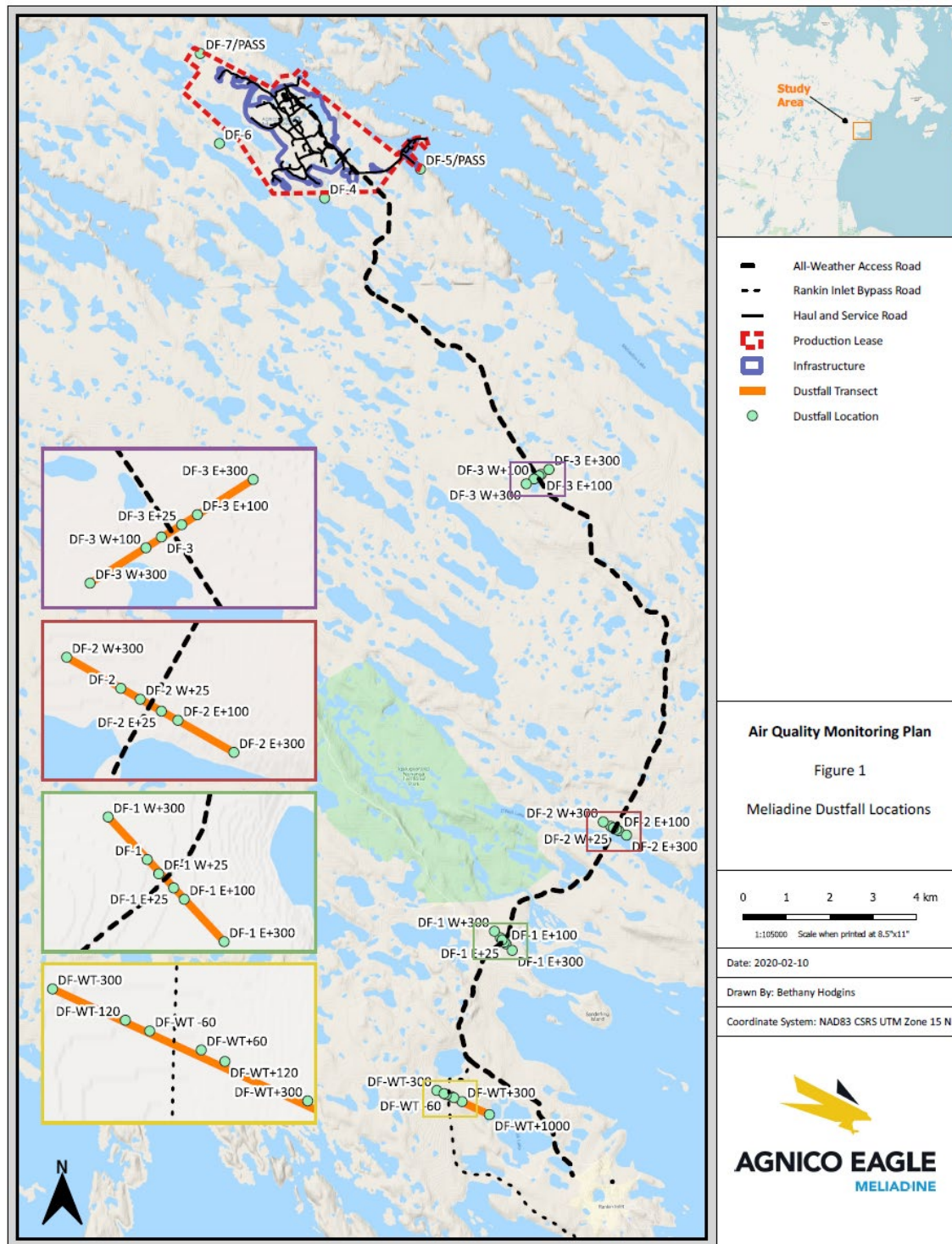


Figure 23. Dustfall Locations

Dustfall results for all onsite perimeter monitoring stations (DF-4 – DF-7) are compared to Alberta Environment's Ambient Air Quality Guidelines (June, 2016) for recreational and industrial areas (AB-Rec, AB-Ind), for context. In 2020, one of 40 onsite samples exceeded AB-Rec (August 20, DF-7), and no samples exceeded the industrial area guideline. Historically, an increase in measured dustfall rates has occurred since mid-2017 when the construction period began, as anticipated. Despite increasing site activity, levels of dustfall at site perimeter monitoring stations are generally well within AB-Rec guidelines, with exceedances occurring in a maximum of 4% of total dustfall samples in any given year since that time.

For AWAR transects (DF-2 and DF-3, summer-only sampling), dustfall declined below AB-Rec between 25 m and 100 m from the road for most sampling events and locations in 2020. During the second and third sampling event at DF-3, this distance was extended to approximately 150 – 250 m for the downwind side of the road only. Historically (2019 and 2020), annual average rates of dustfall have only exceeded AB-Rec at the 25-m distance.

Dust suppressant in the form of calcium chloride was applied primarily along the AWAR between June 21 - July 3, and again on July 21/22 and August 4 – 8. Road watering was conducted to control dust on site haul roads, and occurred at a frequency of every 1 – 14 days between July 3 and August 25. Results of dustfall monitoring indicate that for both onsite and AWAR locations, these and other best-management practices in place for dust mitigation are being effectively implemented to minimize emissions.

Suspended particulates (TSP, PM_{2.5}, and PM₁₀) were assessed in two locations using Partisol air samplers beginning in October, 2020, after repairs and reinstallation by the supplier. All results for suspended particulates were below regulatory guidelines for the 24-h averaging time (Government of Nunavut Ambient Air Quality Standards/BC Ambient Air Quality Objectives) and were below maximum concentrations predicted in the FEIS. Annual averages were not calculated because data was only collected over 2-3 months. Concentrations of metals of concern to the Project in TSP (cadmium and iron) were less than FEIS-selected health-based screening values and FEIS maximum model predictions in all samples.

Calculated annual average concentrations of NO₂ and SO₂ were well below the Government of Nunavut Ambient Air Quality Standards, and FEIS maximum predicted values. This was the fourth full year of monitoring for gaseous compounds, and no clear spatial or temporal trends were observed.

As described in the Air Quality Monitoring Plan, a permanent weather station was installed at the Meliadine site, and daily averages for wind speed, direction, temperature, and solar radiation are provided.

Incinerator stack testing was performed in September, 2020. Measured concentrations of mercury were below the GN standard of 20 µg/Rm³ in all three tests. Measured concentrations of total dioxins and furans were also below the GN standard (80 pg TEQ / Rm³ @ 11 % v/v O₂) in all three tests. The complete stack testing report is available in Appendix 14.

Since monitoring results in 2020 were within applicable air quality standards and FEIS predictions, no additional adaptive management measures are planned. Monitoring in 2021 will proceed according to the Air Quality Monitoring Plan (Version 2, April 2020). The air monitoring full report can be found in Appendix 24.

7.8.2 Greenhouse Gas Emissions

Agnico Eagle is required by Environment Canada's Greenhouse Gas Emissions Reporting Program (GHGRP) to track greenhouse gas emissions. Calculated emissions for the Meliadine site (including Rankin Inlet operations) were reported on June, 2020 for the 2019 year. Total emissions were 108,077 tonnes CO_{2e}, which is less than the FEIS-predicted maximum of 317,000 tonnes CO_{2e}.

Environment Canada's Greenhouse Gas Emissions Reporting Program for the 2020 year will be completed by June 1st, 2021.

7.8.3 Climate

A permanent weather station was installed at the Meliadine site. The station records monthly data for the average, maximum and minimum temperature, the average and maximum wind speed and the total, daily average and maximum precipitation which can be found in Table 21. The precipitation data is from ECCC weather station in Rankin Inlet. As per NIBR Term and Condition 131, it should also be noted that Agnico Eagle also engages with the Kangiqiniq Hunters and Trappers Organization (KHTO) to confirm the commencement and ending of the open water season for marine effluent discharge every year.

Table 21. 2020 Climate Conditions

Environmental Variable	Value
Temperature (°C)	
Mean Annual Temperature	-9.7
Min. Annual Temperature	-41.8
Max Annual Temperature	30.0
Precipitation	
Total Annual Precipitation (mm)	179.8

The maximum annual temperature of 30.0°C was recorded on 4 August 2020 and the minimum annual temperature -41.8°C was recorded on 8 March 2020; the mean annual temperature was -9.7°C (Table 4-4). Total recorded annual precipitation was 179.8 mm and snowmelt began 7 June 2020 when the average daily air temperature exceeded 0°C. Precipitation was sampled 316 days out of the year in 2020, days not sampled were due to weather constraints or access difficulties. Total precipitation includes both rain and snowfall as these were not measured respectively due to a malfunction of the instrument. In November 2020 a new weather station was installed to the northeast of the camp, featuring a new precipitation gauge, evaporation pan, and sensors for temperature, barometric pressure, and solar radiation. The precipitation data will be available in real-time in 2021 and will be used for year-round precipitation data. Environmental variables will continue to be monitored on an ongoing basis.

7.9 WILDLIFE MONITORING

All Meliadine employees and contractors are required to report wildlife sightings. All supervisors ask their employees to report wildlife sightings; wildlife logs are posted throughout the Meliadine camp and are easily accessible to employees to facilitate wildlife reporting after work shifts. All observations, problematic interactions, wildlife surveys conducted weekly along the AWAR, caribou migration, operation shut downs related to caribou migration, aerial observations when helicopters are active, onsite audits (i.e. for wildlife attractants) conducted by third parties, and mitigation actions taken following problematic issues are reported in the monthly report to the Government of Nunavut, the Kangiqliniq Hunters and Trappers Organization and Kivalliq Inuit Association.

Department toolbox meetings were completed in 2020 for environmental subjects including wildlife and caribou migration. The toolbox presentations can be found in Appendix 25.

