Meliadine Gold Project
NWB 2AM-MEL1631
January 2021 Monthly Report

Prepared for:
Nunavut Water Board

Prepared by:
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February 26th, 2021

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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 January 2021.

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 2020

	Monthly Usage (m^3)
Camp and Mill (MEL-11)	34,396
Construction – Batch Plant (MEL-26 – A8)	0
Dust suppression	0
Total December	**34,396**
Year to date 2020	**34,396**

2.2 DEWATERING ACTIVITIES

Dewatering of the Lake H-19 and H-20 started August 17th 2019 and stopped October 5th 2019.

2.3 MELIADINE DISCHARGE

Discharge from the EWTP into Meliadine Lake via the Final Discharge Point (MEL-14) started June 5th, 2020 and stopped October 4th, 2020. A total of 13,836 m^3 was discharged throughout October 2020.

2.4 MELVIN BAY DISCHARGE

Discharge to sea via the Final Discharge Point (MEL-26) started August 10th 2020 and stopped October 8th, 2020. A total of approximately 5,275 m^3 was discharged throughout October 2020.

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 January 2021.

2.6 SEWAGE TREATMENT PLANT

In January 2021, 4,230 m^3 of treated wastewater was discharged into CP1. The majority of the sludge is disposed of in the WRSF.

2.7 CONTAINMENTS

Discharged from the Itivia fuel containment facility (Station Mel-25) started June 27th and ended in July 2020. Approximately 3,780 m^3 was discharged through the discharge period.

2.8 MONITORING ANALYTICAL DATA

In January 2021, a sample related to the Water Licence was taken. See below the analytical results from this sampling event. No exceedance occurred in January 2021.

MEL-11	Sample date	1/10/2021
	Sample type	N
Parameter	**Unit**	
WQ02- Conventional Parameters		
pH	**pH units**	7.33
Turbidity	**NTU**	0.2
Specific conductivity	**umhos/cm**	130
Hardness, as CaCO3 (T)	**mg CaCO3/L**	33.5
Hardness, as CaCO3 (D)	**mg CaCO3/L**	34.3
Total alkalinity, as CaCO3	**mg CaCO3/L**	25
Carbonate, as CaCO3	**mg CaCO3/L**	< 1.0
Bicarbonate, as CaCO3	**mg CaCO3/L**	24
TDS	**mg/L**	30
TSS	**mg/L**	< 1
Total organic carbon	**mg/L**	3.7
Dissolved organic carbon	**mg/L**	4.2
WQ03- Major Ions		
Chloride	**mg/L**	19
Silica	**mg/L**	0.37
Sulphate	**mg/L**	7.0
Cyanide (free)	**mg/L**	0.07
Cyanide (WAD)	**mg/L**	< 0.0010
Cyanide	**mg/L**	< 0.0050
Calcium (E200.8)	**mg/L**	10.5
Magnesium (E200.8)	**mg/L**	1.99
Potassium (E200.8)	**mg/L**	1.24
Sodium (E200.8)	**mg/L**	8.47
WQ04- Nutrients and Chlorophyll a		
Total ammonia	**mg-N/L**	0.14

Nitrate	**mg-N/L**	< 0.10
Nitrite	**mg-N/L**	< 0.010
Nitrate + nitrite	**mg-N/L**	< 0.10
Total Kjeldahl nitrogen	**mg-N/L**	0.20
Total phosphorus	**mg/L**	< 0.020
Orthophosphate	**mg/L**	< 0.010
WQ06- Total Metals		
Aluminum	**mg/L**	0.0041
Antimony	**mg/L**	< 0.00050
Arsenic	**mg/L**	0.00051
Barium	**mg/L**	0.0108
Beryllium	**mg/L**	< 0.00010
Boron	**mg/L**	< 0.05
Cadmium	**mg/L**	< 0.000010
Chromium	**mg/L**	< 0.0010
Copper	**mg/L**	0.00088
Iron	**mg/L**	0.014
Lead	**mg/L**	< 0.00020
Lithium	**mg/L**	< 0.0020
Manganese	**mg/L**	0.0047
Mercury	**mg/L**	< 0.00001
Molybdenum	**mg/L**	< 0.0010
Nickel	**mg/L**	< 0.0010
Selenium	**mg/L**	< 0.00010
Silver	**mg/L**	< 0.000020
Strontium	**mg/L**	0.0655
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
WQ07- Dissolved Metals		
Aluminum	**mg/L**	< 0.0030
Antimony	**mg/L**	< 0.00050
Arsenic	**mg/L**	0.00042
Barium	**mg/L**	0.0105
Beryllium	**mg/L**	< 0.00010
Boron	**mg/L**	< 0.05
Cadmium	**mg/L**	< 0.000010
Chromium	**mg/L**	< 0.0010
Copper	**mg/L**	0.00084
Iron	**mg/L**	< 0.0050

Lead	**mg/L**	< 0.00020
Lithium	**mg/L**	< 0.0020
Manganese	**mg/L**	< 0.0010
Mercury	**mg/L**	< 0.00001
Molybdenum	**mg/L**	< 0.0010
Nickel	**mg/L**	< 0.0010
Selenium	**mg/L**	< 0.00010
Silver	**mg/L**	< 0.000020
Strontium	**mg/L**	0.0666
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
WQ10- 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	**ug/L**	YES

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 10th 2020 the landfill contained approximately 18,214 m^3 of material.

In January 2021, no contaminated soil was transferred to the Type A Landfarm as a result of spills cleanup.

