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

Prepared for:
Nunavut Water Board

Prepared by:
Agnico Eagle Mines Limited – Meliadine Division

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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 April 2022.

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 April 2022

	Monthly Usage (m^3)
Camp, Mill, Dust suppresion (MEL-11)	40,091
Dust suppression (water obtained along AWAR/Meliadine River)	0
Total April	**40,091**
Year to date 2022	**148,969**

2.2 DEWATERING ACTIVITIES

No dewatering activities took place during the month.

2.3 MELIADINE DISCHARGE

No discharge to Meliadine Lake occurred during the month.

2.4 MELVIN BAY DISCHARGE

No discharge to Melvin Bay occurred during the month.

2.5 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.

2.6 SEWAGE TREATMENT PLANT

Approximately, 4,647 m^3 of treated wastewater was discharged into CP1 during the month. Approximately 9.9 m^3 of sludge was removed during the month. The sludge is either disposed of in WRSF1 or WRSF3.

2.7 CONTAINMENTS

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

2.8 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 April 2022.

SECTION 3 • MATERIAL MANAGEMENT

3.1 LANDFILL / LANDFARM

The volume of material placed into the landfill is evaluated through periodic surveys. According to the most recent survey done on January 28th, 2022, the landfill contained approximately 19,623 m³ of material.

Approximately 10.3 m^3 of contaminated material was put into the Type A Landfarm during the month. According to the most recent survey done on February 6th, 2022, the Landfarm A contained approximately 442 m³ of material.

3.2 ORE

Approximately 150,212 tonnes of ore were processed through the Mill during the month.

3.3 WASTE ROCK STORAGE FACILITY

A total of 59,403 tonnes of waste rock was removed in the underground mine development process during the month while 69,077 tonnes of waste rock were removed from open pit mining. 25,246 tonnes were used as underground dry rockfill.

3.4 TAILINGS

104,841 dry tonnes of filtered tailings were sent to the Tailing Storage Facility during the month. 45,371 tonnes of tailings were used for paste underground backfill.

SECTION 4 SPILL MANAGEMENT

4.1 INTERNAL AND REPORTABLE SPILLS

Spills reported internally (27) 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. He (8) reportable spills occurred during the month (Refer to the gray shading in Table 4.1).

Table 4.1: Summary of Agnico Eagle's Spill Reports in April 2022

Date and time of occurrence	If material not listed in dropdown or more details, enter here	Estimated quantity	Exact location of incident	Description of incident	Describe immediate corrective actions
Friday, April 01, 2022 4:00:00 PM	Driling Recirculating Water	150 L	N540343 E6986896	During an environmental inspection of the Orbit Garant drill rigs located on waterbody A8, a worker identified that 150 L of drilling recirculation water had overflowed from the decantation tank to the surface of the ice.	Orbit Garant stopped the flow of fresh water into the decantation tank immediately after the overflow was observed. The cleanup of the spill was completed as part of the final site cleanup as all drilling operations were complete at the site. During the drill site cleanup all impacted snow and ice was removed and sent to the drill cuttings disposal area with the remaining drill cuttings.
Friday, April 01, 2022 4:30:00 PM	Drilling Recirculating Water	100 L	N540141 E6987114	During an environmental inspection of the Orbit Garant drill rigs located on waterbody A8, a worker identified that 100 L of drilling recirculation water had overflowed from the decantation tank to the surface of the ice.	Orbit Garant stopped the flow of fresh water into the decantation tank immediately after the overflow was observed. The cleanup of the spill was completed as part of the final site cleanup as all drilling operations were complete at the site. During the drill site cleanup all impacted snow and ice was removed and sent to the drill cuttings disposal area with the remaining drill cuttings.
Saturday, April 02, 2022 1:00:00 PM	Hydraulic oil	10 L	OP2 oversized rock stockpile	Hammer hydraulic hose clamp on an excavator unscrewed itself. The hose disconnected and hydraulic oil spilled on the ore pad.	The breaker was stopped. Absorbent pads were used and the contaminated ore was sent to the crusher and processed. Contaminated material was disposed in appropriate quatrex bag for oily solid.
Sunday, April 03, 2022 7:30:00 AM	Diesel fuel	65 L	Outside of the Dion dome	A worker was filling a tank and locked	Operator unlocked the nozzle to stop the