7.9.1 TEMMP

The objectives of the Terrestrial Environment Management and Monitoring Plan (TEMMP) annual report are to summarize annual data collected from wildlife and vegetation monitoring programs, and to describe natural variation and potential Project-related effects to wildlife populations within and adjacent to the Project. The data was collected according to procedures and sampling or monitoring intervals outlined in the Project's Standard Operating Procedures (SOPs) and the TEMMP. The 2020 TEMMP Annual Report describes monitoring objectives and methods, 2020 survey results, mitigation activities, and management recommendations (i.e., adaptive management). The complete 2020 TEMMP report can be found in Appendix 26. Complementary studies were conducted in 2020 and are included in Appendices 27 to 29 (Caribou Behaviour Study, Caribou Trail Camera Study and Dust and Vegetation Study). Wildlife observations can be found in Appendix 30. .

Incorporation of Inuit Qaujimajatuqangit

When possible, field programs in 2020 were guided by Inuit Qaujimajatuqangit (IQ), including the assistance of local field assistants. Participation of local field assistants was limited during 2020 in consideration of COVID-19 health and safety protection measures for the local community.

Direct Habitat Loss

Direct habitat loss is assessed every three years and was not assessed in 2020 (next assessment in 2021).

Indirect Habitat Loss

Indirect habitat loss for caribou and wildlife habitat (soils and vegetation) is assessed every three years and was not assessed in 2020 (next assessment in 2022, tied to the Vegetation Health Program).

Wildlife Observations

In 2020, there were 416 recorded incidental observations of wildlife around the Mine (including the camp area) and the All-weather Access Road (AWAR), representing 2,645 individuals of 22 species. Incidental wildlife observations do not include mortalities or observations of large herds of migrating caribou.

Wildlife Track Surveys

Wildlife sighting/track surveys were completed by Agnico Eagle personnel along the AWAR and infrastructure.

Excluding caribou, a total of 1,761 individuals from 17 identified wildlife species and 10 unidentified wildlife species groups (e.g., duck species) were recorded during surveys along the AWAR in 2020. Large groups (>1,000 individuals) of barren-ground caribou were recorded within 0 to 3 km of the AWAR on 6, 10, and 16 July 2020. Snow goose was the most commonly recorded bird species with a total of 966 individuals (i.e., 55% of all non-caribou sightings) observed along the AWAR.

A total of 572 individuals from 15 identified species and 7 unidentified species groups were observed during surveys at Mine infrastructure other than the AWAR in 2020. Snow goose and Canada goose were the most frequently observed species with 144 and 146 individuals recorded, respectively (each 25% of all sightings). One caribou was observed along the road to D7 on 28 July 2020.

Bird Nests

One sandhill crane and one common raven nest were observed in 2020.

Incidents and Mortalities

A total of 11 wildlife mortalities from 8 species were reported at the Project from 1 January 1 to 31 December 2020; 6 of these mortalities were suspected or confirmed to be caused as a direct result of Project activities.

This represents a decline of 6 mortalities from 2019, or approximately 35%.

Wildlife Deterrents

Wildlife deterrents (i.e., propane cannons and fake owls) were utilized at eight locations at management ponds SP4, CP6, and H8 to deter birds from nesting.

Deterrent measures were implemented on 22 July 2020 to deter a polar bear from a drill rig using bear bangers and a helicopter.

Barren-ground Caribou

Caribou Behaviour

Behavioural observations were conducted in 56 surveys in 2020. Caribou showed more running and alert behaviour closer to the AWAR, but this is confounded by group size.

Caribou Advisory

Caribou advisory and shutdowns occurred from 7 to 19 July 2020 as the Qamanirjuaq Caribou herd moved through the Project area. At the Mine there were 143 hours of work stoppage mitigation over the course of 8 days, and the AWAR was closed over a 10 day period for a total of 165 hours.

Hunter Harvest

Four hunters from the KHTO contributed to hunter harvest surveys in 2020. A total of 24 survey records were submitted. A total of 62 harvested caribou were reported, including 40 cows, 18 bulls, and 4 non-adults.

Birds

Shoreline Surveys

A total of 15 nests were detected in 2020, from 7 unique species. The number of observed nests per year is declining but it is unknown if the decline is due to a loss of suitable habitat, Project-related disturbance, survey timing, or observer nest finding ability.

Point Counts

Species richness and diversity were similar among habitats and among years. Species density was lower closer to the AWAR and was lower in 2020 than 2018 or 2019.

PRISM

Agnico Eagle contributed to the Environment and Climate Change Canada (ECCC) PRISM surveys in 2018 and 2019 and will continue to do so every five years (next survey in 2023/2024).

Raptors

The 2020 Arctic Raptors Research Program was cancelled as a Wildlife Research Permit was not able to be obtained and limitations associated with COVID-19 health and safety protection measures.

Soil and Vegetation Monitoring

Soil and vegetation health monitoring (dust and metals survey) is assessed every three years and was not assessed in 2020 (next assessment in 2022, tied to the Indirect Habitat Loss assessment).

Non-native Plants

One instance of dandelion was found along AWAR.

Environmental Variables

The maximum annual temperature was 30.0°C and was recorded on 4 August 2020. The minimum annual temperature was -41.8°C and was recorded on 8 March 2020 with an annual mean temperature of -9.7°C. Total recorded annual precipitation was 179.8 mm and snowmelt began 7 June, 2020 when the average daily air temperature exceeded 0°C; precipitation data was collected over 316 days of 2020. Environmental variables will continue to be monitored on an on-going basis.

7.9.2 Marine Environment

A Marine Mammal and Seabirds Observation (MMSO) report was completed for all observations done during the 2020 sealift season. The purpose of the MMSO program is to mitigate interactions between marine mammals and seabirds and Project vessels and to collect information on marine wildlife presence. This report provides an interpretation and discussion of the MMSO data collected in 2020 by the shipping contractor Groupe Desgagnés.

Prior to the 2020 sealift season, updated training was provided by an expert third party consultant (ERM) to vessel crews on avoidance of sensitive areas for marine wildlife and on survey protocols for conducting the MMSO surveys, and to produce the MMSO compliance report, for both Meliadine and the Meadowbank

Complex. These training materials included updated instructions for vessel crew on: 1) setbacks from sensitive marine wildlife habitats such as marine mammal haul-outs and seabird colonies, and 2) mitigation procedures should marine mammals or seabirds be observed in or near the vessel path. Updated training materials were also supplied to dedicated MMSO crew observers including detailed methods for marine mammal and seabird surveys (on moving vessels and stationary vessels), data sheets, and training videos.

The 2020 MMSO program resulted in greater survey effort compared to previous years. A total of 25 Groupe Desgagnés vessels serviced the Projects between July and October during the 2020 shipping season: four for Meadowbank, six for Meliadine, and 15 serviced both Meadowbank and Meliadine. Datasheets were obtained from 19 of the 25 vessels in 2020, which was greater than in 2019 when only six vessels provided datasheets, and in 2018 which had only two participating vessels.

The complete 2020 MMSO report can be found in Appendix 31.

Vessel Mitigation

Vessels are required to transit south of Coats Island whenever the weather is safe to do so. The majority of vessels servicing the Meadowbank and Meliadine projects in 2020 travelled south of Coats Island, with the exception of two occasions in September. Two vessels (Nordika Desgagnés and Zéleda Desgagnés) each had a single passage north of Coats Island in September 2020 because of safety issues associated with inclement weather, with tides up to 3 m and strong winds.

Marine Mammal Monitoring

In 2020, 58 transects were surveyed for marine mammals, compared to less than 40 in previous years. There were 12 sightings (during surveys or incidentally) of marine mammals during the 2020 shipping season, compared to seven (all during surveys) in 2019, none in 2018, and six (all incidental) in 2017. The majority of all marine mammal sightings between 2017 and 2020 were recorded in the Eastern Hudson Strait or near Marble Island. There are an insufficient number of marine mammal sightings recorded to conduct a density analysis. No marine mammal-vessel interactions (e.g., strikes) were recorded by Groupe Desgagnés in 2020 or in previous years (2017, 2018, or 2019).

Seabird Monitoring

No interactions between vessels and seabirds were recorded during the MMSO in 2020, or in previous years. Seabird survey effort on moving vessels has remained relatively consistent across all years (2018 to 2020). Over three years of moving vessel surveys for seabirds between 2018 and 2020, 48 species and 3,446 individual birds have been recorded across all years. The most common species recorded in 2020 was northern fulmar, followed by thick-billed murre. The same species were the most commonly recorded across all years, with the exception that snow goose was the most common overall, due to large numbers observed in 2019. Predicted seabird densities varied more, with the highest density predicted in 2019 (1.879 birds/ km²) and the lowest predicted in 2020 (0.701 birds/ km²). The variation in density estimates reflect the variability in overall detection rate between years, i.e., there were almost twice as many birds detected in 2019 than in 2020 despite greater spatial effort in 2020.

The majority of stationary seabird surveys were conducted in 2020, with five times the number of surveys conducted in 2020 compared to the previous two years combined. A total of 560 individual birds from 24 species were recorded during stationary vessel surveys in 2019 and 2020. Nearly 96% of records were from 2020 (n = 536 individuals). Detection estimates were much lower for stationary vessel surveys compared to moving vessel surveys (0.168 ± 0.022 for all years). This is consistent with the data, which

indicate that both detections and number of birds recorded per survey were much lower for stationary surveys compared to moving surveys.

7.10 VEGETATION

On June 1, 2018 Agnico Eagle and the University of Saskatchewan received a Natural Sciences and Engineering Research Council (NSERC) Collaborative Research and Development grant. The grant entitled “*Tundra Restoration: Niche construction in early successional plant-soil systems*” will support on-site and laboratory research from June 2018 to June 2022.

