



**Meliadine Gold Mine
NWB 2BB-MEL1424
May 2023 Monthly Report**

Prepared for:
Nunavut Water Board

Prepared by:
Agnico Eagle Mines Limited – Meliadine Division

This monthly report is delivered under water license 2BB-MEL1424, PART J, Item 13.

1. The Licensee shall maintain Monitoring Stations at the following locations:

Table 1: Monitoring stations

Monitoring Station	Description	Status
MEL-1	Raw water supply intake at Meliadine Lake	Active (Volume m ³)
MEL-2	Raw water supply intake at Pump, A8 or other Lakes	Active (Volume m ³)
MEL-5	Point of discharge for the Bermed Fuel Containment Facilities	Inactive
MEL-6	Effluent from the Landfarm Treatment Facility prior to release	Inactive
MEL-7	Final Effluent Discharge from the BIODISK treatment system	Inactive
MEL-8	Point of discharge or runoff from the Non-Hazardous Waste landfill	Inactive

2. *The Licensee shall measure and record, in cubic metres, the daily quantities of water utilized for camp, drilling and other purposes from all sources.*

Table 2: Monthly water usage for camp, drilling, and other purposes

	Purpose	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Cumulative 2023
MEL-1 (m ³ /day)	Camp	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-	-
MEL-2 (m ³ /day)	Drilling	0.00	0.00	12.27	27.4	16.3	-	-	-	-	-	-	-	-
Daily Average (m ³ /day)		0.00	0.00	12.27	27.4	16.3	-	-	-	-	-	-	-	-
Total (m ³)		0.00	0.00	381	822	506	-	-	-	-	-	-	-	1,709

3. The Licensee shall measure and record the volume of all soil from all locations entering the Landfarm Treatment Facility.

No material was deposited in the Type B landfarm during the month. Any new contaminated soil generated will be deposited in the landfarm approved in the Type A Water License.

4. The Licensee shall assess and record the concentration of F1 – F4 fractions in petroleum hydrocarbon contaminated soil, according to the CCME Canada-Wide Standard for Petroleum Hydrocarbons (PHC) in Soil that is entering the Land Treatment Unit from all sources and excavations.

No material was deposited in the Type B landfarm during the month. Any new contaminated soil generated will be deposited in the landfarm approved in the Type A Water License.

5. The Licensee shall provide the GPS coordinates (in decimal degrees) of all locations where wastes associated with camp operations and exploration activities are deposited.

No more waste from camp operations and exploration is deposited in locations related to Licence 2BB-MEL1424.

6. Licensee shall sample at Monitoring Program Station MEL-7, monthly during wastewater effluent discharge. Samples shall be analyzed for the parameters listed under Part D Item 11:

pH
Biochemical Oxygen Demand – BOD5
Total Suspended Solids (TSS)
Fecal Coliforms
Oil and Grease (and visual)

From November 2017 to April 2019, all treated sewage from the Exploration Camp STP was trucked and deposited in CP1. From April 15th, 2019 to early June 2019, due to inconsistency in the amount of people at the exploration camp resulting in unsteady STP effluent results, AEM decided to transfer all treated water from the exploration STP to the main camp STP for a second treatment before being discharged in CP1. Since early June 2019, the treated sewage from the exploration camp is deposited in CP1 as sampling results went back to normal.

If the Exploration Camp STP operators suspect any upsets in the Exploration Camp STP prior to receiving accredited lab results, the effluent will be placed in the arctic corridor lift station for additional treatment in the main camp sewage treatment plant.

Agnico Eagle continued to monitor the quality of the effluent whenever the Exploration Camp STP is operational. Since the Exploration Camp was closed and the STP was not in operation, no samples were collected during the month.

- 7. The Licensee shall, prior to the release of effluent from the Bermed Fuel Containment Facilities at Monitoring Program Station MEL-5 and the Landfarm Treatment Facility at Monitoring Program Station MEL-6 for the purpose of demonstrating compliance, sample for the parameters listed under Part D item 15.**

No water was discharged from the Fuel Containment Facilities (Monitoring station MEL-5) nor the Landfarm Treatment Facility (Monitoring Station MEL-6) during the month.

- 8. The Licensee shall obtain representative samples of the water column below any ice where required under part F, Items 5 and 6. Monitoring shall include but not limited to the following:**

Total Suspended Solids

pH

Electrical Conductivity, and

Total trace Metals as determined by a standard ICP Scan (to include at a minimum, the following elements: Al, Sb, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Li, Mn, Mo, Ni, Se, Sn, Sr, Tl, Ti, U, V, Zn), and Trace Arsenic and Mercury.

A water quality sample was collected before the 2023 drilling on ice campaign on Lake A8 on January 8th. Results were provided in the January 2023 report.

A water quality sample was collected after the 2023 drilling on ice campaign on May 5th. Results are provided in Appendix.

- 9. Modify the monthly monitoring reports, starting April 2016, to include, at a minimum, waste water treatment options; and modifications of the freshet action plan.**

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Appendix – Monitoring Analytical Data

Sample name		A8-AFTER
Sample date		2023-05-05
Parameter	Unit	
WQ02- Conventional Parameters		
pH	pH units	7.76
Specific conductivity	umhos/cm	1000
TSS	mg/L	2
WQ06- Total Metals		
Aluminum	mg/L	0.0521
Antimony	mg/L	< 0.00050
Arsenic	mg/L	0.0103
Barium	mg/L	0.101
Beryllium	mg/L	< 0.00010
Cadmium	mg/L	< 0.000010
Chromium	mg/L	< 0.0010
Cobalt	mg/L	< 0.00020
Copper	mg/L	0.00212
Iron	mg/L	0.187
Lead	mg/L	0.00029
Lithium	mg/L	0.0330
Manganese	mg/L	0.132
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	< 0.0010
Nickel	mg/L	0.0026
Selenium	mg/L	< 0.00010
Strontium	mg/L	0.902
Sulphur	mg/L	16.5
Thallium	mg/L	< 0.000010
Tin	mg/L	< 0.0050
Titanium	mg/L	< 0.0050
Uranium	mg/L	0.00035
Vanadium	mg/L	< 0.0050
Zinc	mg/L	0.0114
WQ07- Dissolved Metals		
Aluminum	mg/L	< 0.0030
Antimony	mg/L	< 0.00050
Arsenic	mg/L	0.00691
Barium	mg/L	0.104
Beryllium	mg/L	< 0.00010
Cadmium	mg/L	< 0.000010
Chromium	mg/L	< 0.0010
Cobalt	mg/L	< 0.00020
Copper	mg/L	0.00189

Iron	mg/L	0.0156
Lead	mg/L	< 0.00020
Lithium	mg/L	0.0333
Manganese	mg/L	0.130
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	< 0.0010
Nickel	mg/L	0.0024
Selenium	mg/L	0.00011
Strontium	mg/L	0.946
Sulphur	mg/L	15.5
Thallium	mg/L	< 0.000010
Tin	mg/L	< 0.0050
Titanium	mg/L	< 0.0050
Uranium	mg/L	0.00036
Vanadium	mg/L	< 0.0050
Zinc	mg/L	0.0096