



MEADOWBANK COMPLEX

## **Monitoring Program Summary Report**

**December 2022**

Type A Water License 2AM-MEA1530

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## **SECTION 1 • BACKGROUND**

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On May 13, 2020, Agnico Eagle received the minister's approval for the Water License 2AM-MEA1530 Amendment No.4. This amendment was required to authorize changes to the previously approved uses of water and deposit of wastes needed to reflect the expansion of the Whale Tail Mine.

As required under Part I, Item 21 of Type A Water License 2AM-MEA1530 (Amendment No.4), this report documents the water management and monitoring activities at the mine site for the month. This includes water usage, Vault Attenuation Pond and Phaser Attenuation Pond discharge and water quality, East Dike Seepage discharge water quality, RSF Seepage, Central Dike Seepage, Assay Road Seepage, sewage treatment plant discharge water quality (which is directed to the onsite storm water management pond) and an update to the In-Pit disposal.

In addition, a summary of spills/actions for the month is reported.

## SECTION 2 • WATER MANAGEMENT

### 2.1 WATER USAGE

Fresh water usage for the month is summarized in Table 2.1 below.

**Table 2.1: Freshwater Usage (m<sup>3</sup>)**

Water Location	Source Lake	Jan	Feb	March	April	May	June
Camp	Third Portage Lake	2,500	2,859	2,954	3,071	3,200	2,927
Mill (freshwater tank)	Third Portage Lake	49,833	210,782	137,225	56,862	52,816	73,494
Emulsion plant	Unnamed Lake	48	14	89	64	36	13
<b>Total Freshwater Usage (m<sup>3</sup>)</b>		<b>52,381</b>	<b>213,655</b>	<b>140,268</b>	<b>59,997</b>	<b>56,052</b>	<b>76,434</b>
<b>Ore Water (m<sup>3</sup>)</b>	Ore	1,927	3,310	4,302	4,572	3,948	2,581
<b>Reclaim Water Usage (m<sup>3</sup>)</b>	Tailings Pond	266,541	72,375	214,517	249,495	240,145	250,371

Water Location	Source Lake	July	Aug	Sept	Oct	Nov	Dec	Total
Camp	Third Portage Lake	3,082	3,047	2,982	3,074	3,040	3,030	<b>35,766</b>
Mill (freshwater tank)	Third Portage Lake	70,603	77,975	78,385	61,162	63,607	61,061	<b>993,805</b>
Emulsion plant	Unnamed Lake	0	0	0	0	0	0	<b>264</b>
<b>Total Freshwater Usage (m<sup>3</sup>)</b>		<b>73,685</b>	<b>81,022</b>	<b>81,367</b>	<b>64,236</b>	<b>66,647</b>	<b>64,091</b>	<b>1,029,835</b>
<b>Ore Water (m<sup>3</sup>)</b>	Ore	2,453	1,971	2,644	3,795	5,778	5,203	<b>42,484</b>
<b>Reclaim Water Usage (m<sup>3</sup>)</b>	Tailings Pond	280,756	267,093	256,410	249,390	275,539	265,378	<b>2,888,011</b>

### 2.2 WASTE ROCK STORAGE FACILITY SEEPAGE

In December, no water was pumped back to the North Cell TSF from the ST-16 sump. No sampling was completed at WEP1 (Station ST-30) and WEP2 (Station ST-31) during the month as they were frozen.

Agnico Eagle completed inspections at the Portage and Vault RSFs, no non-conformities were found during the month.

### 2.3 CENTRAL DIKE SEEPAGE

In December, 19,100 m<sup>3</sup> of water was pumped from ST-S-5 sump to Portage Pits.

Sampling was conducted minimally on a monthly basis at ST-S-5 as per the requirements of the NWB water license.

Visual inspections are completed monthly, by the Environment Department, as well as daily monitoring of piezometric values.

### 2.4 ASSAY ROAD SEEPAGE

In December, no water was pumped from the mill trench back to the mill due to frozen conditions. Agnico Eagle completed inspections and no non-conformities were found during the month.

## 2.5 SEEPAGE AND RUNOFF FROM THE LANDFILL

The landfill was inspected weekly, and no seepage or runoff was observed.

## 2.6 SEWAGE TREATMENT PLANT

One (1) effluent wastewater sample was collected at the onsite sewage treatment plant (STP) in December.

The Seprotech STP results are shown in Table 2.6.1 below; the LJ-Mix STP results are shown in Table 2.6.2. The effluent from the STP is discharged to the Stormwater Management pond.

In December, no water was pumped from the Stormwater Management pond to Portage Pits.