The primary objective of this research is to address Term and Condition 41 of the NIRB Project Certificate # 006 : “*Prior to the commencement of operations, the Proponent shall develop a progressive re-vegetation program for disturbed areas that are no longer required for operations, such program to incorporate measures for the use of test plots, reseeding and replanting of native plants as necessary.*”

Several additional scientific objectives that support this primary objective are also examined within the research project :

- Characterization of initial and realized niches of biological soil crusts and tundra vascular plants across a chronosequence of naturally recolonized drilling waste dumps;
- Characterization of initial and realized niches of actively restored biological soil crusts on disturbed substrates;
- Characterization of initial and realized niches of actively restored tundra vascular plants on disturbed substrates.

In addition to the scientific work, the research project includes the development of a youth education program and local community engagement in Rankin Inlet and Baker Lake, NU.

Work started during the 2018 summer and continued in 2019, with the establishment of three restoration trials to monitor the success of transplanting intact and shredded tundra material on disturbed areas associated with the Meliadine mine site. Restoration sites at Quarry 1 and 2 are located at ~27 km on the All Weather Access Road (AWAR), and a third site was located at the quarry area before the emulsion plant on site. To complement this field trial a tundra plug expansion trial in growth chambers was conducted at the University of Saskatchewan from January 2020 to June 2020. In 2019, a field study examining early colonizing *Oxytropis* species that have been identified as potential local native species for restoration was also initiated.

Field and laboratory activities in 2019-2020 also continued to characterize initial and realized niches of biological soil crusts (BSCs) and tundra vascular plants across a chronosequence of naturally recolonized drilling waste dumps and an extensive invasive plant species survey was conducted in summer 2019 during which no non-native invasive species were observed or identified.

In the summer 2020, due to the COVID-19 pandemic and related travel restrictions, University of Saskatchewan field work at Meliadine was cancelled and postponed to summer 2021. As communicated to NIRB June 11th 2020, University of Saskatchewan confirmed postponing the field work to summer 2021 shouldn't have significant impacts on the project, and project related activities continued remotely.

Additional resources were allocated to the tundra plug expansion trial in 2020 to gain information regarding patterns of species growth and expansion from the plugs and better understand plant-soil interactions of these expanding communities. Preliminary results indicate that initial plug expansion is occurring primarily below ground and fertilization of substrate adjacent to transplanted plugs significantly increases below ground biomass and rooting distance. Oxytropis species in tundra plugs from 2018 have been maintained and together with southern Oxytropis will provide the needed materials for methods development and initial growth chamber trials in winter 2021.

Natural revegetation of drilling wastes is occurring at the Meliadine site with community composition between drilling wastes and the paired undisturbed tundra similar 20-25 years post disturbance. Due to the different life history characteristics of tundra plants, individual species responses to disturbance were observed. While sedges and mosses may recover more rapidly on these drilling wastes, dwarf shrubs and lichens may require longer to recover. These trends in natural recovery are important for guiding future restoration efforts and techniques. Specifically, targeting sedge and moss species for transplanting and/or seeding of disturbed substrates may be a highly effective strategy for initiating the development of early successional tundra communities.

Based on their findings, University of Saskatchewan provided the following suggestions to improve and/or maintain the relatively rapid natural revegetation of the drilling wastes:

- Placement of drilling wastes on the landscape that allow for remnant patches or islands of intact tundra throughout the disturbed area;
- Apply drilling wastes in layers to allow for vegetative establishment; and
- Promote establishment of bryophyte communities in the early stages of revegetation to support long-term ecosystem recovery.

The finding of the University of Saskatchewan study shows that active restoration of the drilling wastes at Meliadine is likely not required for the recovery of the tundra plant communities, if the timeline for recovery is approximately 20 years.

More information on the research project can be found on the following website: <https://www.tundrarestoration.com/> and the October 2020 Tundra Restoration and Natural Recovery Monitoring Technical Report can be found in Appendix 32.

SECTION 8. CLOSURE

8.1 PROGRESSIVE RECLAMATION

8.1.1 Mine Site

As required by Water License 2AM-MEL1631 Schedule B, Item 15: *A summary of any progressive closure and reclamation work undertaken including photographic records of site conditions before and after completion of operations, and an outline of any work anticipated for the next year, including any changes to implementation and scheduling.*

And

As required by Water License 2BB-MEL1424 Part B, Item 6k: *A description of all progressive and/or final reclamation work undertaken, including photographic records of site conditions before, during and after completion of operations;*

In 2020, no reclamation occurred at the mine site.

8.1.2 AWAR

In 2020, no reclamation occurred along the AWAR.

8.1.3 Quarries

In 2020, no reclamation occurred at quarries.

8.2 RECLAMATION COSTS

As required by Water License 2AM-MEL1631 Schedule B, Item 17: *An updated estimate of the current restoration liability based on project development monitoring, results of restoration research and any changes or modifications to the Appurtenant Undertaking.*

And

As required by Water License 2BB-MEL-1424 Part B Item 6h: *An updated estimate of the current Meliadine West Gold Project restoration and liability, as required under Part B, Item 3, based upon the results of the restoration research, project development monitoring, and any modifications to the site plan;*

A permanent closure and reclamation financial security cost estimate was prepared in March 2014 using the RECLAIM model, version 7.0. According to that estimate, the closure and reclamation of all Project facilities amounted to \$47,449,337. This estimate was included in the Preliminary Closure and Reclamation Plan (April 2015) prepared as part of the Type A Water License application. In negotiations between CIRNAC, Agnico Eagle and KIA the quantum of security was increased to \$49,555,000.

On July 1, 2017, the Production Lease KVPL11D01 between KIA and Agnico Eagle came into effect; the security was confirmed at \$49,555,000. Agnico Eagle posted a Reclamation Security Deposit, equal to 50% of this estimate (\$24,777,500) with KIA.

In 2019, an Interim Closure and Reclamation Plan was prepared. CIRNAC's RECLAIM Reclamation Cost Estimating Model Version 7.0 workbook has been used for this estimate, as per the Guidelines for Closure and Reclamation Cost Estimates for Mines, issued by CIRNAC, Mackenzie Valley Land and Water Board and the Government of the Northwest Territories (CIRNAC, MVLWB, GNWT, 2017). The 2019 estimated closure and reclamation costs for the Meliadine Mine represent a total of \$ 59,514,717. This total includes \$ 34,462,041 of direct costs and \$ 25,052,677 of indirect costs.

SECTION 9. STUDIES/REVISIONS/MODIFICATIONS

9.1 SUMMARY OF STUDIES

As required by Water License 2AM-MEL1631 Schedule B, Item 18: *A summary of any studies requested by the Board that relate to Water use, Waste disposal or Reclamation, and a brief description of any future studies planned.*

And

As required by Water License 2BB-MEL1424 Part B, Item 6l: *summary of any specific studies or reports requested by the Board, and a brief description of any future studies planned or proposed;*

No studies were requested by the NWB in 2020.

9.2 SUMMARY OF REVISIONS

As required by Water License 2AM-MEL1631 Schedule B, Item 19: *Where applicable, revisions will be completed as Addendums, with an indication of where changes have been made, for Plans, Reports, and Manuals.*

And

As required by Water License 2BB-MEL-1424 Part B Item 6g: *Any revisions to the Spill Contingency Plan, Site Water Management Plan, Used Water Management Plan, Waste Management Plan, Waste Rock and Ore Storage Plan, Landfill and Landfarm Management Plans, Abandonment and Restoration Plan, as required by Part B, Item 12, submitted in the form of an Addendum;*

The following monitoring and management plans were updated and are included in Appendix 33, and following Table 22 provides a summary the main revisions brought to them:

- Mine Waste Management Plan (Appendix 33-1)
- Ore Storage Management Plan (Appendix 33-2)
- Explosives Management Plan (Appendix 33-3)
- Blast Monitoring Plan (Appendix 33-4)
- Ammonia Management Plan (Appendix 33-5)
- Sediment and Erosion Management Plans (Appendix 33-6)

Table 22. Management Plan Revisions

Management Plan	Version	Revision
Mine Waste Management Plan	7	Update to reflect Meliadine operational status Update quantities according to latest mine plan
Ore Storage Management Plan	3	Update quantities according to the latest mine plan
Explosives Management Plan	7	General Revision
Blast Monitoring Program	3	Update of the monitoring location and removal of the previous year results (which are now in appendix of the Annual Report)
Ammonia Management Plan	3	General Revision

Sediment and Erosion Management Plan	3	Table 2.1 Update
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The Water Management Plan and Groundwater Management Plan are not being submitted as part of this report as they were recently submitted to regulators through permitting channels and are being reviewed through these channels. The intent is to avoid multiple and concurrent revisions of plans.

9.3 MODIFICATIONS

As required by Water License 2AM-MEL1631 Schedule B, Item 12: *A summary of modifications and/or major maintenance work carried out on all water and waste related structures and facilities.*

And

As required by Water License 2BB-MEL-1424 Part B Item 6e: *A summary of modification and/or major maintenance work carried out on the Water Supply Facilities, Bulk Fuel Storage Facility, Bermed Fuel Containment Facilities, and Wastewater Treatment Facility, including all associated structures, and an outline of any work anticipated for the next year*

In 2020, landfarm remediation work took place and as mentioned in section SECTION 5 various measures were implemented to improve waste segregation at the source.

Upgrades were made to the Freshwater Treatment Plant, as well as to the Saline Effluent Treatment Plant and Sewage Treatment Plant.

At this time, no major maintenance is planned for next year.

