AGNICO EAGLE
MELIADINE

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

Prepared for:
Nunavut Water Board

Prepared by:
Agnico Eagle Mines Limited – Meliadine Division

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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 December 2022.

WATER MANAGEMENT

1.1 WATER USAGE

Table 1.1 details monthly water usage approved under Water License 2AM-MEL1631:

Table 1.1: Summary of the monthly water usage in December 2022

	Monthly Usage (m^3)
Camp, Mill, Dust suppression (MEL-11)	41,577
Dust suppression (water obtained along AWAR/Meliadine River)	0
Total December	41,577
Year to date 2022	**463,484**

1.2 DEWATERING ACTIVITIES

No dewatering activities took place during the month.

1.3 MELIADINE DISCHARGE

Discharge from the EWTP into Meliadine Lake via the Final Discharge Point (MEL-14) started July 1st, 2022, and stopped September 25th,2022. No discharge to Meliadine Lake occurred during the month.

1.4 MELVIN BAY DISCHARGE

No discharge to Melvin Bay occurred during the month.

1.5 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.

1.6 SEWAGE TREATMENT PLANT

Approximately 4,620 m^3 of treated wastewater was discharged into CP1 during the month. Approximately 19.5 m^3 of sludge was removed during the month; 1 m^3 was disposed of in WRSF1, while 18.5 m^3 were disposed of in WRSF3.

1.7 CONTAINMENTS

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

1.8 MONITORING ANALYTICAL DATA

One (1) sample 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 December 2022.

MATERIAL MANAGEMENT

1.9 LANDFILL / LANDFARM

The volume of material placed into the landfill is evaluated through periodic surveys. According to the most recent survey done on November 13th, 2022, the landfill contained approximately 21,711 m³ of material.

Approximately 0.5 m^3 of contaminated material was put into the Type A Landfarm during the month.

1.10 ORE

Approximately 169,258 tonnes of ore were processed through the Mill during the month.

1.11 WASTE ROCK STORAGE FACILITY

A total of 58,050 tonnes of waste rock was removed in the underground mine development process during the month while 148,240 tonnes of waste rock were removed from open pit mining. 26,389 tonnes were used as underground dry rockfill.

1.12 TAILINGS

128,866 dry tonnes of filtered tailings were sent to the Tailing Storage Facility during the month. 40,392 tonnes of tailings were used for paste underground backfill.

SECTION 4 SPILL MANAGEMENT

4.1 INTERNAL AND REPORTABLE SPILLS

Spills reported internally (7) 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. Two (2) reportable spills occurred during the month (Refer to grey shading in Table 4.1).

Table 4.1: Summary of Agnico Eagle's Spill Reports in December 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
Wednesday, December 07, 2022 6:30:00 AM	Hydraulic Fluid	5.00	Ramp of NEW CIL	A hydraulic line on an aerial work platform failed, spilling approximately 5 L of hydraulic oil to the industrial pad.	Worker used spill pads to collect the free fluid, and the frozen contaminated material was placed in a Quatrex bag for disposal.
Wednesday, December 07, 2022 4:00:00 PM	Diesel Fuel	40.00	Crane shelter	An out of service fuel tank at the crane shelter failed, releasing 40 L of fuel into the containment tray. After further investigation, the containment tray had a crack allowing the fuel to spill onto the industrial pad.	Fuel leftover in the tank was pumped and used at the incinerator. Frozen contaminated water/fuel from the containment tray was recovered and placed in the snow cell. Contaminated material will be excavated and hauled to the Landfarm.
Saturday, December 17, 2022 5:30:00 PM	Sewage	50.00	Main camp lift station	An estimated 50 L of sewage was spilled to the industrial pad due to an equipment failure at the main camp lift station causing it to overflow. The spilled sewage collected directly underneath the lift station enclosure.	The operator of the sewage treatment plant responded to the red strobe light indicating a high volume of sewage in the main camp lift station. The operator switched the system into manual mode to lower the level in the tank to stop the overflow. The spilled sewage travelled underneath the lift station and is inaccessible. The area will be remediated upon replacement or closure of the lift station.
Monday, December 19, 2022 10:30:00 PM	Freshwater	50.00	Wash bay	A frozen pipe in the wash bay corridor resulted in the release of 750 L of fresh water into the hallway; an estimated 50 L of fresh water left the building onto the industrial pad.	A vacuum truck was used to collect the free water, which was placed in the wash bay for use.

