AGNICO EAGLE
MELIADINE

Meliadine Gold Mine
NWB 2AM-MEL1631
February 2022 Monthly Report

Prepared for:
Nunavut Water Board

Prepared by:
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SECTION 1 • BACKGROUND

As required under Part I, Item 9 of amended 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 February 2022.

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 the monthly water usage in February 2022

	Monthly Usage (m^3)
Camp, Mill, Dust suppression (MEL-11)	31,484
Dust suppression (water obtained along AWAR/Meliadine River)	0
Total February	**31,484**
Year to date 2022	**67,692**

2.2 DEWATERING ACTIVITIES

No dewatering activities took place during the month.

2.3 MELIADINE DISCHARGE

No discharge to Meliadine Lake occurred during the month.

2.4 MELVIN BAY DISCHARGE

No discharge to Melvin Bay occurred during the month.

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 during the month.

2.6 SEWAGE TREATMENT PLANT

Approximately 4,324m^3 of treated wastewater was discharged into CP1 during the month. Approximately 4.4 m^3 of sludge was removed during the month. The sludge is either disposed of in WRSF1 or WRSF3.

2.7 CONTAINMENTS

No discharge from the Itivia fuel containment facility (Station Mel-25) occurred during the month.

2.8 MONITORING ANALYTICAL DATA

One (1) samples related to the Water Licence was taken during the month. The analytical results from this sampling event are presented in Appendix. No exceedance occurred in February 2022.

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 on January 28th, 2022, the landfill contained approximately 19,623 m³ of material.

No material was put into the Type A Landfarm during the month. According to the most recent survey done on February 6th, 2022, the Landfarm A contained approximately 442 m³ of material.

3.2 ORE

Approximately 118,830 tonnes of ore were processed through the Mill during the month.

3.3 WASTE ROCK STORAGE FACILITY

A total of 54,045 tonnes of waste rock was removed in the underground mine development process during the month while 23,210 tonnes of waste rock were removed from open pit mining. 17,590 tonnes were used as underground dry rockfill.

3.4 TAILINGS

89,300 dry tonnes of filtered tailings were sent to the Tailing Storage Facility during the month. 29,530 tonnes of tailings were used for paste underground backfill.

SECTION 4 SPILL MANAGEMENT

4.1 INTERNAL AND REPORTABLE SPILLS

Spills reported internally (11) are listed in the table 4.1 and were managed according to Agnico Eagle'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. Five (5) reportable spills occurred during the month (Refer to the gray shading in Table 4.1).

Table 4.1: Summary of Agnico Eagle's Spill Reports in February 2022

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, February 04, 2022 6:00:00 PM	Petroleum products	20.00	MSB YARD	A scoop was parked in front of the mechanical shop because of a broken cylinder. Residual oil around the cylinder dripped to the ground.	Absorbent pads were used to clean up the spill and disposed of in a Quatrex bag.
Tuesday, February 08, 2022 2:00:00 PM	Engine Oil	15.00	Pond B38	On February 8, Environment Technicians were conducting an inspection of surface Drill# 10, operated by AEM's contractor Orbit Garant. During the inspection, areas with small amounts engine oil dripping from inside the rigs onto the lake ice were observed. The drill released approximately 15 L of engine oil.	Absorbent pads were placed beneath the drips immediately. The Orbit Garant supervisor was notified, and the drills were shut down immediately to perform a preliminary cleanup and ensure the spill was contained. The cleanup was then finalized following the movement of the drill. Contaminated snow and ice were put into the Snow Cell. A post clean-up sample was collected and analyzed for petroleum hydrocarbons demonstrated the clean-up was successful.
Wednesday, February 09, 2022 6:00:00 AM	Petroleum products	40.00	Inside Dome 3	The spill occurred when refilling the hydraulic oil tank of a fuel truck in Dome 3. The tank overflowed because the timer for the pump had been set for a too long period of time.	The spill was contained in the dome. Absorbent pads were used to clean-up the spill and disposed of as hazmat.
Friday, February 11, 2022 4:00:00 PM	Engine Oil 0W40	0.50	SH-102 Drill 1, Pump Lake	The drill operator changed the hydraulic motor on the water pressure pump. Before beginning the change, the worker put absorbent pads under the engine, to recover any potential oil drippings. Some oil from the motor being	Absorbent pads were put under the motor before the work to prevent the oil to spill on the ice. The pads were disposed of as hazmat.

				replaced spilled on the absorbent pads; the oil did not reach the lake ice surface.	
Saturday, February 12, 2022 12:30:00 AM	Engine Oil 0W40	3.00	SH-102 Drill 1, Pump Lake	A hydraulic hose ruptured in the hydraulic control. The spill was contained in a drip pan with matting inside the drill, and never reached the lake ice surface.	The drill rig was turned off. The hydraulic valve under the hydraulic tank was closed as well. The hydraulic hose was changed. Used absorbent pads were disposed of as hazmat.
Friday, February 18, 2022 5:30:00 PM	Sewage	80.00	KCG Lift Station	While transferring sewage from the KCG lift station tank into the sucker truck to bring it to the site Sewage Treatment Plant (STP), the transfer valve was left in the open position allowing approximately 80L of sewage to spill to the ground on the industrial pad.	The winter conditions caused the spill to freeze in place and the frozen material was scraped up with on-site equipment and placed in barrels for disposal. The quick reference procedure for the operators to use was updated to reflect the requirement of these valves to be closed before disconnecting the sucker truck line.
Monday, February 21, 2022 8:00:00 AM	Hydraulic Oil	10.00	Ring road near 67MS11 pattern	An air seal failed, causing the release of hydraulic oil by the hammer port of a drill.	The hammer rotation was stopped. The contaminated snow was put in the snow cell.
Saturday, February 26, 2022 5:30:00 AM	Untreated Sewage Water	1,500.00	Power Plant Lift Station	An overflow of the power plant lift station resulted in a spill of 1500L of sewage to the industrial pad. The spill was contained to a low spot in the local area.	A plumber was dispatched to inspect the lift station and make all possible corrective repairs to remediate the issues that caused this to happen. He found that there was nothing frozen in the line any further and was able to hook the system back together to stop this backflow issue from occurring. The sucker truck was used to clean the liquid material. The frozen material will be recovered before the end of the winter using the sucker truck and the steamer.