SECTION 10. OTHERS

10.1 ACTIVE PERMITS

Below is the list of all active permits and authorizations for Meliadine

Table 23. List of all active permits and authorizations for Meliadine

Issued By	ID	Description	Issue	Expiry
KIA	KVPL11D01	Production lease	2017/06/30	2029/06/30
KIA	KVCA07Q08	Tiriganiaq/Westmeg/Meliadine quarry permit	2018/07/19	2021/09/12
KIA	KVCA11Q01	Exploration road quarries	2018/04/19	2021/04/19
KIA	KVRW11F02	Exploration road right-of-way	2012/04/19	2027/06/29
KIA	n/a	Water Compensation Agreement	2016/02/11	2031/03/31
NWB	2BB-MEL1424	Bulk Sampling and exploration drilling water license	2009/07/31	2024/07/21
NWB	2AM-MEL1631	Mining undertaking water license	2016/04/01	2031/03/31
NIRB	006	Project certificate (Meliadine Phase 1)	2015/02/26	N/A
NIRB	16QN071	Screening decision (Itivia Quarry)	-	-
GN-NAD	102631	Land lease, laydown Itivia		2021/07/01
GN-CGS	L-51809T	Right-of-Way permit AWAAR on Municipal land	2017/06/01	2027/05/31
GN-CGS	L-51808T	Right-of-Way Lease Bypass Road km 2-7	2017/06/01	2027/05/31
GN-NAD	102893	Right-of-way lease bypass road km 1-2	2017/07/01	2027/07/01
GN-ENV	2019-058	Wildlife Research Permit	2019/08/06	2020/09/30 *currently being renewed
CIRNAC	55K/16-42-2	Saline Effluent Discharge and Diffuser Lease	2019/07/19	15 years after issued

10.2 INSPECTIONS

As required by Water License 2AM-MEL1631 Schedule B, Item 21: A summary of actions taken to address concerns or deficiencies listed in the inspection reports and/or compliance reports filed by an Inspector.

Due to the COVID-19 pandemic, in person site inspections or site visits were limited in 2020. Agnico Eagle worked with regulators throughout the year to develop virtual site visits as well as in conducting non-contact site visits. During these non-contact site visits, Agnico Eagle's Detached Operation Protocol was strictly enforced, as well as all applicable public health guidelines. Table 24 summarizes inspections and site visits that took place in 2020.

Table 24. Inspections and site visits by regulators in 2020

Date	Authority	Topic	Feedback/Outcome
August 13, 2020	CIRNAC KivIA	Non-contact site inspection	A non-contact site inspection was conducted by CIRNAC Enforcement Officer and KivIA Land Use Inspector and led by Agnico Eagle Environment Coordinator and Environment Technician in a separate vehicle. The site visit started at the northern extent of the site, with the emulsion plant, using CP1 and Maintenance Roads and driving by the main camp, northern edge of the industrial pad, IT tower, Meliadine water intake and TSF, landfarm A, hazmat laydown, 60 million litre tank farm and refueling area and 30 million litre tank farm, exploration camp water intake, helipad and Tiriganiaq Open Pit #2. Follow-up information on emulsion plant, landfill, dustfalls and tundra fire was provided via phone during a close-out meeting call at 13:30 August 13th and via email August 14th 2020 for CP1 volumes.
August 20, 2020	KivIA	Non-contact site tour	Following August 13th site visit, KivIA Land Use Inspector requested to hold a similar visit with KivIA President, Vice President, President assistant and NTI Wildlife . Agnico Eagle Environment Compliance Counselor and Environment Technician led the tour and KivIA members followed in a separate vehicle. Follow-up information on MEL-12 and MEL-14 results and height of TSF were sent by email August 21st, 2020.
August 27, 2020	CIRNAC	Non-contact AWAR inspection	A non-contact AWAR inspection was conducted by CIRNAC Enforcement Officers and led by Agnico Eagle General Supervisor and Environment Technician in a separate vehicle. The inspection drive started along Itivia, going up the staging area and driving past the Bulk Fuel Station and past the Discharge to Sea Offloading Area and then drove through the Bypass Road and the AWAR. No follow-up was required.
September 10, 2020	NIRB	Virtual site Visit	A non-contact site visit was planned in August 2020 but had to be cancelled as NIRB didn't received required approvals from public health authorities. A virtual site visit was organized, NIRB provided Agnico Eagle with a list of questions and photographs for Agnico Eagle to provide. Required information and photographs were sent September 10th, 2020 and NIRB issued its 2020 Site Update Report on October 22nd, 2020. No follow-up was required.
September 14, 2020	GN	Non-contact site tour	A non-contact site tour took place, Agnico Eagle Environmental Coordinator led the tour and the GN Wildlife Officer followed in separate vehicle. The exterior of the exploration and main camp kitchen areas were visited as well as the landfill, garbage area, STP, reefers and seacans. The GN Wildlife Officer inspected the landfill for food waste, none was identified. The Environmental Coordinator informed the GN Wildlife Officer of improvements made in waste segregation on site including new bins, signage, procedure to refuse collection of roll-off bins with improper waste segregation etc. The GN Wildlife Officer noted the improvements in waste segregation and the visit was concluded. No follow-up was required.

September 25, 2020	CIRNAC KivIA	Non-contact site tour	A non-contact site tour took place, Agnico Eagle Environmental Coordinator led the tour and the CIRNAC, KlivIA followed in a separate vehicle. Area of focus was around the Diesel spill location reported in previous days.
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10.3 AWAR

In 2019 Agnico Eagle began transporting treated saline water by truck (from the underground mine to the Itivia area) for discharge to sea, resulting in increased traffic on both the AWAR and the Bypass road. Table 25 shows the 2020 traffic observed on the AWAR in comparison to the FEIS's predictions. Appendix 34 shows detail of the AWAR traffic data.

Despite higher than anticipated traffic volume, only one exceedances of Alberta's Ambient Air Quality Guidelines (June 2016) for industrial areas occurred for any dustfall sample location. These results indicate low rates of dustfall overall, as discussed in the Air Quality Monitoring Report in Appendix 25

In order to monitor rates of dust deposition along the Meliadine All-Weather Access Road (AWAR), Agnico Eagle has refined its dustfall monitoring by establishing 3 transects at kilometers 4, 10, and 23 (DF-1, DF-2, and DF-3, respectively). Each transect includes samples at 25 m, 100 m, and 300 m on the east (downwind) and west (upwind) side of the road. The use of transects rather than single samplers is in line with common practice and allows Agnico Eagle to verify if dustfall rates decline from the AWAR as predicted in the FEIS.

Table 25. 2020 AWAR monthly traffic summary

Month	Total traffic	Predicted traffic (FEIS)
January	1310	1178
February	1244	1064
March	434	1178
April	579	1140
May	469	1178
June	1349	1062
July	2075	1087
August	3130	1099
September	2324	1056
October	2235	1178
November	1071	1140
December	1202	1178
Total	17422	13538

10.4 MARITIME TRANSPORTATION

In 2020, marine-based fuel transfers occurred at Rankin Inlet related to the Meliadine project, in July and October. All events occurred when the Melvin Bay was free of ice and the weather was not a risk to the activity. Post Oil Transfer Report can be found in Appendix 35.

The cargo shipping date related to the Meliadine project, including vessel names and dates, can be found in Table 26. No incident was reported during the 2020 maritime transportation. All cargo is checked before loading to prevent bringing in soil that could contain plant seeds of invasive breeds.

Table 26. 2020 Cargo ship related to the Meliadine project

Vessel Name	Agnico Eagle Project	Type of Merchandise	Start Date	Approximate Arrival Rankin Inlet or Baker Lake
Kivalliq 1	Meliadine/Meadowbank	FUEL	Jul 19, Rankin Inlet	Unknown
Dara 1	Meliadine/Meadowbank	FUEL	Jul 10, Kuujuaq	25-Aug
Tuvaq 1	Meliadine/Meadowbank	FUEL	Jul 19, Arviat	19-Aug
MR60 1	Meliadine/Meadowbank	FUEL	N/A	Unknown
MR50 2	Meliadine/Meadowbank	FUEL	Sept 16, Quebec	Unknown
Dara 2	Meliadine/Meadowbank	FUEL	Sept 15, Milne Inlet	Unknown
Tuvaq 2 / Maria 2	Meliadine/Meadowbank	FUEL	Sept 25, Baker Lake/Oct 8, Povungnituk	Unknown
MR50 / Sarah	Meliadine/Meadowbank	FUEL	Sept 15, Milne Inlet	Unknown
Torm Camilla	Meliadine/Meadowbank	FUEL	July 10, Pt Arthur Tx.	28-Jul
Torm Loke	Meliadine/Meadowbank	FUEL	June 16, Pt Arthur Tx.	13-Jul
Nordika Desgagnés	Meliadine	CARGO	23-Jun	9-Jul
Taiga Desgagnés	Meliadine	CARGO	1-Jul	12-Jul
Atlantic Elm Tug	Meadowbank	CARGO	2-Jul	18-Jul
Atlantic Beech Tug	Meadowbank	CARGO	3-Jul	19-Jul
Sedna Desgagnés (desserte)	Meliadine/Meadowbank	CARGO	4-Jul	22-Jul
Claude A. Desgagnés	Meadowbank	CARGO	11-Jul	21-Jul
Nordika Desgagnés	Meliadine/Meadowbank	CARGO	31-Jul	8-Aug
Zélada Desgagnés	Meliadine	CARGO	9-Aug	21-Aug
Claude A. Desgagnés	Meadowbank	CARGO	13-Aug	23-Aug
Sedna Desgagnés (desserte)	Meliadine	CARGO	18-Aug	26-Aug
Miena Desgagnés	Meliadine/Meadowbank	CARGO	27-Aug	2-Sep
Zélada Desgagnés	Meliadine/Meadowbank	CARGO	7-Sep	14-Sep
Nordika Desgagnés	Meliadine/Meadowbank	CARGO	15-Sep	26-Sep
Sedna Desganes (desserte)	Meliadine	CARGO	Unknown - arrived Rankin Inlet approx Oct 17	17-Oct
Taiga Desgagnés	Meliadine	CARGO	6-Oct	14-Oct

