AGNICO EAGLE
MELIADINE

Meliadine Gold Project
NWB 2AM-MEL1631
December 2019 Monthly Report

Prepared for:
Nunavut Water Board

Prepared by:
Agnico Eagle Mines Limited – Meliadine Division

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SECTION 1 • BACKGROUND

As required under Part I, Item 10 of Type A Water License 2AM-MEL1631, this report documents the water management and monitoring activities at the mine site and provides a summary of spills/ actions for the month of December 2019.

SECTION 2 • WATER MANAGEMENT

2.1 WATER USAGE

Table 2.1 details monthly water usage approved under Water License 2AM-MEL1631:

Table 2.1: Summary of Agnico's monthly water usage in December 2019

	Monthly Usage (m^3)
Camp and Mill (MEL-11)	**34,748.12**
Construction – Batch Plant (MEL-26 – A8)	0
Dust suppression	0
Total December	**34,748.12**
Year to date 2019	**298,049.34**

2.2 DEWATERING ACTIVITIES

Dewatering of the Lake H-19 and H-20 started August 17th and stopped October 5th.

2.3 MELIADINE DISCHARGE

Discharge from the EWTP into Meliadine Lake via the Final Discharge Point (MEL-14) started July 9th and stopped October 5th.

2.4 MELVIN BAY DISCHARGE

Discharge to sea via the Final Discharge Point (MEL-26) started August 1st and stopped October 11th.

2.5 SEEPAGE AND RUNOFF FROM THE LANDFILL AND LANDFARM

The 2AM-MEL1631 landfill and landfarm were commissioned in November 2017. No seepage or runoff was observed in December 2019.

2.6 SEWAGE TREATMENT PLANT

In December 2019, 3,890m^3 of treated wastewater was discharged into CP1. 30m^3 of sludge was removed during the month. The majority of the sludge is disposed of in the Tailings Storage Facility as approved, the sludge can also be utilized as nutrient in the site landfarm or shipped to the south with Agnico Eagle's hazmat if needed.

2.7 CONTAINMENTS

Discharged from the Itivia fuel containment facility (Station Mel-25) occurred during the summer and approximately 12,062 m^3 was discharged through the year.

2.8 MONITORING ANALYTICAL DATA

In December, samples related to the water Licence were taken. See below the analytical results from these monitoring stations. No exceedances occurred in December.

MEL-11	Sample Date	12/2/2019
Parameter	**Unit**	
Conventional Parameters		
pH	pH units	7.35
Specific conductivity	umhos/cm	97
Hardness, as CaCO3 (D)	mg/L	28.4
Hardness, as CaCO3 (T)	mg/L	28.6
Total alkalinity, as CaCO3	mg/L	22
Total dissolved solids	mg/L	80
Total suspended solids	mg/L	1
Total organic carbon	mg/L	3.6
Dissolved organic carbon	mg/L	3.9
Turbidity	NTU	0.3
Major Ions		
Bicarbonate, as CaCO3	mg/L	22
Calcium	mg/L	8.84
Carbonate, as CaCO3	mg/L	< 1.0
Chloride	mg/L	13
Cyanide Total	mg/L	< 0.0050
Cyanide Free	mg/L	< 0.0010
Cyanide WAD	mg/L	< 0.0010
Magnesium	mg/L	1.53
Potassium	mg/L	1.04
Sodium	mg/L	6
Sulphate	mg/L	4.3
Silica	mg/L	0.39
Nutrients and Chlorophyll a		
Nitrate	mg/L	< 0.10

