



**Meliadine Gold Mine
NWB 2AM-MEL1631
December 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 December 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	42,794	33,136	40,333	50,559 ²	53,277	42,069	42,869	39,961	44,316	519,503
Dust suppression ³	m ³	0	0	0	0	0	0	0	0	0	0	0	0	0
Dust suppression ⁴	m ³	0	0	0	0	579	3,121	2,753	2,241	0	18	0	0	8,712

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 The July MEL-11 water usage was corrected in the August report

³ Water obtained along AWAR/Meliadine River

⁴ 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	0	171,936	72,724	0	370,142	246,675	0	0	861,477
MEL-26	m ³	0	0	0	0	0	0	0	0	0	0	0	0	0
MEL-25	m ³	0	0	0	0	0	0	0	0	300	0	0	0	300

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	6,070	5,777	4,131	4,945	5,080	5,306	4,753	4,862	4,737	5,045	60,326
Sewage Sludge	Amount (m ³)	100	100	120	120	81.4	80	10.5	31	30	27	16	13	728.9
	Disposal Location	WRSF3	WRSF3	WRSF3	WRSF3	WRSF3	WRSF3	WRSF3	WRSF3	WRSF3	WRSF3	WRSF3	WRSF3	WRSF3

2.6 MONITORING ANALYTICAL DATA

One (1) sample related to the Water Licence was taken during the month. The analytical results 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			26,087			27,232			29,328			-
Landfarm (Survey)	m ³	604 ⁵			537			1,158			849			-
Landfarm ⁶	m ³	1.8	0.02	3.25	7.28	2.3	32.52	3.78	7.47	2.05	3.70	3.53	4	71.70

⁵ From landfarm survey 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.

⁶ 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	166,561	113,952	144,504	190,576	181,680	160,296	156,033	162,932	197,691	1,976,426
Waste Rock	Removed from open pit mining	175,380	533,768	845,427	701,244	344,631	231,788	481,603	397,615	349,551	377,590	388,372	434,815	5,261,784
	Removed from underground mining ⁷	72,296	72,664	78,680	88,868	58,016	72,136	67,343	75,099	77,595	84,937	84,514	87,874	920,022
	Used as underground dry rockfill	49,823	31,805	10,566	31,716	18,233	13,755	23,217	54,582	33,645	56,595	62,089	51,933	437,960
Tailings	Send to TSF	144,379	107,392	111,857	125,769	83,808	110,265	152,691	151,392	125,887	117,712	141,206	173,242	1,545,600
	Used as paste underground backfill	46,567	47,043	44,963	40,792	30,144	34,239	37,885	30,288	34,409	38,321	21,726	24,449	430,826

⁷ Waste rock removed from underground were revised in December 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. Two (2) reportable spills during the month (Refer to the gray shading in Table 4.1).

Table 4.1: Summary of Agnico Eagle's Spill Reports during the month

Date and time of occurrence	Contaminant	Estimated quantity	Exact location of incident	Description of incident	Describe immediate corrective actions
Sunday, December 01, 2024 10:00:00 AM	Hydraulic oil	2 L	MSB Parking	While performing maintenance on equipment, a small amount of oil spilled to the ground.	Spill pads were deployed to clean up the spill and disposed of in the appropriate bin. Contaminated material was scrapped and disposed of in quatrex bag.
Tuesday, December 03, 2024 6:00:00 AM	Fuel	70 L	West Vent Raise Fuel Station	A pressure gauge was leaking at the west vent raise fuel station, causing the spill.. Most of the leakage occurred inside the building, but a small amount spilled outside the door.	Contaminated material (snow) was scrapped and disposed of in the contaminated snow cell.
Thursday, December 05, 2024 12:30:00 PM	Hydraulic oil	30 L	Haul Road	Hydraulic hose broke on an equipment (Manitou) on the haul road resulting in a 30 L spill of hydraulic oil.	Spill pads were deployed to clean up the spill and disposed of in the appropriate bin. Contaminated material was scrapped and disposed of in Landfarm.
Thursday, December 12, 2024 12:00:00 AM	Thickener water	15 L	Tailings thickener	Tailing thickener feed pipe leaked from a Victaulic clamp. Most of the spill flowed into the thickener berm (secondary containment), and thickener mist/droplets spilled outside of the berm.	The Mill was stopped, and the pipe was repaired. Contaminated material (snow) was brought back inside the mill to be processed.
Thursday, December 12, 2024 11:30:00 AM	Rock Drill Oil	8 L	TIRI 1	A container of rock drill oil spilled inside the box of a pickup truck and onto the ground.	Spill pads were deployed to clean up the spill and disposed of in the appropriate bin.