				the nozzle. He went to the truck leaving the nozzle unsupervised, resulting in a spill.	diesel spill. Absorbent rags were used to clean the area. Contaminated material was shoveled and put in a plastic bag and emptied into a quatrex bag. Snow was removed and brought to the contaminated snow cell.
Sunday, April 03, 2022 10:30:00 AM	Contaminated Water	6 L	N540343 E6986896	During an environmental inspection of the Orbit drill rigs located on waterbody A8, a worker identified water leaking from the heating unit sea-can to the surface of the ice. Upon inspecting the heating unit sea-can, it was discovered that the water recirculation pump had failed, which resulted in 6 L of contaminated water to leak inside on the sea-can floor thus being released on the surface of the ice. It is suspected the water came in contact with the heating sea-can floor which contained traces of hydrocarbons, and therefore is treated as contaminated water spill.	Orbit Garant immediately stopped the recirculation water pump. The contaminated ice and water were shoveled and brought to the contaminated snow cell. The pump was changed immediately to prevent another potential spill.
Monday, April 04, 2022 11:00:00 AM	Diesel fuel	25 L	CP2 protection berm	Worker was hauling waste rock to cap the berm at CP2. When he finished to back-up his truck, the operator observed a small fuel trail coming from his equipment. After further investigation from the mechanic, the fuel injector	The operator turned down the engine and called his supervisor and mechanic. The spill area was cleaned-up and the contaminated material was collected and brought to landfarm A.

				accumulator had failed.	
Thursday, April 07, 2022 9:30:00 AM	Hydraulic oil	10 L	CP2 ditch blast pattern	Driller was drilling a hole when a hose on the drill failed and started leaking.	Driller stopped the drill. Contaminated snow was recovered and brought to the contaminated Snow Cell.
Sunday, April 10, 2022 12:00:00 AM	Engine Oil	12 L	CP2 Berm	A driver hit a rock with his pickup truck. This broke the oil pan releasing 15L of engine oil onto the CP2 Berm.	The pickup was stopped. Workers scrapped the contaminated material and brought this to Landfarm A.
Thursday, April 14, 2022 10:30:00 AM	Diesel fuel	0.50 L	Lake A8	The Environment Department was conducting an inspection of the surface drill areas, operated by AEM's contractor Orbit Garant. During the inspection. 0.5 L of diesel fuel was observed underneath the fuel over pack can at Drill 4 on the surface of the lake ice. The fuel hose was damage by normal use.	The spill area was cleaned, and the contaminated ice and snow were disposed at the Snow Cell. Also, the fuel hose was immediately changed to prevent another spill.
Saturday, April 16, 2022 11:30:00 AM	Oil	1 L	Back of the warehouse	Oil was coming off the muffler of the telehandler.	The contaminated material was recovered and disposed of in the Landfarm.
Saturday, April 16, 2022 8:00:00 PM	Diesel fuel	5 L	Batch Plant	A worker moved a frost fighter and placed it with an angle (not leveled). The fuel tank was not able to provide the frost fighter, and fuel started to spill in the containment under the equipment. Since the equipment was not leveled, the containment spilled on the ground.	Frost fighter was stopped and put back in a good position. All the contaminated material was shoveled and disposed in the Snow cell.
Sunday, April 17, 2022 1:00:00 PM	Diesel	5 L	North-West side of the STP	The diesel compressor leaked oil inside the unit and the oil was	Compressor was cleaned and moved into the water management shop for inspection and