3.2 ORE

Approximately 144,029 tonnes of ore were processed through the Mill in January 2021.

3.3 WASTE ROCK STORAGE FACILITY

January 2021, a total of 63,824 tonnes of waste rock was removed in the mine development process. 34,834 tonnes were used as underground dry rockfill. 12,425 tonnes was stockpiled for progressive closure cover.

3.4 TAILINGS

110,069 dry tonnes of filtered tailings were sent to the Tailing Storage Facility in January 2021. 33,960 tonnes of tailings were used for paste underground backfill.

SECTION 4 SPILL MANAGEMENT

4.1 INTERNAL AND REPORTABLE SPILLS

All spills reported internally (11) 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. 2 reportable spill occurred in January 2021.

Table 4.1: Summary of Agnico's Spill Reports in January 2021

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
Friday, January 01, 2021 5:00:00 PM	Engine or Transmission oil	20.00	E&I Operation Laydown	The crane operator noticed oil leaking from loader as he walked by the 65LOA01 idling in equipment laydown.	Operator shut down machine, spill was cleaned and contaminated material disposed of adequately.
Saturday, January 02, 2021 3:00:00 AM	Hydraulic Oil	25.00	TSF	A hydraulic hose busted.	Packer was shut off. Spill pads were used to clean up and contaminated material disposed of adequately.
Monday, January 04, 2021 6:00:00 AM	Hydraulic Oil	4.00	E & I Ops laydown	An operator walked by Loader 02 and noticed a small hydraulic oil puddle underneath due to a cracked hose.	Loader was shut off, supervisor was notified. Spill was contained and contaminated material disposed of adequately.
Tuesday, January 05, 2021 1:00:00 AM	Hydraulic Oil	170.00	East side of Apron Feeder Building	At approximately 1:30 am on January 5, 2021, a breakage in a section of a hydraulic line on the exterior of the apron feeder building led to the release of approximately 170 L of hydraulic oil. The oil ran down the eastern wall of the building onto the snow below and was confined to a small area allowing for complete recovery of the spill.	Spill pads were immediately placed on the affected area to contain and catch the oil. The Process Plant Supervisor and Environment Department. organized a clean-up of the area. The area was cleaned up using a loader, bobcat and shovel. All contaminated snow was disposed of in the Landfarm.
Thursday, January 07, 2021 12:30:00 PM	Emulsion	30.00	Emulsion pad portal 1	Surface labor worker were about to load the boom truck 20 with emulsion tote. The loader grabbed the emulsion tote from the flat track and back up. The loader crawled over a small snow bank	Approximately 300 Kg fell on the ground but were able to recuperate approximately 285 Kg of emulsion with aluminum shovels and spill kit (yellow bag). Contaminated material disposed of adequately.

				causing the weight of the bin to shift. The weld broke off from the fork pocket flange and the tote fell. The lid open and emulsion spill onto the pad.	
Friday, January 08, 2021 1:00:00 PM	Grey Water	50.00	Underneath Kitchen	Piping system cracked due to weather.	Plumbing was fixed. Snow was transferred to CP1 snow dump.
Saturday, January 09, 2021 1:00:00 AM	Hydraulic Oil	10.00	TSF	Worker reported dozer down on TSF with an hydraulic leak.	Operator shut down machine, spill was cleaned, and contaminated material disposed of adequately.
Monday, January 11, 2021 1:30:00 PM	Rusted Water	3.00	EWTP	A rusty water spill was observed over at the EWTP originating from a pump being disconnected.	Ice was scrapped and brought to the snow dump.
Monday, January 18, 2021 2:00:00 PM	Heat Recovery Water	165.00	WRSF1	On January 18th, at approximately 1:00 pm, an estimated 165 m3 of heat recovery water was spilled as water was being conveyed via a 16” heat recovery waterline. Equipment was pushing snow near the heat recovery waterline. This action caused the line to break and the water within the line was released. A portion of the water froze on surface, with the remainder migrating below surface. The water from the line does not come in contact with any process of operations and is only used for heat exchange between buildings.No water bodies were impacted by this spill. The nearest natural water body	No clean-up was required as the water was completely contained in the site catchment area and will migrate to CP1 when thawed. The source of the heat recovery water is the Meliadine Lake freshwater intake, which directs the water through the water treatment plant. Water quality is monitored at this licensed compliance monitoring location, Mel-11. Given the source and containment of the water spill, the incident is not expected to have an environmental impact. The incident was reported for due diligence purposes.

				(B7) is 550 m away. The coordinates of the spill are 63° 1'47.51"N, 92°13'6.96"W	
Friday, January 22, 2021 8:00:00 AM	Hydraulic Oil	40.00	Crane Pad	A hydraulic hose busted on Loader 01.	Spill was contained and the contaminated snow was brought to snow cell.
Monday, January 25, 2021 2:00:00 PM	Coolant	10.00	KCG Garage	During the reparation of the PC1250 at the shop, the motor overheated, and the coolant overflew, resulting of a coolant spill of 10 L.	The contaminated snow and soil were collected and brought to the snow cell.
Friday, January 29, 2021 11:30:00 AM	Hydraulic Oil	25.00	Chemical Pad	A hydraulic hose busted.	The contaminated snow and soil were collected and brought to the snow cell.
Saturday, January 30, 2021 1:00:00 AM	Hydraulic Oil	25.00	Tiriganiaq 1	A dozer caught fire in Tiri 1 open pit which resulted in some hydraulic oil leaking.	Contaminated ground was brought to the landfarm.