SECTION 11. PUBLIC CONSULTATION

As required by Water License 2AM-MEL1631 Schedule B, Item 22: *A summary of public consultation and participation with local organizations and the residents of the nearby communities, including a schedule of upcoming community events and information sessions.*

And

As required by Water License 2BB-MEL1424 Part B, Item 6m: *A summary of public consultation/participation, describing consultation with local organizations and residents of the nearby communities, if any were conducted;*

And

As required by NIRB Project Certificate No.006 Condition 103: *The Proponent is encouraged to consult with the Kangiqliniq Hunters and Trappers Organization and the Kivalliq Socio-Economic Monitoring Committee and to make all reasonable efforts to engage Elders and community members of the Kivalliq communities in order to have community level input into updates to its monitoring plans, programs and mitigative measures. This type of engagement will ensure that these programs and measures have been informed by traditional activities, cultural resources, and land use as such may be implicated or impacted by ongoing Project activities. All plans are to include a feedback mechanism for consulting with residents of the Kivalliq, including the provision of results from the Proponent's wildlife monitoring programs to each community. The Proponent shall submit updated plans to the NIRB within 30 days' of their revision and/or finalization.*

11.1 COMMUNITY MEETINGS IN CHESTERFIELD INLET

In 2020, due to COVID-19 pandemic and community restrictions there were no stakeholder and public meetings held in Chesterfield Inlet. However, Agnico Eagle representatives remained connected via email or teleconference with the Chesterfield Hamlet representatives. Additionally, in 2020, the Community Liaison Officer in Chesterfield remained active during the COVID-19 pandemic by supporting three (3) rounds of food hamper distribution for families and household in need, PPE distribution and community business engagement.

In November 2020, an Agnico Eagle Senior Management tour was planned however, it was cancelled due to COVID-19 lockdown in the Kivalliq.

11.2 COMMUNITY MEETINGS IN RANKIN INLET

Agnico Eagle held preliminary or pre-project phase consultations with Rankin Inlet key community interest groups from January to March 2020 for the Meliadine Waterline project. The following key community interest groups were met:

- KivIA - Lands Department;
- Community interest groups along the by-pass road (Government of Canada Department of Defense, Government of Nunavut (GN) Airports, GN Parks, and the Rankin Inlet Gun Club);

- Rankin Inlet Hamlet Working Group;
- Rankin Inlet Hunters and Trappers Organization (KHTO);
- Rankin Inlet Elders;
- Rankin Inlet Public.

On March 11th, Agnico Eagle hosted a public open house event at the Rankin Inlet Community Hall to discuss the waterline project with the community members. The open house had different booths that covered various subjects such as current water management at Meliadine and the proposed waterline. Agnico Eagle had 21 representatives present during the open house which included senior management, local Agnico Eagle staff, a caribou expert consultant, and Agnico Eagle staff from the Environment, Construction, and Community Relations teams. Specific information was provided on the current saline diffuser project (with a 3D tabletop of Itivia and video of the saline diffuser), and the proposed waterline project including a full-scale wood mock-up of the road with the proposed waterline beside it. During the open house, attendees had various opportunities to provide feedback about the waterline project—a comment board, a feedback form, the ability to ask questions throughout the open house to any Agnico Eagle representatives, and maps of the road to collect traditional knowledge and identify potential road crossings.

A Waterline Consultation Report is available on the NIRB registry for more details regarding community meetings related to Meliadine Waterline project.

A teleconference was held on May 13th, 2020 with Rankin Inlet Hamlet and KHTO to present the 2020 Sealift Season schedule. Due to COVID-19 exceptional circumstances, Agnico Eagle was not able to hold the usual community information meetings in person. During the teleconference, options for the 2020 sealift season were presented, which were carefully analyzed to ensure minimal impact on the surrounding community. Additionally, update on how Agnico Eagle would notify the community was presented.

A teleconference was held on August 11th, 2020 to present the 2020 Cyanide Transportation program. Due to COVID-19 exceptional circumstances, Agnico Eagle was not able to hold the usual community information meetings in person. The Rankin Inlet Hamlet, KHTO, Fire Department, RCMP and the Health Center were invited — RCMP and Health Center representatives joined the call. During the teleconference, the 2020 Cyanide transportation safety and monitoring procedures were presented as well as the communication plans. In addition, Agnico Eagle presented the COVID-19 measures undertaken during the transportation to ensure minimal impact on the surrounding community.

More details on the 2020 Sealift Season can be found in Appendix 36.

11.3 MEETINGS WITH RANKIN KHTO

In 2020, about sixteen (16) meetings were held with the Rankin Inlet KHTO (the meetings were held via teleconference following the COVID-19 related measures implemented in March 2020). The Meliadine Environment department and KHTO Wildlife Coordinator kept communication regularly throughout the year through email and phone. General topics included renewal of the Memorandum of Understanding between Agnico Eagle and the KHTO, the role of the Wildlife Coordinator, reporting expectations, training of the new Wildlife Coordinator, wildlife monitoring, a major aspect of the wildlife monitoring agreement established with KHTO in 2019, and the hunter harvest study.

11.4 COMMUNITY LIAISON COMMITTEE MEETINGS

In 2019, Agnico Eagle attended meetings with the Meliadine Community Liaison Committee in Rankin Inlet, which was established to inform stakeholders on the activities at the mine and to consult with them on specific issues and projects. The Committee was facilitated and chaired by the Hamlet of Rankin Inlet as a specific working group of the Hamlet and sometimes included representation from various groups and organizations. In 2020, Agnico Eagle planned to establish their own Community Liaison Committee to ensure that groups such as Elders, youth, Hunters and Trappers Organizations, RCMP, etc. are regularly consulted on the operations, however, due to COVID-19 this initiative was paused. Agnico Eagle plans to reconvene in 2021.

Meetings are scheduled quarterly in both English and Inuktitut, with the understanding that the minimum number of meetings is two (2) annually. In 2020, Agnico Eagle attended one (1) Community Liaison meetings with the working group due to exceptional COVID-19 circumstances. In the meeting, Agnico Eagle was thanked on behalf of the Council for their quick response to COVID-19 pandemic and the on-going support being provided to the Kivalliq communities.

11.5 ELDERS

Engaging with Elders is ongoing – Agnico Eagle ensures to consult with Elders for new projects and on any IIBA socio-economic studies. In 2020, for the Meliadine Waterline project, three (3) engagement took place with the Elders. On March 11, 2020, an open house was held where eleven (11) Elders were shuttled to and from their houses to the community hall. The open house provided information on the Meliadine Waterline project and provided an opportunity to answer any questions and receive feedback from the Elders. In addition, two (2) in person meetings, July 7 and 22 2020, were held in Rankin Inlet to discuss the Meliadine Waterline project, address any concerns by the Elders, and give opportunity for feedback. The Elders were also shuttled to visit the mock pipe crossing at km 27.

11.6 SITE TOURS FOR RANKIN INLET RESIDENTS

Each year, Agnico Eagle offers a variety of ways for the residents of Rankin Inlet, as well as various other groups or individuals from the Kivalliq, to visit the Meliadine site. In 2020, due to COVID-19 pandemic and community restrictions Agnico Eagle did not host any Meliadine site tour for Rankin Inlet residents. In consultation with the Government of Nunavut (GN) and Office of Chief Public Health Officer (CPHO), once the health restrictions are lifted Agnico Eagle will resume site tours.

11.7 COMMUNITY ENGAGEMENT INITIATIVES

Community initiatives that Agnico Eagle participated in during 2020 are summarized in Appendix 11-3.

11.8 COMMUNITY COORDINATORS PROGRAM

The Community Coordinators program consists of full or part-time Agnico Eagle Coordinators in all Hamlets in the Kivalliq Region, including Agnico Eagle's offices in the communities of Rankin Inlet and Baker Lake.

The objective of the community based Agnico Eagle Coordinators is to provide a point of contact in each community to facilitate communications, provide services, and coordinate activities in the following areas:

- Support Human Resources (HR) department and the recruitment team.
- Assist HR and other Agnico Eagle departments to locate employees or potential employees as required.
- Provide advice and assistance to Agnico Eagle to organize and hold information sessions in the community on Agnico Eagle projects, initiatives, and engagement activities, including Labour Pool and business opportunities initiatives outlined in the Meliadine IIBA.
- Provide updates to the Hamlet Council and to other community stakeholders on Agnico Eagle activities.
- Distribute Agnico Eagle information and promotional materials.
- Participate in Agnico Eagle's Nunavut donation initiatives and processes.
- Participate in organization community events and education initiatives.

This increased community involvement by the Community Coordinator will allow Agnico Eagle to achieve recruitment goals and the obligations for the NIRB and IIBA; therefore, rendering this position essential to Agnico Eagle's Nunavut operations.

11.9 COMMUNICATION

In 2018, Agnico Eagle launched a Facebook page for Meliadine (AEM Meliadine) which acts as another method to inform the Kivalliq communities of important information, including road closures, recruitment information, and public meetings. This additional medium of communication was suggested by multiple stakeholder groups, including the Kivalliq Socio-Economic Monitoring Committee.

In 2020, Agnico Eagle continued to use the Meliadine Facebook page as a key medium of communication with employees and Kivalliq communities. During the COVID-19 pandemic, the page was used to keep community and employees informed on COVID-19 prevention and management on site, as well as Agnico Eagle's COVID-19 community response and community offices' schedule. In addition, the Facebook page was used to inform Rankin Inlet community members on upcoming meetings or NIRB public hearings related to Meliadine Waterline project.

In 2020, specific communication campaigns were developed to address community concerns. Below are the list of communication campaigns.