				vaporized by the engine fan. The oily mist came out of the compressor unit vents and drains and coated the snow underneath it with a thin layer of oil. The leak happened before April 18th as the diesel compressor was shut down on April 17th.	repairs. Contaminated snow was scraped up with the backhoe and contaminated snow was disposed of in the contaminated snow cell.
Monday, April 18, 2022 9:00:00 AM	Engine oil	0.50 L	Lake A8	Environment Technicians were conducting an inspection of surface Drill# 7 M22-3396, operated by AEM's contractor Orbit Garant. During the inspection, areas with small amounts engine oil coming out of the drill shack and from underneath the drill onto the lake ice were observed. Approximately 0.5 L of engine oil was released. The worker didn't used a funnel to fill the tank. Some engine oil was spilled inside the drill and fell outside the drill by the drain hole.	Absorbent pads were placed to clean the engine oil. The contaminated snow and ice were disposed in a quatrex bag. A spill tray was also installed under the drain hole to collect any other substance that could spill by the drain hole.
Wednesday, April 20, 2022 8:00:00 AM	DEF	20 L	Itivia fuel station	A hose on a tractor trailer broke in the lined fueling station at Itivia resulting in a leak of DEF.	The worker reported the spill to his supervisor.

Wednesday, April 20, 2022 5:00:00 PM	Engine Oil	20 L	Batch Plant	After starting the cement truck, an engine oil spill was identified under the truck.	The truck was stopped, and a spill kit used to contain and clean up the spill. In the future a spill tray will be in place during run test. Contaminated materials were disposed of according to procedure.
Thursday, April 21, 2022 12:30:00 PM	Hydraulic oil	6 L	Thickener tank pad	A hydraulic hose failed while the crane was idling.	Crane was stopped. Spill pads were deployed to clean-up the spill. Maintenance replaced the hose. Spill pads were disposed of according to procedure.
Thursday, April 21, 2022 7:30:00 PM	Oil	30 L	Tiriganiaq Open Pit 1	Operator found out that its loader was losing oil as he was loading equipment in TIRI-1. The final drive oil tank plug was missing.	Loader operator stopped the equipment. Contaminated material was recovered and placed into Landfarm A.
Friday, April 22, 2022 8:00:00 PM	Thickener Process Water	10000 L	West side of the Process Plant	A shutdown of the clarifier in the process plant caused process liquids to backup, resulting in an overflow of thickener water which flowed onto the ground outside of the process plant.	The contaminated material was recovered abd placed in the process plant where it will melt and be returned to the process plant system.
Saturday, April 23, 2022 8:30:00 AM	Petroleum Product	4 L	CIL	The regulator on the compressor was frozen due to cold temperature, causing pressure build-up. The pressure release valve opened, causing a spill.	Spill kit was used to clean-up the spill, contaminated materials were disposed of according to procedure.
Saturday, April 23, 2022 11:00:00 AM	Hydraulic Oil	5 L	Orbit Garant Dome	A dozer leaked in the yard of the Orbit Garant Dome, releasing small amounts of hydraulic oil.	The contaminated area was cleaned using a loader. The contaminated material was brought to the Landfarm.
Sunday, April 24, 2022 3:30:00 AM	Untreated Sewage Water	200 L	MSB Lift Station	An overflow of the MSB lift station resulted in a spill of 200 L of sewage to	The freezing conditions prevented the sewage from migrating off site. Infrastructure (structural

				the industrial pad when the lift station pump failed. The spill was contained to a low spot in the local area and froze in place.	steel, pipes and electrical) in the area made cleanup activities during winter month hazardous. As the material melts the vacuum truck will collect the melted material. The contaminated matrilateral collected with the vacuum truck will be returned to the MSB lift station.
Monday, April 25, 2022 4:30:00 AM	Hydraulic oil	40 L	Tiriganiaq Open Pit 1	The hose of a hydraulic pump on an excavator failed, resulting in a spill of hydraulic oil under the equipment.	Equipment was stopped. Absorbent pads were used to clean the spill. The contaminated area was scrapped, and the contaminated soil was brought to the Landfarm.
Monday, April 25, 2022 4:30:00 PM	Sewage	25 L	MSB Lift Station	A failed CamLock connector at the MSB lift station resulted in a spill of 25 L of sewage to the industrial pad.	The spill was contained to the local area and froze in place. The frozen sewage was cleaned up and placed in drums for treatment at a later date.
Tuesday, April 26, 2022 8:00:00 AM	Silica Sand	44 kg	Inside a container	An employee entered in a seacan and discovered it was full of silica sand on the floor.	The sand was collected with appropriate PPE.
Wednesday, April 27, 2022 5:00:00 AM	Oil	25 L	Tiriganiaq Open Pit 1	Hose of centralizer cylinder of a drill broke. Driller did not immediately notice the leak, and oil was spilled on a approximate distance of 50 m.	The drill was stopped. Absorbent pads were used to clean the spill. All the contaminated material was disposed in an oily solid quatrex bag.
Wednesday, April 27, 2022 12:00:00 PM	Oil	15 L	Tiriganiaq Open Pit 1	Driller performed a maneuver near the drill pattern berm and bust a body valve on the rod changer as he hit a rock on the berm.	Absorbent pads were used to clean the spill. They were disposed of in an oily solid waste containment.

