Meliadine Gold Mine
NWB 2AM-MEL1631
March 2024 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 March 2024.

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 2024

Usage	Unit	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	2024 Total
MEL-11[1]	m^3	46,859	40,057	43,273	-	-	-	-	-	-	-	-	-	130,189
Dust suppression[2]	m^3	0	0	0	-	-	-	-	-	-	-	-	-	0
Dust suppression (CP1)[3]	m^3	0	0	0	-	-	-	-	-	-	-	-	-	0

2.2 DEWATERING ACTIVITIES

No dewatering activities took place during the month.

2.3 WATER DISCHARGE

Table 2.3 details monthly water discharge, including:

- discharge from the EWTP to Meliadine Lake via the Final Discharge Point (MEL-14);
- discharge of treated saline effluent to Melvin Bay via the Final Discharge Point (MEL-26), and
- discharge from the Itivia fuel containment facility (MEL-25).

[1] Camp, Mill, Dust suppression

[2] Water obtained along AWAR/Meliadine River

[3] Reclaim water obtained from CP1 or other Contact Water management facilities and used for dust suppression on site

Table 2.3: Summary of the monthly water discharge in 2024

Location	Unit	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	2024 Total
MEL-14	m^3	0	0	0	-	-	-	-	-	-	-	-	-	0
MEL-26	m^3	0	0	0	-	-	-	-	-	-	-	-	-	0
MEL-25	m^3	0	0	0	-	-	-	-	-	-	-	-	-	0

No discharge activities took place during the month.

2.4 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.

As per the approved Landfill (Stage 4) Berm Raise Design Report and Monitoring station MEL-24 description Modification, water accumulated inside the landfill is pumped towards Pond H13, which is the current location seepage from the landfill flows towards.

2.5 SEWAGE TREATMENT PLANT

Table 2.5 details monthly discharge from the Sewage Treatment Plant (STP), including the treated wastewater discharge to CP1 and sludge removed and disposed of in the WRSF.

Table 2.5: Summary of the monthly disposal/discharge from the STP in 2024

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	2024 Total
Wastewater Discharge (m^3)		4,350	5,270	6070	-	-	-	-	-	-	-	-	-	15,690
Sewage Sludge	Amount (m^3)	100	100	120	-	-	-	-	-	-	-	-	-	320
	Disposal Location	WRSF3	WRSF3	WRSF3	-	-	-	-	-	-	-	-	-	-

2.6 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.

SECTION 3 • MATERIAL MANAGEMENT

3.1 LANDFILL / LANDFARM

Table 3.1 details quarterly Landfill and Landfarm survey results, as well as the amount of material placed in the Landfarm every month.

Table 3.1: Summary of the monthly disposal in the Landfarm and quarterly survey volumes of Landfill and Landfarm

Location	Unit	Q1			Q2			Q3			Q4			2024 Total
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
Landfill (Survey)	m^3	28,127			-			-			-			-
Landfarm (Survey)	m^3	604[4]			-			-			-			-
Landfarm[5]	m^3	1.8	0.02	3.25	-	-	-	-	-	-	-	-	-	5.07

[4] Latest Landfarm survey was conducted in October 2023. Surveys of the Landfarm are generally not conducted during the winter months, as the presence of snow would not allow a representative survey of the soil quantity.
[5] Amount of contaminated solid material (soil) placed in the Landfarm or lined sorting area.

3.2 ORE, WASTE ROCK STORAGE FACILITY, TAILINGS

Table 3.2 details monthly material management, including processed ore, waste rock, and tailings.

Table 3.2: Summary of the monthly material management in 2024

Material (tonnes)		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Cumulative 2024
Processed Ore		190,946	154,435	156,820	-	-	-	-	-	-	-	-	-	502,201
Waste Rock	Removed from open pit mining	175,380	534,627	845,427	-	-	-	-	-	-	-	-	-	1,555,434
	Removed from underground mining	71,281[6]	67,267	73,926	-	-	-	-	-	-	-	-	-	212,475
	Used as underground dry rockfill	49,823	31,805	10,566	-	-	-	-	-	-	-	-	-	92,194
Tailings	Send to TSF	144,379	107,392	111,857	-	-	-	-	-	-	-	-	-	363,628
	Used as paste underground backfill	46,567	47,043	44,963	-	-	-	-	-	-	-	-	-	138,573

[6] January waste rock removed from underground mining was updated in February report

SECTION 4 SPILL MANAGEMENT

4.1 INTERNAL AND REPORTABLE SPILLS

Spills reported internally 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. One (1) reportable spill occurred during the month (Refer to the gray shading in Table 4.1).