- Agnico Eagle provided a weekly update on Facebook to keep community members informed on the progress of CP1 discharge throughout the discharge season. Also, testing results were shared on social media during the discharge season.
- In 2020, A "Did you Know?" campaign was specifically developed to address concerns from community members on water and spill management.
- Specific communications were built and shared on social media during the year to inform community members on different activities or incidents that occurred on site.

SECTION 12. SOCIO ECONOMIC

12.1 SOCIO-ECONOMIC MONITORING PROGRAM (SEMP, SEMC, SEMWG, SEMR)

As required by NIRB Project Certificate No.006 Condition 87: The Proponent is strongly encouraged to 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 inclusion into a collaborative monitoring framework that includes socio-economic priorities related to the Project, communities, and the Kivalliq region as a whole.

And

As required by NIRB Project Certificate No.006, Condition 88: The Proponent is encouraged to work in collaboration with other socio-economic stakeholders including for example, the KIA, GN, AANDC, and communities of the Kivalliq region, to establish a socio-economic working group for the Project to develop and oversee the Meliadine 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 Project. The Terms of Reference are to be provided to the NIRB upon completion, and within one year of issuance of the Project Certificate.

And

As required by NIRB Project Certificate No 006, Condition 89: The Proponent shall develop the Meliadine Socio-economic Monitoring Program to monitor the predicted impacts outlined in the FEIS as well as regional concerns identified by the Kivalliq Socio-economic Monitoring Committee (SEMC). Where possible, the Proponent is encouraged to work in collaboration with all other socio-economic stakeholders such as the KIA, GN, AANDC 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. Details of the Meliadine Socio-economic Monitoring Program are to be provided to the NIRB upon finalization, and within one year of issuance of the Project Certificate.

In 2020, Agnico Eagle continued to meet the requirements in the above conditions through its work in the following:

- The Socio-Economic Monitoring Program (SEMP) acts as a framework for the monitoring program. It outlines the indicators, metrics, units of measurements, etc., including those that are mandated by the Project Certificates. Agnico Eagle commits to reporting on the SEMP annually. In 2020, Agnico Eagle had undertaken a comprehensive review and update of the Kivalliq Project SEMP following the release of the amended Whale Tail expansion Project Certificate No. 008 on February 19, 2020 by the NIRB. The SEMP has been updated with T&C # 46–Gender-Specific Initiatives. The updated SEMP has addition of Valued Socio-Economic Component (VSEC) 11 'Gender', and indicators 11.1 and 11.3, which have been approved by the Socio-Economic Monitoring Working Group (SEMWG).

The updated SEMP can be found in Appendix 38.

- The SEMWG traditionally included GN and CIRNAC, however, in 2020 KivIA has officially joined the SEMWG. The aim of this working group is to support Agnico Eagle's SEMP and the Kivalliq Socio-Economic Monitoring Committee (KvSEMC). In 2020, Agnico Eagle organized teleconferences with the SEMWG to discuss the 2019 Socio-Economic Monitoring Report, to prepare for the 2019-2020 Kivalliq SEMC, and to receive an update on the GN Territorial Monitoring Project.
- The Kivalliq Socio-Economic Monitoring Committee (KvSEMC) meets annually to present data and consider socio-economic impacts and benefits of mining projects generally on the Kivalliq region. Members of the KvSEMC include Government of Nunavut (including specific departmental representation), Government of Canada, Kivalliq Inuit Association, Hunters and Trappers Organizations, Community representatives, community organizations and Project owners. The Government of Nunavut chairs the KvSEMC. Feedback provided in the KvSEMC informs the final Socio-Economic Monitoring Report. Additionally, the KvSEMC can recommend additional monitoring priorities. Agnico Eagle is an active participant in the KvSEMC. In 2020, due to COVID-19 pandemic and Kivalliq travel restrictions the 2019-2020 Kivalliq Socio-Economic Monitoring Committee meeting was not scheduled. Several email communications and teleconferences took place between Agnico Eagle and the SEMWG to discuss alternative solutions to host the 2019-2020 KvSEMC meeting. However, due to logistical and technological challenges the modified alternative solutions could not be accomplished. The Government of Nunavut and CIRNAC recognized that Agnico Eagle did their utmost to fulfill this Project Certificate requirement.
- The Socio-Economic Monitoring Report (SEMR) is the annual report on the SEMP. It is a comprehensive socio-economic monitoring report that contains Project-level data (data collected by Agnico Eagle at each Project site or regionally) and community-level data (data provided by or in communities), including data that is mandated by the Project Certificate. It is reviewed by both the SEMWG and the KvSEMC prior to its submission, to allow for those groups to provide insight.
- At a SEMWG meeting on February 6, 2020, Agnico Eagle proposed to move the deadline of the SEMR to meet the NIRB Annual Report submission deadline. This was based on past discussions with the SEMWG. This effectively moves the deadline from June 30 to March 31. The main impact of the change in reporting deadline is that some community-level data would not be available, and therefore some community-level data would be reported with a year-delay annually, however the benefit would be to better align reporting and review processes for Agnico Eagle and reviewers. The change was approved by the SEMWG. Therefore, Agnico Eagle is appending the 2020 Agnico Eagle Kivalliq Projects Socio-Economic Monitoring Report, in Appendix 39.

12.1.1 Socio-Economic Monitoring Report (SEMR)

As required by NIRB Project Certificate No.006, Condition 111: *In its annual reporting to the NIRB, the Proponent is strongly encouraged to provide detailed descriptions of all employee programs and training including: a. Descriptions of the goals of each program offered; b. Language of instruction; c. Schedules and location(s) of when each program was offered; d. Uptake by employees and/or family members where relevant, noting Inuit and non-Inuit participation rates; and, e. Completion rates for enrolled participants, noting Inuit and non-Inuit rates.*

And

As required by NIRB Project Certificate No.006, Condition 97: *The Proponent's project-specific socio-economic monitoring program should be updated to address the potential impacts to education and training which may arise from temporary, final and/or post-closure phases.*

And

As required by NIRB Project Certificate No.006, Condition 98: *The Proponent is encouraged to work with the members identified as potential stakeholders in the socio-economic monitoring working group and with the Kivalliq Socio-Economic Monitoring Committee to review and monitor education utilization rate trends on an on-going basis to understand if the Project can be determined to be having an impact on the education system of the Kivalliq region and/or on any communities in particular.*

And

As required by NIRB Project Certificate No.006 Condition 108: *The Proponent is encouraged to consider providing access to counseling and treatment programs for substance and gambling addictions, and programs which address domestic, parenting, and marital issues that could affect employees and/or their families.*

And

As required by NIRB Project Certificate No.006, Condition 101: *The Proponent shall include with its annual reporting to the NIRB a summary of employee origin information as follows: a. The number of Inuit and non-Inuit employees hired from each of the Kivalliq communities, specifying the number from each; b. The number of Inuit and non-Inuit employees hired from each of the Kitikmeot and Qikiqtani regions, specifying the number from each; c. The number of Inuit and non-Inuit employees hired from a southern location or other province/territory outside of Nunavut, specifying the locations and the number from each; and d. The number of non-Canadian foreign employees hired, specifying the locations and number from each foreign point of hire.*

And

As required by NIRB Project Certificate No.006, Commitment 99: *The Kivalliq Socio-Economic Monitoring Committee and its membership are encouraged to engage in the monitoring of demographic changes including the movement of people into and out of the Kivalliq communities and the territory as a whole. This information may be used in conjunction with monitoring data obtained by the Proponent from recent hires and/or out-going employees in order to assess the potential effects of the Project on migration.*

And

As required by NIRB Project Certificate No.006, Commitment 109: *The Proponent is encouraged to work with the Kivalliq Socio-Economic Monitoring Committee to monitor potential indirect effects of the Project, including indicators such as the prevalence of substance abuse, gambling issues, family violence, marital problems, rates of sexually transmitted infections and other communicable diseases and others as deemed appropriate.*

And

As required by NIRB Project Certificate No.006, Condition 110: *The Proponent shall provide the NIRB with a description of wellness and cultural diversity/acceptance programming made available to employees and family or community members and shall report the following information with respect to each program to the NIRB annually: a. Language of instruction; b. Uptake by employees and/or family members where relevant, noting Inuit and non-Inuit participation rates; c. Completion rates for enrolled participants, noting Inuit and non-Inuit rates; and d. Issues as may relate to program content which may have been noted or present either on site or in the community and which affect Project employment or employee wellness.*

And

As required by NIRB Project Certificate No.006, Condition 115: *The Proponent is encouraged to work collaboratively with the Government of Nunavut Department of Health to monitor the impacts of the Meliadine Gold Project on health services within the LSA communities and specifically, Rankin Inlet.*

And

As required by NIRB Project Certificate No.006, Condition 93: *The Proponent is encouraged to register all trades occupations, journey persons and apprentices working with the Project and to register any trades occupations listed in its forecast, as well as to provide the Government of Nunavut with information regarding the number of registered apprentices and journeypersons from other jurisdictions employed at the Project during each year of the Project's life.*

The section below summarizes Agnico Eagle's key socio-economic reporting, related primarily to employment and training. For the full report on the Project's socio-economic monitoring, please refer to Appendix 39.

Reports can also be viewed on the Socio-Economic Monitoring Committee website www.nunavutsemc.com or on Agnico Eagle's website <http://aemnunavut.ca/media/documents/>

12.2 WORKFORCE

Agnico Eagle calculates the workforce based on headcount (snapshot of active employees taken at the end of the year, which includes full-time and part-time employees) and full-time equivalents (number of full-time positions based on hours worked, where one full time position is equivalent to 2,184 hours worked in a year).