Saturday, April 30, 2022 12:00:00 AM	Hydraulic oil	0.50 L	Yard of Fountain tire	During an Environmental inspection, workers found a hydraulic oil spill in the yard of the fountain tire.	Absorbent pads were used to clean the liquid and the area was scraped. The contaminated material was put in an oily solid drum.

Appendix – Monitoring Analytical Data

	Sample date	4/11/2022
	Sample name	MEL-11
Parameter	**Unit**	
WQ02- Conventional Parameters		
pH	**pH units**	7.12
Turbidity	**NTU**	0.3
Specific conductivity (H2lab)	**umhos/cm**	150
Hardness, as CaCO3 (Maxxam)	**mg/L**	40.9
Total alkalinity, as CaCO3	**mg/L**	28
Carbonate, as CaCO3	**mg/L**	< 1.0
Bicarbonate, as CaCO3	**mg/L**	28
TDS (Maxxam)	**mg/L**	70
TDS, calculated	**mg/L**	72
TSS	**mg/L**	1
Total organic carbon	**mg/L**	4.5
Dissolved organic carbon	**mg/L**	4.3
WQ03- Major Ions		
Chloride	**mg/L**	21
Cyanide	**mg/L**	< 0.00050
Cyanide (free)	**mg/L**	< 0.0020
Cyanide (WAD)	**mg/L**	< 0.00050
Silica	**mg/L**	0.49
Sulfate	**mg/L**	8.2
WQ04- Nutrients and Chlorophyll a		
Ammonia Nitrogen	**mg/L**	< 0.050
Nitrate (as N)	**mg/L**	< 0.10
Nitrite (as N)	**mg/L**	< 0.010
Total Kjeldahl nitrogen	**mg/L**	0.27
Total phosphorus	**mg/L**	0.088
Orthophosphate (P)	**mg/L**	< 0.010
WQ06- Total Metals		
Aluminum	**mg/L**	< 0.0030
Antimony	**mg/L**	< 0.00050
Arsenic	**mg/L**	0.00070
Barium	**mg/L**	0.0148
Beryllium	**mg/L**	< 0.00010
Boron	**mg/L**	< 0.050
Cadmium	**mg/L**	< 0.000010
Chromium	**mg/L**	< 0.0010
Copper	**mg/L**	0.00121
Iron	**mg/L**	0.023
Lead	**mg/L**	< 0.00020
Lithium	**mg/L**	< 0.0020

Manganese	**mg/L**	0.0076
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**	0.0740
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**	0.0140
Beryllium	**mg/L**	< 0.00010
Boron	**mg/L**	< 0.050
Cadmium	**mg/L**	< 0.000010
Calcium (Dissolved)	**mg/L**	12.5
Chromium	**mg/L**	0.0012
Copper	**mg/L**	0.00116
Iron	**mg/L**	0.0197
Lead	**mg/L**	< 0.00020
Lithium	**mg/L**	< 0.0020
Magnesium (Dissolved)	**mg/L**	2.30
Manganese	**mg/L**	< 0.0010
Mercury	**mg/L**	< 0.00001
Molybdenum	**mg/L**	< 0.0010
Nickel	**mg/L**	0.0011
Potassium (Dissolved)	**mg/L**	1.42
Selenium	**mg/L**	< 0.00010
Silver	**mg/L**	< 0.000020
Sodium (Dissolved)	**mg/L**	9.65
Strontium	**mg/L**	0.0713
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