



Meliadine Gold Mine  
NWB 2BB-MEL1424  
March 2022 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 <sup>3</sup> )
MEL-2	Raw water supply intake at Pump, A8 or other Lakes	Active (Volume m <sup>3</sup> )
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 (no direct discharge)
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: Water quantities utilized (average)

MEL-1 <sup>1</sup>	Camp	m <sup>3</sup> /day	0.00
	Pump Shack	m <sup>3</sup> /day	0.00
	Construction	m <sup>3</sup> /day	0.00
MEL-2	Drilling	m <sup>3</sup> /day	37.84
Daily Average		m <sup>3</sup> /day	37.84
Total March 2022		m <sup>3</sup>	1,173
Total 2022		m <sup>3</sup>	3,589

**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.

<sup>1</sup> MEL-1: 541943E, 6989174N

- 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 15<sup>th</sup>, 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 in March 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.***

Water quality samples related to drilling campaigns will be collected during the winter 2021-2022 (before, during and after drilling) and sent for analysis.

Lake A8 was sampled before and during drilling in December 2021, January and March 2022. 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.**

From November 2017 to April 2019, all treated sewage from the Exploration Camp STP was trucked and deposited in CP1. From April 15<sup>th</sup>, 2019 to 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.

## Appendix – Monitoring Analytical Data

		Sample date	12/12/2021
		Sample name	A8 BEFORE
Parameter	Unit		
WQ02- Conventional Parameters			
pH	pH units	8.00	
Specific conductivity	umhos/cm	390	
Hardness, as CaCO3 (Maxxam)	mg/L	137	
Hardness, as CaCO3 (D)	mg/L	136	
TSS	mg/L	< 1	
WQ06- Total Metals			
Aluminum	mg/L	0.0111	
Antimony	mg/L	< 0.00050	
Arsenic	mg/L	0.00580	
Barium	mg/L	0.0357	
Beryllium	mg/L	< 0.00010	
Bismuth	mg/L	< 0.0010	
Boron	mg/L	< 0.050	
Cadmium	mg/L	0.000052	
Calcium (total)	mg/L	44.9	
Chromium	mg/L	< 0.0010	
Cobalt	mg/L	< 0.00020	
Copper	mg/L	0.00135	
Iron	mg/L	0.053	
Lead	mg/L	0.00067	
Lithium	mg/L	0.0106	
Magnesium (total)	mg/L	6.09	
Manganese	mg/L	0.0417	
Mercury	mg/L	< 0.00010	
Molybdenum	mg/L	< 0.0010	
Nickel	mg/L	0.0012	
Potassium (total)	mg/L	2.80	
Selenium	mg/L	< 0.00010	
Silicon	mg/L	0.29	
Silver	mg/L	< 0.000020	
Sodium (total)	mg/L	14.2	
Strontium	mg/L	0.310	
Sulphur	mg/L	6.7	
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	0.00083
<b>WQ07- Dissolved Metals</b>		
Aluminum	mg/L	< 0.0030
Antimony	mg/L	< 0.00050
Arsenic	mg/L	0.00487
Barium	mg/L	0.0342
Beryllium	mg/L	< 0.00010
Bismuth	mg/L	< 0.0010
Boron	mg/L	< 0.050
Cadmium	mg/L	0.000049
Calcium (Dissolved)	mg/L	44.5
Chromium	mg/L	< 0.0010
Cobalt	mg/L	< 0.00020
Copper	mg/L	0.00120
Iron	mg/L	0.0135
Lead	mg/L	< 0.00020
Lithium	mg/L	0.0108
Magnesium (Dissolved)	mg/L	6.09
Manganese	mg/L	0.0324
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	< 0.0010
Nickel	mg/L	0.0011
Potassium (Dissolved)	mg/L	2.76
Selenium	mg/L	< 0.00010
Silicon	mg/L	0.27
Silver	mg/L	< 0.000020
Sodium (Dissolved)	mg/L	14.3
Strontium	mg/L	0.303
Sulphur	mg/L	7.1
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

Sample date		3/13/2022
Sample name		A8-DURING
Parameter	Unit	
<b>WQ02- Conventional Parameters</b>		
pH	pH units	7.76
Specific conductivity	umhos/cm	940
Hardness, as CaCO <sub>3</sub> (Maxxam)	mg/L	360
Hardness, as CaCO <sub>3</sub> (D)	mg/L	354
TSS	mg/L	1
<b>WQ05- General Organics</b>		
Total oil and grease	mg/L	< 0.50
<b>WQ06- Total Metals</b>		
Aluminum	mg/L	0.0042
Antimony	mg/L	< 0.00050
Arsenic	mg/L	0.00855
Barium	mg/L	0.101
Beryllium	mg/L	< 0.00010
Bismuth	mg/L	< 0.0010
Boron	mg/L	< 0.050
Cadmium	mg/L	< 0.000010
Calcium (total)	mg/L	118
Chromium	mg/L	< 0.0010
Cobalt	mg/L	< 0.00020
Copper	mg/L	0.00238
Iron	mg/L	0.032
Lead	mg/L	< 0.00020
Lithium	mg/L	0.0268
Magnesium (total)	mg/L	15.5
Manganese	mg/L	0.0109
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	< 0.0010
Nickel	mg/L	0.0024
Potassium (total)	mg/L	6.67
Selenium	mg/L	< 0.00010
Silicon	mg/L	1.19
Silver	mg/L	< 0.000020
Sodium (total)	mg/L	35.5
Strontium	mg/L	0.805
Sulphur	mg/L	15.6
Thallium	mg/L	< 0.000010
Tin	mg/L	< 0.0050
Titanium	mg/L	< 0.0050



Uranium	mg/L	0.00022
Vanadium	mg/L	< 0.0050
Zinc	mg/L	0.0154
Zirconium	mg/L	< 0.00010
<b>WQ07- Dissolved Metals</b>		
Aluminum	mg/L	< 0.0030
Antimony	mg/L	< 0.00050
Arsenic	mg/L	0.00759
Barium	mg/L	0.0964
Beryllium	mg/L	< 0.00010
Bismuth	mg/L	< 0.0010
Boron	mg/L	< 0.050
Cadmium	mg/L	< 0.000010
Calcium (Dissolved)	mg/L	117
Chromium	mg/L	< 0.0010
Cobalt	mg/L	< 0.00020
Copper	mg/L	0.00234
Iron	mg/L	0.0109
Lead	mg/L	< 0.00020
Lithium	mg/L	0.0274
Magnesium (Dissolved)	mg/L	15.0
Manganese	mg/L	0.0063
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	< 0.0010
Nickel	mg/L	0.0023
Potassium (Dissolved)	mg/L	6.66
Selenium	mg/L	< 0.00010
Silicon	mg/L	1.22
Silver	mg/L	< 0.000020
Sodium (Dissolved)	mg/L	35.1
Strontium	mg/L	0.792
Sulphur	mg/L	15.5
Thallium	mg/L	< 0.000010
Tin	mg/L	< 0.0050
Titanium	mg/L	< 0.0050
Uranium	mg/L	0.00022
Vanadium	mg/L	< 0.0050
Zinc	mg/L	0.0137
Zirconium	mg/L	< 0.00010