Nitrite	mg/L	< 0.010
Nitrate + nitrite	mg/L	< 0.10
Total ammonia	mg/L	< 0.050
Total Kjeldahl nitrogen	mg/L	0.24
Total phosphorus	mg/L	< 0.020
Orthophosphate	mg/L	< 0.010
Total Metals		
Aluminum	mg/L	0.0042
Antimony	mg/L	< 0.00050
Arsenic	mg/L	0.00039
Barium	mg/L	0.0092
Beryllium	mg/L	< 0.00010
Bismuth	mg/L	< 0.0010
Boron	mg/L	< 0.05
Cadmium	mg/L	< 0.000010
Calcium	mg/L	8.88
Chromium	mg/L	< 0.0010
Cobalt	mg/L	< 0.00020
Copper	mg/L	0.00097
Iron	mg/L	0.021
Lead	mg/L	< 0.00020
Lithium	mg/L	< 0.0020
Magnesium	mg/L	1.57
Manganese	mg/L	0.0041
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	< 0.0010
Nickel	mg/L	< 0.0010
Potassium	mg/L	1.05
Selenium	mg/L	< 0.00010
Silicon	mg/L	0.208
Silver	mg/L	< 0.000020
Sodium	mg/L	6
Strontium	mg/L	0.0479
Sulphur	mg/L	< 3
Thallium	mg/L	< 0.000010
Tin	mg/L	< 0.0050
Titanium	mg/L	< 0.0050
Uranium	mg/L	< 0.00010
Vanadium	mg/L	< 0.0050
Zinc	mg/L	< 0.0050
Zirconium	mg/L	< 0.00010
Dissolved Metals		
Aluminum	mg/L	< 0.0030

Antimony	mg/L	< 0.00050
Arsenic	mg/L	0.00037
Barium	mg/L	0.0092
Beryllium	mg/L	< 0.00010
Bismuth	mg/L	< 0.0010
Boron	mg/L	< 0.05
Cadmium	mg/L	< 0.000010
Chromium	mg/L	< 0.0010
Cobalt	mg/L	< 0.00020
Copper	mg/L	0.00082
Iron	mg/L	0.0095
Lead	mg/L	< 0.00020
Lithium	mg/L	< 0.0020
Manganese	mg/L	0.0015
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	< 0.0010
Nickel	mg/L	< 0.0010
Selenium	mg/L	< 0.00010
Silicon	mg/L	0.173
Silver	mg/L	< 0.000020
Strontium	mg/L	0.0495
Sulphur	mg/L	< 3.0
Thallium	mg/L	< 0.000010
Tin	mg/L	< 0.0050
Titanium	mg/L	< 0.0050
Uranium	mg/L	< 0.00010
Vanadium	mg/L	< 0.0050
Zinc	mg/L	< 0.0050
Zirconium	mg/L	< 0.00010
Volatile Organics		
Benzene	mg/L	< 0.00020
Ethylbenzene	mg/L	< 0.00020
Toluene	mg/L	< 0.00020
Xylenes	mg/L	< 0.00040
m,p-Xylenes	mg/L	< 0.00040
o-Xylene	mg/L	< 0.00020
F1 (C6-C10)-BTEX	mg/L	< 0.025
F1 (C6-C10)	mg/L	< 0.025
F2 (C10-C16)	mg/L	< 0.1
F3 (C16-C34)	mg/L	< 0.2
F4 (C34-C50)	mg/L	< 0.2
Reached baseline at C50	-	YES
1,2-Dichloroethane-d4	%	94

Ethylbenzene-d10	%	87
4-Bromofluorobenzene	%	98
1,4-Difluorobenzene	%	104
o-Terphenyl	%	104

SECTION 3 • MATERIAL MANAGEMENT

3.1 LANDFILL / LANDFARM

The volume of material placed into the landfill is evaluated through periodic surveys. According to the most recent survey done November 12th, the landfill contained approximately 16,340 m³ of material.

In December 2019, approximately 2.5m^3 of contaminated soil was transferred to the Type A Landfarm as a result of spills cleanup.

3.2 ORE

Approximately 118,035 tonnes of ore were processed through the Mill in December. 14,220 tonnes of ore were stockpiled.

3.3 WASTE ROCK STORAGE FACILITY

In December, a total of 37,659 tonnes of waste rock was removed in the mine development process. 1,245 tonnes were used as underground dry rockfill. No waste was stockpiled for progressive closure cover.

3.4 TAILINGS

72,702 dry tonnes of filtered tailings were sent to the Tailing Storage Facility in December 2019. 45,333 tonnes of tailings were used for paste underground backfill.