Table 4.1: Summary of Agnico Eagle's Spill Reports in March 2024

Date and time of occurrence	Contaminant	Estimated quantity	Exact location of incident	Description of incident	Describe immediate corrective actions
Saturday, March 02, 2024 11:00:00 AM	Diesel fuel	550 L	6M Fuel Farm	During normal operations when refilling the fuel truck at the 6M, fuel was observed leaking from the back of the TRK12. Further investigation is currently on-going to determine root cause. This spill occurred inside the secondary containment at the 6M fuel tank farm.	Operators stopped the fuel transfer. Absorbent pads were deployed to collect the spill.
Wednesday, March 06, 2024 3:50:00 AM	Hydraulic Oil	12 L	TIR01 Pit	The drain plug was not adequately tightened on an excavator, and it loosened itself due to machine vibration resulting in a 12L spill of Hydraulic oil.	The machine was stopped. Absorbent pads were deployed to contain the spill and were disposed of in the appropriate bin. Contaminated material was scrapped and disposed of at the landfarm. Mechanics tightened plug.
Thursday, March 07, 2024 5:30:00 PM	Coolant	20 L	TIR01 Pit	During the worker's preoperational inspection, a seal on an excavator pump was observed to leak causing a 20L spill of coolant.	Absorbent pads were deployed and contaminated material was disposed at the hazmat laydown.
Wednesday, March 13, 2024 4:00:00 AM	Hydraulic oil	5 L	TIRI01 Pit	During operation of an excavator, a flange connection O-ring failed due to wear and tear resulting in a 5L spill of hydraulic oil.	The equipment was stopped. Absorbent pads were deployed and disposed of in the oily solid bin at the maintenance shop. Contaminated material was disposed of at the landfarm.

Thursday, March 14, 2024 4:00:00 PM	Engine oil	1 L	In the back of the warehouse	An employee noticed engine oil leaking under a telehandler that was parked in the back of the warehouse.	The equipment was stopped. Absorbent pads were deployed and disposed in the oily solid containers in the maintenance shop. Approximately 3 liters of contaminated snow were put in the snow cell.
Thursday, March 14, 2024 5:30:00 PM	Hydraulic oil	2 L	WRSF3	While an operator was working with a bulldozer on the WRSF3, oil drops were noticed on the snow behind the equipment.	Operator stopped the equipment. Absorbent pads were deployed and disposed in the oily solid containers in the maintenance shop. Contaminated material was disposed of at the landfarm
Friday, March 22, 2024 9:30:00 AM	Hydraulic oil	20 L	Buggy Bin area	During operation, a hydraulic line on a loader failed resulting in a 20L spill of hydraulic oil.	The equipment was stopped. Absorbent pads were deployed and disposed in the oily solid containers in the maintenance shop.
Sunday, March 24, 2024 12:00:00 AM	Emulsion	12 KG	Module 1 at emulsion plant	An estimated 12 kg of emulsion was spilled onto the snow-covered ground at the emulsion plant. While doing a routine live loading operation of emulsion into the bulk truck, the truck operator noticed emulsion leaking from the side of the emulsion plant cabinet, resulting in a spill.	The Dyno Nobel employee operating the bulk truck immediately went into the emulsion plant and hit the emergency stop button to stop the loading. The employee then notified their supervisor and proceeded to clean the spilled emulsion from the ground before it could melt through the snow and reach the ground surface. The contaminated snow was hand excavated and the recovered material was put into pails and subsequently disposed of in a bore hole in the Tiriganiaq Open Pit 1.

Appendix – Monitoring Analytical Data

MEL-11		3/12/2024
Parameter	**Unit**	
WQ02- Conventional Parameters		
pH	**pH units**	7.45
Turbidity	**NTU**	0.2
Conductivity	**umhos/cm**	130
Hardness, as CaCO3	**mg/L**	29.4
Total alkalinity, as CaCO3	**mg/L**	26
Carbonate, as CaCO3	**mg/L**	< 1.0
Bicarbonate, as CaCO3	**mg/L**	26
TDS	**mg/L**	70
TDS, calculated	**mg/L**	60
TSS	**mg/L**	< 1
Total organic carbon	**mg/L**	3.4
Dissolved organic carbon	**mg/L**	3.2
WQ03- Major Ions		
Chloride	**mg/L**	15
Cyanide	**mg/L**	< 0.00050
Cyanide (free)	**mg/L**	< 0.0020
Cyanide (WAD)	**mg/L**	< 0.00050
Silica	**mg/L**	0.84
Sulfate	**mg/L**	6.2
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**	0.13
Total phosphorus	**mg/L**	< 0.020
Orthophosphate (P)	**mg/L**	< 0.010
WQ06- Total Metals		
Aluminum	**mg/L**	< 0.0030
Antimony	**mg/L**	< 0.00050
Arsenic	**mg/L**	0.00053
Barium	**mg/L**	0.0095
Beryllium	**mg/L**	< 0.00010
Boron	**mg/L**	< 0.050
Cadmium	**mg/L**	< 0.000010
Chromium	**mg/L**	< 0.0010
Copper	**mg/L**	0.00072

Iron	**mg/L**	0.014
Lead	**mg/L**	< 0.00020
Lithium	**mg/L**	< 0.0020
Manganese	**mg/L**	0.0038
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**	0.0538
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**	0.00062
Barium	**mg/L**	0.0120
Beryllium	**mg/L**	< 0.00010
Boron	**mg/L**	< 0.050
Cadmium	**mg/L**	< 0.000010
Calcium (Dissolved)	**mg/L**	11.0
Chromium	**mg/L**	< 0.0010
Copper	**mg/L**	0.00080
Iron	**mg/L**	0.0065
Lead	**mg/L**	< 0.00020
Lithium	**mg/L**	< 0.0020
Magnesium (Dissolved)	**mg/L**	1.86
Manganese	**mg/L**	< 0.0010
Mercury	**mg/L**	< 0.00001
Molybdenum	**mg/L**	< 0.0010
Nickel	**mg/L**	< 0.0010
Potassium (Dissolved)	**mg/L**	1.30
Selenium	**mg/L**	< 0.00010
Silver	**mg/L**	< 0.000020
Sodium (Dissolved)	**mg/L**	7.93
Strontium	**mg/L**	0.0615
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