Saturday, December 14, 2024 10:00:00 AM	Engine Oil	15 L	Open Pit Maintenance Shop Parking	A fuel filter was improperly tightened during an oil change, resulting in an engine oil spill.	Spill pads were deployed to clean up the spill and disposed of in the appropriate bin.
Monday, December 16, 2024 10:00:00 PM	Hydraulic Oil	10 L	TIRI1	A hydraulic hose on the excavator broke, resulting in a 10-litre spill of hydraulic oil.	Spill pads were deployed to clean up the spill and disposed of in the appropriate bin. Contaminated material was scrapped and disposed of in quatrex bag.
Friday, December 20, 2024 6:00:00 AM	Sewage	90 L	Orbit dome lift station	On December 20 th , 2024, Energy and Infrastructure (E&I) personnel were performing a routine inspection of lift stations around the site. Upon arriving at the Orbit dome lift station, the employee noticed that sewage had been leaking out of the holding tank storage area. An estimated 90 L of sewage was frozen on the ground.	Upon discovering the spill, the worker contacted their supervisor to notify them of the spill and upon inspection, discovered the holding tank was caved in and broken. Most of the spill occurred inside the holding tank storage area, while 90 L escaped to the ground outside. An excavator was sent to clean up the area. The contaminated material spilled on the industrial pad was excavated and transported to Landfarm A.
Sunday, December 22, 2024 3:00:00 AM	Heating Water with corrosion Inhibitor	25 L	Wing 2 furnace room	A heating network water supply line containing corrosion inhibitor broke during the night. The spill was contained inside the building and did not reach the environment.	Spill pads were deployed to clean up the spill and disposed of in the appropriate bin.
Tuesday, December 24, 2024 12:45:00 PM	Coolant	10 L	TIRI1	A hose failed on an excavator, resulting in the coolant spill.	Spill pads were deployed to clean up the spill and disposed of in the appropriate bin.
Thursday, December 26, 2024 12:00:00 AM	Treated water (Chlorine)	20 m ³	Kitchen	On December 26 th , 2024, Kitchen staff reported low pressure in the potable water system. Upon inspection, it was noted that potable water was leaking from the kitchen water supply line underneath the kitchen.	Upon discovering the leak, the kitchen potable water supply was shut down and the line was repaired on December 27 th , 2024, in the early morning. Once the line was repaired, E&I personnel started remediation.

				Between the time the release was discovered and the supply line shut, it is estimated that 20 m ³ of water treated with chlorine (sodium hypochlorite) was spilled onto the industrial pad. The incident was a result of a rupture in the water line due to freezing.	Contaminated snow and ice were excavated with a loader and by personnel, and the contaminated material was brought to the contaminated snow cell.
Friday, December 27, 2024 9:30:00 PM	Treated water	20 L	C-wing	An employee was doing a walk around the STP and noticed that water was coming out of the door at the C-wing mechanical room.	The drain valve was closed. Material was scrapped and disposed of in the contaminated snow cell.

Appendix – Monitoring Analytical Data

MEL-11		12/2/2024
Parameter	Unit	
WQ02- Conventional Parameters		
pH	pH units	7.39
Turbidity	NTU	0.3
Conductivity	ms/cm	0.150
Hardness, as CaCO ₃	mg/L	37.7
Total alkalinity, as CaCO ₃	mg/L	25
Carbonate, as CaCO ₃	mg/L	< 1.0
Bicarbonate, as CaCO ₃	mg/L	25
TDS	mg/L	100
TDS, calculated	mg/L	75
TSS	mg/L	1
Total organic carbon	mg/L	3.8
Dissolved organic carbon	mg/L	3.9
WQ03- Major Ions		
Chloride	mg/L	18
Cyanide	mg/L	< 0.00050
Cyanide (free)	mg/L	< 0.0020
Cyanide (WAD)	mg/L	< 0.00050
Silica	mg/L	0.77
Sulfate	mg/L	13
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	0.31
Total phosphorus	mg/L	< 0.020
Orthophosphate (P)	mg/L	< 0.010
WQ06- Total Metals		
Aluminum	mg/L	0.0045
Antimony	mg/L	< 0.00050
Arsenic	mg/L	0.00070
Barium	mg/L	0.0109
Beryllium	mg/L	< 0.00010
Boron	mg/L	< 0.050
Cadmium	mg/L	< 0.000010
Chromium	mg/L	< 0.0010
Copper	mg/L	0.00090
Iron	mg/L	0.017
Lead	mg/L	< 0.00020
Lithium	mg/L	< 0.0020

Manganese	mg/L	0.0042
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	0.0653
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	0.0033
Antimony	mg/L	< 0.00050
Arsenic	mg/L	< 0.00010
Barium	mg/L	0.0116
Beryllium	mg/L	< 0.00010
Boron	mg/L	< 0.050
Cadmium	mg/L	< 0.000010
Calcium (Dissolved)	mg/L	12.6
Chromium	mg/L	< 0.0010
Copper	mg/L	0.00112
Iron	mg/L	0.0125
Lead	mg/L	< 0.00020
Lithium	mg/L	< 0.0020
Magnesium (Dissolved)	mg/L	2.36
Manganese	mg/L	0.0013
Mercury	mg/L	< 0.00001
Molybdenum	mg/L	< 0.0010
Nickel	mg/L	< 0.0010
Potassium (Dissolved)	mg/L	1.37
Selenium	mg/L	< 0.00010
Silver	mg/L	< 0.000020
Sodium (Dissolved)	mg/L	9.57
Strontium	mg/L	0.0699
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	< 0.09
F3 (C16-C34)	mg/L	< 0.2
F4 (C34-C50)	mg/L	< 0.2