**Table 2.6.1: Seprotech Effluent Results**

Parameters	Units	December 6, 2022
Unionized Ammonia (NH <sub>3</sub> )	mg N/L	0.15
Ammonia-Nitrogen (NH <sub>3</sub> -NH <sub>4</sub> )	mg N/L	36
Total Kjeldahl Nitrogen	mg N/L	34
BOD-5	mg/L	39
COD	mg/L	96
Total Suspended Solids	mg/L	64
Nitrate	mg N/L	7.28
Nitrite	mg N/L	1.68
pH*	Units	7.00
Fecal Coliform	UFC/100 mL	80
Total Coliform	UFC/100 mL	200

\*Parameter measured by STP operators

**Table 2.6.2: LJ-Mix Effluent Results**

Parameters	Units	December 6, 2022
Unionized Ammonia (NH <sub>3</sub> )	mg N/L	0.061
Ammonia-Nitrogen (NH <sub>3</sub> -NH <sub>4</sub> )	mg N/L	23
Total Kjeldahl Nitrogen	mg N/L	25
BOD-5	mg/L	43
COD	mg/L	47
Total Suspended Solids	mg/L	6
Nitrate	mg N/L	29.4
Nitrite	mg N/L	0.148
pH*	Units	6.80
Fecal Coliform	UFC/100 mL	5
Total Coliform	UFC/100 mL	< 100

\*Parameter measured by STP operators

## 2.7 VAULT ATTENUATION POND EFFLUENT

No discharge has occurred from the Vault Attenuation Pond since October 9, 2017.

## 2.8 PHASER ATTENUATION POND

No water was pumped from the Phaser Attenuation Pond during the month.

No water was transferred from BB Phaser Pit sumps to the Phaser Attenuation Pond during the month.

## 2.9 EAST DIKE SEEPAGE EFFLUENT

Discharge to Second Portage Lake occurred from December 1<sup>st</sup> to December 31<sup>st</sup>, a total of 8,753 m<sup>3</sup> was discharged.

Four (4) weekly effluent samples were collected at ST-8 in December 2022. The TSS results did not exceed the maximum allowable grab sample concentration (30 mg/L) or the maximum monthly average concentration (15 mg/L) permitted by the Water License, Part F, Item 7. The TSS monitoring results for December are provided in Table 2.9.1 below.

**Table 2.9.1 East Dike Seepage Results for TSS**

Parameter	Unit	Sample Date				Monthly Average
		12/6/2022	12/12/2022	12/19/2022	12/27/2022	
Total Suspended Solids	mg/L	4	3	5	7	4.75

Monthly sampling pursuant to the Water License was also conducted at ST-8 in December. The results are shown in Table 2.9.2 below. There were no exceedances of MDMER criteria.

**Table 2.9.2: December 2022 Monthly Monitoring Results**

Parameter	Unit	Sample Date		Monthly Average
		12/6/2022	12/12/2022	
pH*	-	7.49	8.24	7.87
Aluminum	mg/L	0.0591	0.0494	0.0543
Sulphate	mg/L	6.6	6.2	6.4
Arsenic	mg/L	0.00120	0.00112	0.00116
Copper	mg/L	0.00165	0.00115	0.00140
Nickel	mg/L	< 0.0010	< 0.0010	0.0005
Lead	mg/L	< 0.00020	< 0.00020	0.00010
Zinc	mg/L	< 0.0050	< 0.0050	0.0025
Radium 226	mg/L	< 0.0050	0.0090	0.0058
Total Cyanide	mg/L	< 0.00050	0.00060	0.00043
Turbidity*	NTU	3.10	2.55	2.83
Un-Ionized Ammonia	mg/L	< 0.00040	< 0.00074	0.00029

\* Parameter measured by technician

## **2.10 NON-CONTACT WATER**

Portage Area East diversion ditch (ST-5) and West diversion ditch (ST-6) were not sampled in December due to the diversion ditches being frozen. Sampling is conducted during open water conditions.