- The number of active Agnico Eagle employees (headcount) working at Meliadine on December 31, 2020 was 668, of which 90 employees were Inuit employees.
 - The respective full-time equivalencies are 641 Agnico Eagle employees in total, with 83 full-time (FTE) Inuit Agnico Eagle employees – this represents an increase of the equivalent of 19 full-time Agnico Eagle Inuit jobs at Meliadine since 2019.
- The number of contractors employed at the project is only calculated using full-time equivalents (FTEs) due to the cyclical nature of contractor work. Therefore, during 2020 there were approximately 567 full time equivalent (FTE) contractor positions, of which approximately 35 are filled by Inuit – this represents a decrease of 85 full-time contractor positions in comparison to 2019.

This decrease can be attributed to the COVID-19 pandemic and Nunavummiut being sent home to prevent community transmission.

Taken together, there were 1,235 active employees (Agnico Eagle permanent, temporary, on-call, students and contractors), working full- and part-time jobs, at the end of 2020.

Agnico Eagle defines job statuses as follows:

- Permanent employee: an employee whose current job is not specifically tied to a short-term project and the position is expected to be required throughout the life of mine (LOM).
- Temporary employee: an employee whose current job will not continue beyond a specified period.
- On-call employee: an employee who has an undefined contract and is called upon when the need arises. It is expected that on-call employees will move to temporary or permanent positions as they become available.

The Table 27 below indicates the employment demographics for community of hire by headcount.

Table 27. Home communities of Agnico Eagle Inuit employees (by headcount)

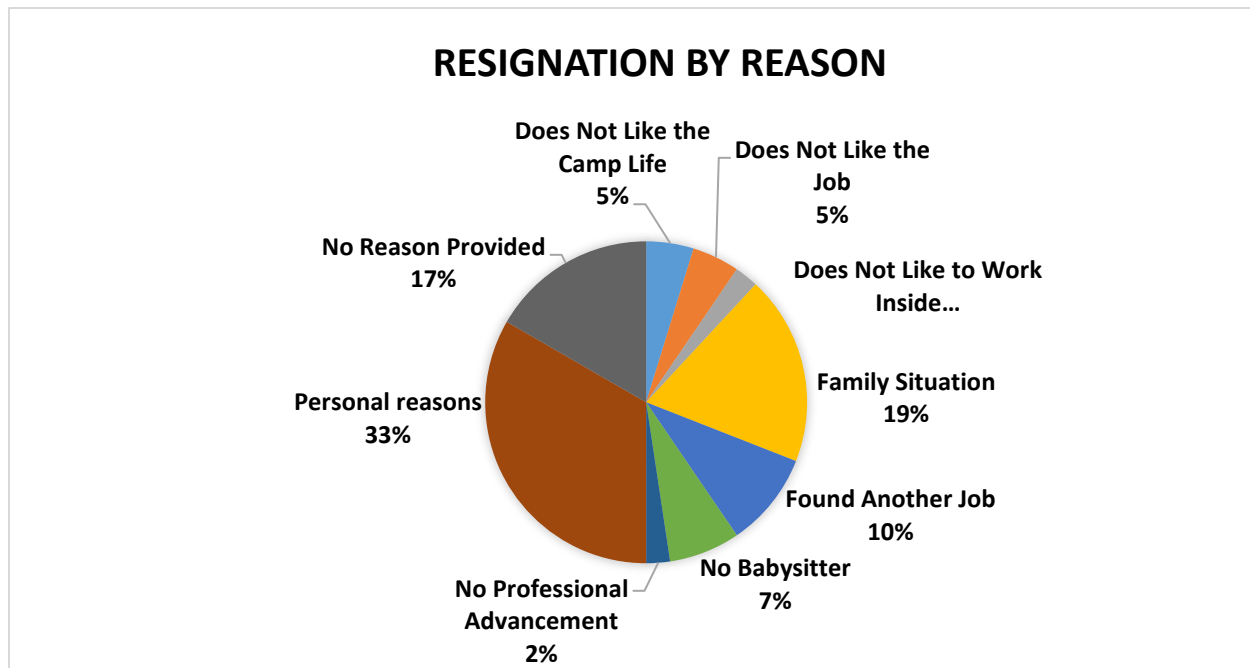
Community of Hire	2020 Agnico Eagle headcount
Arviat	6
Baker Lake	6
Nauyasat	2
Rankin Inlet	41
Chesterfield Inlet	3
Whale Cove	1
Coral Harbour	13
Kitikmeot	0
Qikiqtani	1
Outside of Kivalliq	17
Total	90

Agnico Eagle pays for the transportation of all Kivalliq-based employees from their home community to the mine for each work rotation. For employees coming from Arviat, Chesterfield Inlet, and/or Whale Cove, Agnico Eagle has a service contract with Calm Air to transport employees by charter plane to Rankin Inlet. For employees coming from Coral Harbour and/or Nauyasat, a commercial ticket is bought from their home communities to the Rankin Inlet airport. All employees are then driven by bus to site, including those from Rankin Inlet. For all other employees not located in the Kivalliq region, transportation is provided from Mirabel and Val-d'Or via a charter flight operated by Nolinor Aviation.

12.2.1 Employee retention

Based on Agnico Eagle's experience and testimonies of former employees, it was noted that many Inuit have never had full time work in their home communities, where full time employment opportunities are potentially limited. Many such individuals want a job but working away from home for two weeks at a time in a structured industrial environment is a change that many have difficulty adapting.

Exit interviews support this assumption and Figure 24 provides the reasons given for voluntary terminations:

Figure 24. Reasons for voluntary terminations

Agnico Eagle developed a new approach and has rolled out new initiatives with a focus on providing information, skills, and education to job applicants to ensure that they are better informed about what working life is like at a remote mine site, and to be better prepared to adapt, cope, and be successful in employment. The result is the development and implementation of a Labour Pool Program that consists of a linked series of activities, including:

- Community-based information sessions
- Community-based Work Readiness training
- E-learning for mandatory training
- Site Readiness training at Meliadine
- Employment with Agnico Eagle or contractors

The Labour Pool Program consists of a suite of activities that provide future employees with information, skills, and education for working life and conditions in a remote, fly in/fly out, industrial workplace. Supervisors have commented that due to the suite of Labour Pool activities, Inuit employees are better prepared to cope with the mine employment environment. In 2021, the pre-employment program will be reviewed to address long delays in accessing trainings, dense theoretical contents, and logistical issues resulting in providing training either at Meadowbank Complex or Meliadine. The revised two (2) weeks program will consist of series of suite, including more practical workshops and training, incorporation of new technologies such as virtual reality and implementation of the buddy system to guide new employees when they start working at the mine site.

12.2.2 Summer Student Employment Program

Agnico Eagle offers two summer employment programs that are accessible to students. Firstly, Agnico Eagle's company-wide policy offers a summer employment program to the children of all Agnico employees (both Inuit and non-Inuit) that are undertaking postsecondary education. Secondly, in 2019 Agnico Eagle also offered the Inuit Summer Employment Opportunities postings, which is targeted to Inuit students in high school or post-secondary and tries to match students to positions in their areas of interest. In February 2020, advertisement for Summer Employment program was done. However, considering COVID-19 pandemic and the health and safety of the students both summer programs were cancelled. In 2021, after re-evaluating the COVID-19 pandemic situation, Agnico Eagle plans to offer both programs and continue to work in collaboration with the KIA to encourage Kivalliq applicants to apply for the programs.

As per Agnico Eagle policies, students must be 18 years or over to work at the Operation, and over 16 years old to work in the offices in Baker Lake or Rankin Inlet.

12.3 TRAINING

Agnico Eagle's Training Management System (TMS) and the Learning Management System (LMS) tracks and reports on training activities. The list of training provided can be found in Appendix 40..

12.3.1 Pre-employment training

The Labour Pool Process (formerly 'Labour Pool Initiative'), implemented in 2014 and revised in 2015, is based on an agreement between Agnico Eagle and the KivA through the IIBAs to offer pre-employment opportunities to Inuit from all Kivalliq communities. It is illustrated in Figure 25 .

The goal of the program is to pre-qualify candidates from Kivalliq communities through 5 steps: employment information sessions, online application (facilitated by Employment Information Sessions), the Work Readiness Program, mandatory trainings (more details provided below), and the Labour Pool List (facilitated by the Labour Pool Coordinator). Refer to Figure 25: Labour Pool Process.

All applicants that have the minimal requirements to be hired (must be at least 18 years old and have a clean record of employment with Agnico Eagle) are required to complete mandatory training by e-learning as well as participate in the five-day Work Readiness and seven-day Site Readiness training programs. The objective is to create a pool of candidates ready to work that Agnico Eagle and its contractors can draw future employees from.

In 2020, due to COVID-19 pandemic and travel restrictions to prevent community transmission no employment information sessions were held in Kivalliq communities. In consultation with the Government of Nunavut (GN) and Office of Chief Public Health Officer (CPHO), once safe to do so, Agnico Eagle will resume pre-employment training in the communities.

Figure 25. Labour Pool Process

12.3.2 Work Readiness Training Program

Agnico Eagle continues to utilize the Work Readiness Training program that was developed as a pre-employment initiative. In 2019, the Work Readiness Training was delivered in collaboration with Aglu Consulting. The Work Readiness program is the first step of the Labour Pool Process for those individuals who have applied online and do not have work experience relevant to the positions for which Agnico Eagle hires.

The objective of the program is for Inuit applicants to be better prepared for the work environment in an industrial setting. Graduates of the program are eligible to continue the Labour Pool Process and attend the mandatory trainings given on-site. The program provides coaching on a range of issues including awareness of employers' unspoken expectations, communication in the workplace, and problem-solving skills for resolving workplace issues.

The program was implemented in April 2013. The program is delivered over a five-day period at the community level and is scheduled throughout the year. In 2020, due to COVID-19 pandemic and travel restrictions to prevent community transmission no Work Readiness sessions were delivered in Kivalliq communities. However, once safe to do so, Agnico Eagle in consultation with the Government of Nunavut (GN) and Office of Chief Public Health Officer (CPHO) will resume Work Readiness sessions in the community.