Sunday, February 27, 2022 1:00:00 PM	Untreated Sewage Water	25.00	MSB Lift Station	Following the removal of the wastewater from the sucker truck, the operator failed to follow the correct sequence to remove all materials from the sucker hose and connection line. When the operator disconnected the hose the material that was inadvertently still within the line leaked onto the ground around the lift station.	The contaminated snow/ice was collected and placed in drums.
Sunday, February 27, 2022 6:30:00 PM	Sewage	100.00	Wing 10 & 11 Lift Station	The lift station door was found open, which is likely the cause of a frozen discharge line, resulting in the lift station filling up.	The sucker truck cleaned up the surrounding area and a frost fighter was installed to thaw the line. No additional cleanup can be conducted as there is a line 600v cable running under the snow next to the lift station.
Sunday, February 27, 2022 8:00:00 PM	Petroleum products	50.00	Inside the Church	During normal operations, a loader experienced a cylinder failure causing a 50L hydraulic oil spill inside the church.	The spill was contained within the church, and absorbent pads used to clean hydraulic oil. A small backhoe was used to place contaminated tailings into a barrel. The barrel was moved to a sea can at the hazmat laydown.

Appendix – Monitoring Analytical Data

MEL-11	Sample date	2/14/2022
Parameter	**Unit**	
WQ02- Conventional Parameters		
pH	**pH units**	7.33
Turbidity	**NTU**	0.2
Specific conductivity	**umhos/cm**	150
Hardness, as CaCO3 (T)	**mg/L**	40.4
Total alkalinity, as CaCO3	**mg/L**	25
Carbonate, as CaCO3	**mg/L**	< 1.0
Bicarbonate, as CaCO3	**mg/L**	25
TDS	**mg/L**	50
TDS, calculated	**mg/L**	71
TSS	**mg/L**	1
Total organic carbon	**mg/L**	4.2
Dissolved organic carbon	**mg/L**	4.3
WQ03- Major Ions		
Chloride	**mg/L**	22
Cyanide	**mg/L**	< 0.00050
Cyanide (free)	**mg/L**	< 0.0010
Cyanide (WAD)	**mg/L**	< 0.00050
Silica	**mg/L**	0.38
Sulfate	**mg/L**	9.2
WQ04- Nutrients and Chlorophyll a		
Ammonia Nitrogen	**mg/L**	0.053
Nitrate	**mg/L**	< 0.10
Nitrite	**mg/L**	< 0.010
Total Kjeldahl nitrogen	**mg/L**	0.21
Total phosphorus	**mg/L**	< 0.020
Orthophosphate (P)	**mg/L**	< 0.010
WQ06- Total Metals		
Aluminum	**mg/L**	0.0034
Antimony	**mg/L**	< 0.00050
Arsenic	**mg/L**	0.00063
Barium	**mg/L**	0.0132
Beryllium	**mg/L**	< 0.00010
Boron	**mg/L**	< 0.050
Cadmium	**mg/L**	< 0.000010
Chromium	**mg/L**	< 0.0010
Copper	**mg/L**	0.00122
Iron	**mg/L**	0.030
Lead	**mg/L**	< 0.00020
Lithium	**mg/L**	< 0.0020
Manganese	**mg/L**	0.0052

Mercury	**mg/L**	< 0.00001
Molybdenum	**mg/L**	0.0029
Nickel	**mg/L**	0.0011
Selenium	**mg/L**	< 0.00010
Silver	**mg/L**	< 0.000020
Strontium	**mg/L**	0.0750
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**	0.00056
Barium	**mg/L**	0.0133
Beryllium	**mg/L**	< 0.00010
Boron	**mg/L**	< 0.050
Cadmium	**mg/L**	< 0.000010
Calcium (Dissolved)	**mg/L**	12.1
Chromium	**mg/L**	< 0.0010
Copper	**mg/L**	0.00117
Iron	**mg/L**	0.0136
Lead	**mg/L**	< 0.00020
Lithium	**mg/L**	< 0.0020
Magnesium (Dissolved)	**mg/L**	2.24
Manganese	**mg/L**	< 0.0010
Mercury	**mg/L**	< 0.00001
Molybdenum	**mg/L**	< 0.0010
Nickel	**mg/L**	0.0010
Potassium (Dissolved)	**mg/L**	1.41
Selenium	**mg/L**	< 0.00010
Silver	**mg/L**	< 0.000020
Sodium (Dissolved)	**mg/L**	9.45
Strontium	**mg/L**	0.0751
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**	0.00045
m,p-Xylenes	**mg/L**	0.00045
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