## **2.11 IN-PIT DISPOSAL**

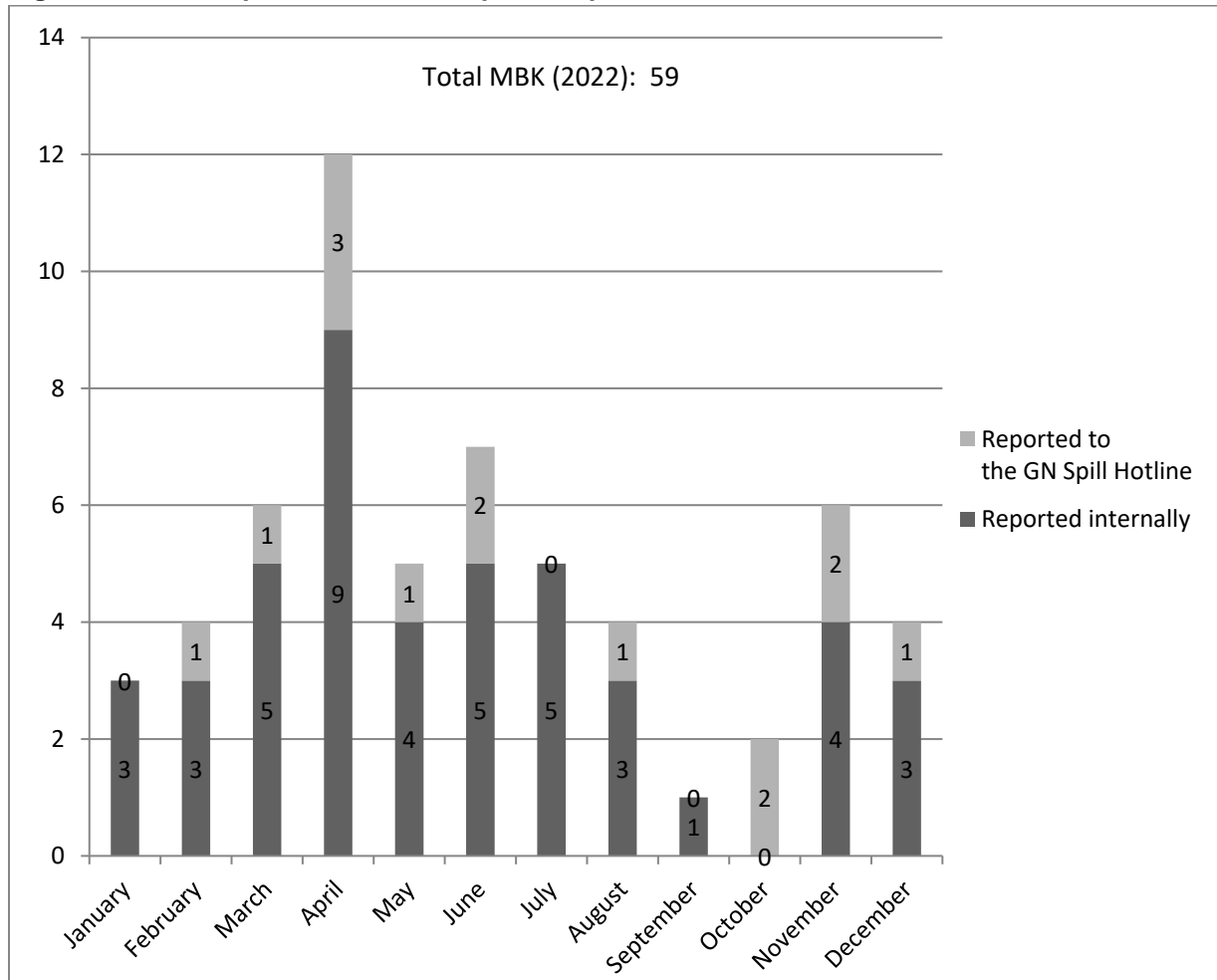
Tailings were disposed of in Portage Pits and reclaim water was taken from Portage Pit E for the month.

## SECTION 3 • SPILL MANAGEMENT

Figure 3.1 shows reported and non-reported spills for 2022 broken down per month and Table 3.1 summarizes Agnico Eagle spill reports for December.

Four (4) spills occurred on site during the month with one (1) reported to regulators. Spills were contained and cleaned, contaminated material was disposed to the appropriate area, and the clean-up actions were monitored closely by the Environment Department.

**Figure 3.1 2022 Reported and Non-Reported Spills**





**Table 3.1: Summary of Agnico Eagle Internal and Reported Spill Reports, December 2022**

Date of Spill	Hazardous Material	Qty	Units (L / Kg)	Location	Cause of spill	Clean-up action taken
12/4/2022	Hydraulic Oil	75	L	AWAR Quarry 22	Equipment failure	Contaminated soil was collected and brought to the landfarm for disposal.
12/8/2022	Hydraulic Oil	15	L	AWAR KM 95	Equipment failure	Contaminated soil was collected and brought to the tailings storage facility for disposal.
12/10/2022	Waste Oil	20	L	Site Services Coverall	Punctured tote	Oil rags and contaminated gravel was brought to landfarm for disposal.
12/23/2022	Glycol	TBD	L	Warehouse Dome	Damaged Pipe	The adjacent corridor that connects the camp facilities to the warehouse was dismantled to prevent the propagation of the fire to the campsite causing the glycol present in the heating system to leak onto the ground of the pad. The contaminated material will be collected and brought to the Meadowbank tailing storage facility once the scene is unfrozen.