12.3.3 Mandatory Training (Site Readiness)

Participants that have successfully completed the Work Readiness Program will be retained for the Mandatory Training Program (called "Site Readiness") and then will become part of the Labour Pool.

The Mandatory Training Program is a seven-day training provided at the Meadowbank Complex and Meliadine site. Throughout the week, participants are enrolled in diverse activities such as mandatory training sessions, site visits, job initiation, information sessions on training and career opportunities, as well as interviews and discussions on employment opportunities with a Human Resources representative to assess career ambitions and identify work interest.

Afterwards, candidates wanting to work for the Camp Department are given short term on-call assignments. All other applicants become part of the Labour Pool list until a job opportunity matching their interest and competencies becomes available.

In the first quarter of 2020, one (1) Site Readiness training session was delivered at Meadowbank Complex with 29 participants. The participants who successfully complete the Site Readiness are then placed on a Labour Pool list which allows them to acquire a job position either at Meadowbank Complex or Meliadine.

12.3.4 Training Hours

The following categories of training are available:

- **Mandatory:** Mandatory training related to compliance with the Nunavut Mine Act, as well as training that is mandated according to Agnico Eagle Health and Safety policies. Many of these training sessions are offered via e-learning prior to employee's arrival on site.
- **General:** Training activities required at a departmental level and covers many employees working in different departments. General training includes training on light duty equipment as well as enterprise software systems and cross-cultural training.
- **Specific:** Focused on developing individual competencies related to a specific position. This training qualifies individual workers for promotion following their progression through the Career Path. These training programs are provided by in classroom (theory) learning as well as practical (one-on-one) learning.
- **Emergency Response Training (ERT).**

The following Table 28 provides the training hours provided to Agnico Eagle employees at Meliadine (excluding contractors) in 2020:

Table 28. Training hours provided to Agnico Eagle employees at Meliadine

Type of Training	Inuit	Non-Inuit	Total
Mandatory	213	4850	5,063
General	69	950	1,019
Specific	4817	23, 669	28, 486
ERT	80	4, 400	4, 480
Total	5,179	33, 869	39, 048

Due to COVID-19 pandemic and many Nunavummiut employees and trainees being sent home to prevent community transmission the Inuit training hours are significantly low in comparison to 2019. In consultation with the Government of Nunavut (GN) and Office of Chief Public Health Officer (CPHO), once the health restriction is lifted, Agnico Eagle will re-integrate the Nunavut-based workforce.

12.4 TRAINING PROGRAMS

12.4.1 E-learning

Before coming to an Agnico Eagle site for the first time, newly hired employees must complete their Mandatory Training online, which consists of six (6) modules: General Induction, WHMIS, Fire Suppression, Job Hazard Analysis and Work Card, Spill Response, and Occupational Health and Safety (Personal Protective Equipment, Ladder Safety, Surface Standard Operating Procedure). The General Induction chapter provides general information about Agnico Eagle and working life at the mines, waste management,

as well as information on the IIBAs and archaeological awareness. The e-learning training material has been translated into English, French, and Inuktitut.

In 2020, an external firm started the development of all 6 e-learning modules. At the end of the year, the General Induction module was in post-production and pre-launch testing phase on the Agnico Eagle Learning Management System. The WHMIS and the Fire Suppression System modules were in production phase by the external firm. The three (3) other modules were in pre-production phase by the external firm. All modules are expected to be launched in 2021.

12.4.2 Cross-Cultural

Implemented first at Meadowbank, the Cross Cultural Training Program is a 5 hour in-class training course. This course allows employees from different cultures and backgrounds to understand each other's culture in order to improve understanding and communication at the workplace.

The program was revisited with the assistance of the Nunavut Literacy Council in 2013, and a revised program was initiated in 2014. This program is mandatory for all Agnico Eagle employees and contractors who will be on site for six months or more. The training is in English, Inuktitut and French, and is offered at Meliadine.

In 2020, Meliadine had two (2) cross-cultural sessions.

12.4.3 Career Paths

The Career Path Program was designed in 2012 at Meadowbank, with the intention of supporting upward mobility of Inuit employees at Agnico Eagle's Project sites. This program identifies the incremental steps that any employee is required to complete to advance in their chosen career of interest.

The objective is to have only internal promotions of employees, with external candidates being hired only as an entry level position to feed the trainee programs at the base.

In 2020, two (2) Career Paths were in development: The Warehouse Career Path at Meadowbank and the Camp Career Path at Meliadine. Also, in 2020, the Mine and the Drill & Blast Career Paths were updated at Meadowbank to create more opportunities and allow the employees to be more comfortable in their position.

12.4.4 Apprenticeship Program

The Apprenticeship Program combines on-the-job learning and in-school technical instruction to allow Inuit employees the opportunity to be educated and trained in the trade of their choice. By the end of the program, the apprentice is able to challenge their Certificate of Qualification (COQ) to become a Journeyperson and will have the opportunity to challenge their Red Seal Exam. Currently, Agnico Eagle offers (9) trades: baker, cook, carpenter, millwright, electrician, heavy duty equipment technician, welder, housing maintainer and plumber.

In 2019, the program was reviewed in order to substantially increase our support to apprentices while they are at school for their technical instruction. Logistical, material, educational and financial support is provided to our Apprentices.

In 2020, two (2) employees completed their apprenticeship training with Agnico. One (1) apprentice went to technical training in Alberta. The other apprentice was scheduled to go to technical training throughout 2020, but the planned training was stopped due to COVID-19 restrictions. At the end of 2020, there were eight (8) apprentices and pre-apprentices at Meadowbank and two (2) apprentices and pre-apprentices at Meliadine. One (1) apprentice continued their on-job training at Meliadine during the year. All other apprentices stayed home due to COVID-19.

Since 2015, a total of eight (8) employees completed their apprenticeship training within Agnico Eagle.

12.4.5 Adult Educator

In 2018, Agnico Eagle started an on-site education strategy at its Nunavut sites, starting with a permanent Adult Educator at Meadowbank. The purpose is to support Agnico Eagle employees in developing their numeracy, literacy, and soft skills in order to assist employees in accessing higher job positions and to be successful in their apprenticeships. The Adult Educator works with pre-apprentices to help them gain the academic skills and confidence to successfully pass their trade's entrance exam, as well as apprentices to support them in their level exams. Instruction takes place during an employee's workday and is specific to their learning needs.

The Adult Educator is also tasked with planning and implementing school-based initiatives such as TASK week. The goal of TASK week (Trades Awareness, Skills and Knowledge) is to motivate the students to think about their future after graduation.

In 2020, a full-time Adult Educator was present at Meadowbank who supported a number of Inuit employees. However, in mid-March the support came into pause due to the COVID-19 pandemic and all Nunavummiut being sent home as a precautionary measure. In 2020, as planned the adult educator program was not launched in Meliadine due COVID-19 pandemic and all Nunavummiut employees being sent home. In 2021, the Adult Educator program at Meliadine will be re-evaluated.

12.4.6 Emergency Response Team (ERT) Training

At Agnico Eagle, the most important priority is to keep employees safe. Meliadine Emergency Response Team (ERT) consists of internal employees that volunteer to respond to emergencies such as fire. The ERT practice takes place weekly and each member must attend at least six (6) practices throughout the year. Currently, there are 80 active Emergency Response and Mine Rescue members and out of which 7 are Inuit members. Due to COVID-19 pandemic response and community restrictions, six (6) Inuit out of seven (7) are not active. In 2020, five (5) basic mine rescue courses were given to on-board new ERT members. In total, 45 training sessions were given that included weekly practices, mock scenarios, and specialized trainings.

12.5 GENERAL SOCIO-ECONOMIC PROVISIONS

12.5.1 Housing and Home Ownership

As required by NIRB Project Certificate No.006 Condition 112: *The Proponent is encouraged to investigate measures and programs designed to assist Project employees with pursuing home ownership or accessing affordable housing options.*

And

As required by NIRB Project Certificate No.006 Condition 114: *The Proponent is encouraged to collaborate with the Government of Nunavut – Nunavut Housing Corporation prior to the development and inception of its programs relating to financial literacy and planning to ensure that relevant and accurate information about housing and home ownership is available and considered for inclusion.*

In 2020, Agnico Eagle actively engaged with GN to investigate home ownership options. Agnico Eagle held teleconferences with GN Housing on April 17, July 8, and August 26 of 2020 to discuss architecture, supply chain and ownership challenges. Following these discussions, Agnico Eagle engaged in surveying Kivalliq home builders to discover the preferred price point for home ownership based on mortgage pre-approvals and investigated supply and capacity gaps to build homes in the summer. Also, Agnico Eagle met with Natural Resources Canada (NRCAN) to explore any Heating-Ventilation and Air-Conditioning (HVAC) innovations that were forthcoming to accommodate housing with high rate of dwellers. Lastly, Agnico Eagle met with University of Ottawa (Engineering) to update Net Zero Home for the Arctic.

12.5.2 Labour Force

Agnico Eagle submitted the latest staff schedule on May 27, 2019. Agnico Eagle is appending the IIBA-required 2020 Labour Market Analysis (LMA) to NIRB in March 2021(Appendix 41).

12.5.3 Training and Development

Agnico Eagle works with training organizations and government departments regularly through the Kivalliq Socio-Economic Monitoring Committee, through the IIBA with the Kivalliq Inuit Association, through the Memorandum of Understanding with the Government of Nunavut, and through one-on-one partnerships and collaboration with organizations such as the Hamlet of Arviat, the Nunavut Literacy Council, Nunavut Arctic College, Aglu Consulting, and more.

The listing of formal certificates and licenses was sent to NIRB on November 7, 2018. There have not been any updates since the last submission.