Tuesday, December 20, 2022 4:30:00 AM	Hydraulic Oil	10.00	North side of SP4	A failed hydraulic line on an excavator resulted in a 10 L hydraulic oil spill on the industrial pad.	Spill pads were used to collect the spilled material and disposed of in the oily material bin at the KCG shop for offsite disposal.
Wednesday, December 21, 2022 8:30:00 AM	Hydraulic Oil	35.00	Service Road near WTC	A failed hydraulic line on a telehandler resulted in a spill of 35 L of Hydraulic Oil to the industrial pad.	Spill was contained, and contaminated soil or snow picked up and disposed of in a Quatrex bag at the hazmat laydown.
Thursday, December 22, 2022 10:00:00 AM	Sewage	40.00	Power Plant	An estimated 40 L of sewage was spilled on the industrial pad due to a frozen discharge line from the power plant lift station. The spilled sewage collected within five meters of the lift station.	E&I Maintenance quickly responded, closing washrooms that discharge into the lift station and bringing a vacuum truck to empty the lift station. Due to infrastructure and power lines in the area creating a safety hazard for heavy equipment the final spill cleanup will occur in the spring as the snow and ice in the area melts.

Appendix – Monitoring Analytical Data

MEL-11		12/11/2022
Parameter	**Unit**	
WQ02- Conventional Parameters		
pH	**pH units**	7.38
Turbidity	**NTU**	0.2
Specific conductivity	**umhos/cm**	120
Hardness, as CaCO3	**mg/L**	33.5
Total alkalinity, as CaCO3	**mg/L**	24
Carbonate, as CaCO3	**mg/L**	< 1.0
Bicarbonate, as CaCO3	**mg/L**	24
TDS	**mg/L**	60
TDS, calculated	**mg/L**	61
TSS	**mg/L**	< 1
Total organic carbon	**mg/L**	3.9
Dissolved organic carbon	**mg/L**	4.1
WQ03- Major Ions		
Chloride	**mg/L**	18
Cyanide	**mg/L**	< 0.00050
Cyanide (free)	**mg/L**	0.0039
Cyanide (WAD)	**mg/L**	< 0.00050
Silica	**mg/L**	0.62
Sulfate	**mg/L**	7.5
WQ04- Nutrients and Chlorophyll a		
Ammonia Nitrogen (as N)	**mg/L**	< 0.050
Nitrate (as N)	**mg/L**	< 0.10
Nitrite (as N)	**mg/L**	< 0.010
Total Kjeldahl nitrogen	**mg/L**	0.23
Total phosphorus	**mg/L**	< 0.020
Orthophosphate (P)	**mg/L**	< 0.010
WQ06- Total Metals		
Aluminum	**mg/L**	0.0048
Antimony	**mg/L**	< 0.00050
Arsenic	**mg/L**	0.00057
Barium	**mg/L**	0.0099
Beryllium	**mg/L**	< 0.00010
Boron	**mg/L**	< 0.050
Cadmium	**mg/L**	< 0.000010
Chromium	**mg/L**	< 0.0010
Copper	**mg/L**	0.00106
Iron	**mg/L**	0.016
Lead	**mg/L**	< 0.00020
Lithium	**mg/L**	< 0.0020

Manganese	**mg/L**	0.0049
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**	0.0565
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**	0.00058
Barium	**mg/L**	0.0107
Beryllium	**mg/L**	< 0.00010
Boron	**mg/L**	< 0.050
Cadmium	**mg/L**	0.000013
Calcium (Dissolved)	**mg/L**	10.2
Chromium	**mg/L**	< 0.0010
Copper	**mg/L**	0.00103
Iron	**mg/L**	0.0077
Lead	**mg/L**	< 0.00020
Lithium	**mg/L**	< 0.0020
Magnesium (Dissolved)	**mg/L**	1.84
Manganese	**mg/L**	< 0.0010
Mercury	**mg/L**	< 0.00001
Molybdenum	**mg/L**	< 0.0010
Nickel	**mg/L**	< 0.0010
Potassium (Dissolved)	**mg/L**	1.17
Selenium	**mg/L**	< 0.00010
Silver	**mg/L**	< 0.000020
Sodium (Dissolved)	**mg/L**	7.82
Strontium	**mg/L**	0.0586
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**	0.00021
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