SECTION 4 SPILL MANAGEMENT

4.1 INTERNAL AND REPORTABLE SPILLS

All spills reported internally (8) are listed in the table 4.1 and were managed according to Agnico's spill contingency plan. Spills were contained and cleaned up, contaminated material was disposed of in an appropriate manner, and the clean-up actions were monitored closely by the Environment Department.

3 reportable spills occurred in December 2019.

Table 4.1: Summary of Agnico's Spill Reports in December 2019

Date and time of occurrence	If material not listed in dropdown or more details, enter here	Estimated quantity (l)	Exact location of incident	Description of incident	Describe immediate corrective actions
Sunday, December 08, 2019 8:00:00 AM	Hydraulic Oil	3.00	Front of the warehouse	One of the hydraulic hoses at the back broke when the boom was moved.	Contaminated snow picked up and disposed of adequately.
Friday, December 13, 2019 3:00:00 AM	Hydraulic Oil	8.00	TSF	Hydraulic hose on quick attach busted on the 330 excavator. Most of the oil spilled inside the bucket.	Machine was shut down. Contaminated tailings were loaded in loader bucket and disposed of at land farm. Approx. quantity=1,5 m3
Friday, December 13, 2019 9:30:00 AM	Fuel	40.00	Tiriganiaq esker	Fuel truck operator was filling up overpack for Orbit Garant, when tank was full nozzle did not release. Tank over flowed until operator pushed the kill switch on the truck.	Spill pads were placed on the ground and disposed of adequately.
Friday, December 13, 2019 3:00:00 PM	Hydraulic Oil	2.00	Industrial Pad	Rental genie lift was warming up and it was observed to be leaking oil from the exhaust.	Contaminated snow picked up and disposed of adequately.
Saturday, December 14, 2019 4:00:00 PM	Hydraulic oil	3.00	Rig 1 Hole #m19-2731	During environmental inspection, we noticed hydraulic oil on the ground. While talking to the crew, the driller said it can possibly be from when they were changing a hydraulic hose on the controls the day before.	Crew cleaned up oil and dispose in proper location.
Monday, December 16, 2019 1:00:00 AM	Treated effluent	8000.00	Exploration camp retention tank	At 07:00 the environment department received a radio call that there was a leak noticed at the Exploration Camp retention tank. Upon initial investigation, the cause of the spill was determined to be a frozen pipe which had split,	The leak was noticed around 07:00, and by this time the tanks were empty and the released water had frozen in place. The STP was put on stand-by while the Energy and Infrastructure (E&I) Department worked to locate and

				causing the tank to drain. The treated water within the tank had been emptied the previous day at 14:35. A best initial estimate for the volume released is approximately 8 cubic meters, but further investigation will be required. The spilled treated water froze upon exiting the tank creating a spill extent (ice formation) of about 800 square meters. The spilled treated effluent did not reach Meliadine Lake (approx 10 m from high water mark).Weekly water samples were taken the morning of the occurrence. A follow-up report will be issued after a more in-depth investigation is completed.	replace the broken piping. A major re-design of the storage containers, which house the retention tanks, has been completed. At the time of the incident, there were four retention tanks which sit inside individual sea-cans. The tanks were connected in series by pipes and small pumps which sit on the floor and pass through the walls of each sea-can. This setup allowed for very small sections of the piping to be exposed to the cold, causing them to freeze. To mitigate this in the past, each sea-can is also outfitted with an industrial heater (frost-fighter) controlled by a thermostat, which was meant to prevent any piping from freezing.
Saturday, December 21, 2019 3:00:00 PM	Caustic Soda (sodium hydroxide)	2.50	SWTP Entrance	The operator was taking out pallets of Caustic Soda, the caustic soda bags slipped and fell off the pallet to the ground. Some caustic soda leaked out of 2 bags.	Cleaned up the contaminated material and placed it into used caustic soda container inside the treatment plant.
Tuesday, December 31, 2019 3:00:00 AM	Hydraulic Oil	400.00	portal two high grade pad	Haul truck was at the portal two high grade pad when a hydraulic hose busted. The hydraulic tank of the haul truck was empty within minutes, but the spill was contained.	Spill kit was used to contain the spill and the area was cleaned up by the excavator and material disposed of adequately.