



MEADOWBANK DIVISION

## **Monitoring Program Summary Report**

**March 2019**

Type A Water License 2AM-MEA1526

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## **SECTION 1 • BACKGROUND**

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As required under Part I, Item 20 of Type A Water License 2AM-MEA1526 (Amendment No.2), this report documents the water management and monitoring activities at the mine site for the month. This includes water usage, Vault Attenuation Pond discharge water quality, Phaser Attenuation Pond, East Dike Seepage discharge water quality, RSF Seepage, Central Dike Seepage, Assay Road Seepage, and sewage treatment plant discharge water quality (which are directed to the onsite storm water management pond).

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

## SECTION 2 • WATER MANAGEMENT

### 2.1 WATER USAGE

Fresh and reclaim water usage for March is summarized in Table 2-1 below.

**Table 2-1: Freshwater Usage (m<sup>3</sup>)**

Water Location	Source Lake	Jan	Feb	March	Total
Camp	Third Portage Lake	3 577	3 238	3 539	10 354
Mill (freshwater tank)	Third Portage Lake	214 981	182 096	112 326	509 403
Emulsion plant	No-name Lake	50	13	48	111
<b>Total Freshwater Usage (m<sup>3</sup>)</b>		<b>218 608</b>	<b>185 347</b>	<b>115 913</b>	<b>519 868</b>
<b>Ore Water (m<sup>3</sup>)</b>	Ore	4 610	3 045	2 727	10 382
<b>Reclaim Water Usage (m<sup>3</sup>)</b>	Tailings Pond	7 180	29 023	91 207	127 410

### 2.2 WASTE ROCK STORAGE FACILITY SEEPAGE

No water was pumped back to the North Cell TSF from the ST-16 sump in March due to frozen condition.

Agnico Eagle completed in March inspections at the Portage and Vault RSFs. No open water sampling at WEP1 (Station ST-30) and WEP2 (Station ST-31) were completed during the month due to frozen condition. The KIA requested that Agnico continue monitoring until there is a 5 year period of non-detect cyanide results. To date (5 previous year - 2014-2018), the monitoring indicated that yearly average for CN levels does not exceed the CCME guideline, the MDMER or Water License limit for effluent discharge into the environment for NP2, NP1 and downstream lakes, Dogleg and Second Portage. Thus, based on the analysis of the previous result, Agnico Eagle suspended the current program in 2019.

### 2.3 CENTRAL DIKE SEEPAGE

In March, 183,072 m<sup>3</sup> of water was pumped from the ST-S-5 sump back into the South Cell TSF.

Sampling was conducted monthly at ST-S-5 and the South Cell TSF (ST-21) as per the requirements of the NWB water license.

Daily visual inspections were also completed by the Engineering Department.

### 2.4 ASSAY ROAD SEEPAGE

In March, no water was pumped back to the mill. No wells monitoring for CN downstream and trench sampling in March due to frozen condition.

## 2.5 SEEPAGE AND RUNOFF FROM THE LANDFILL

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

## 2.6 SEEPAGE AT PIT WALL AND PIT WALL FREEZE/THAW AND PERMAFROST AGGRADATION

In March, ice wall continued to be observed into Vault Pit.

## 2.7 SEWAGE TREATMENT PLANT

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

The Seprotech STP results are shown in Table 2.7.1 below; the LJ-Mix STP results are shown in Table 2.7.2. The effluent is discharged to the Stormwater Management pond, which is pumped to the South Cell TSF during summer months. In March, no water was discharged from the Stormwater Management pond to the South Cell TSF.

**Table 2.7.1: Seprotech Effluent Results**

Parameters	Units	March 4, 2019
Ammonia (NH <sub>3</sub> )	mg N/L	0.20
Ammonia-Nitrogen (NH <sub>3</sub> -NH <sub>4</sub> )	mg N/L	24.9
Total Kjeldahl Nitrogen	mg N/L	25.9
BOD-5	mg/L	13
COD	mg/L	69
Total Suspended Solids	mg/L	15
Nitrate	mg N/L	5.88
Nitrite	mg N/L	1.13
pH*	Units	7.30
Fecal Coliform	UFC/100 mL	40
Total Coliform	UFC/100 mL	7,900

\*Parameter measured by STP operators

**Table 2.7.2: LJ-Mix Effluent Results**

Parameters	Units	March 4, 2019
Ammonia (NH <sub>3</sub> )	mg N/L	<0.01
Ammonia-Nitrogen (NH <sub>3</sub> -NH <sub>4</sub> )	mg N/L	3.63
Total Kjeldahl Nitrogen	mg N/L	4.47
BOD-5	mg/L	2
COD	mg/L	26
Total Suspended Solids	mg/L	3
Nitrate	mg N/L	12.2
Nitrite	mg N/L	1.05
pH*	Units	6.80
Fecal Coliform	UFC/100 mL	4,500
Total Coliform	UFC/100 mL	180,000

\*Parameter measured by STP operators

## 2.8 VAULT ATTENUATION POND EFFLUENT

No discharge occurred from the Vault Attenuation Pond into Wally Lake in March. There is currently no plan to restart the discharge in 2019.

## 2.9 PHASER ATTENUATION POND

No water was pumped from the Phaser Attenuation Pond in March due to frozen condition.

## 2.10 EAST DIKE SEEPAGE EFFLUENT

A total of 6,294 m<sup>3</sup> of water was discharged into Second Portage Lake from March 10 to 30, 2019.

Three (3) weekly effluent samples were collected at ST-8 in March 2019. TSS results did not exceed the maximum allowable grab sample concentration (30 mg/L) and maximum average concentration (15 mg/L) permitted by Water License, Part F, Item 6. TSS monitoring results for March 2019 are shown in Table 2.10.1 below. There have been no exceedances of MDMER criteria.

Agnico noticed TSS results trending up after the restart of the East Dike Discharge on January 20, therefore the discharge to Second Portage Lake was preventively stopped, the task was complete January 25 and diverted all water to the pits, as done in the past. Agnico had continued to monitor TSS and have restarted the discharge to Second Portage Lake on March 10. Ten (10) days notice for the restart of East Dike Discharge to Second Portage Lake provided to CIRNAC's Inspector on February 22. The discharge was stopped on March 30 and diverted back to the Pit. There is currently no plan to restart the discharge to Second Portage Lake in 2019 as the water can accumulate in the pits without any operational constraint.

**Table 2.10.1: East Dike Seepage Results for TSS**

Parameters	Units	March 12, 2019	March 18, 2019	March 25, 2019	Maximum Average Concentration
Total Suspended Solids	mg/L	<1	3	<1	1.33

Monthly regular sampling pursuant to the Water License was also conducted at this location. Results are shown in Table 2.10.2 below. There have been no exceedances of MDMER for those criteria.

**Table 2.10.2: March 2019 Monthly Monitoring Results**

Parameters	Units	March 18, 2019
pH*		7.85
Aluminum	mg/L	0.018
Sulphate	mg/L	9.5
Arsenic	mg/L	0.0006
Copper	mg/L	0.001
Nickel	mg/L	<0.0005
Lead	mg/L	<0.0003
Zinc	mg/L	<0.001
Radium 226	mg/L	<0.002
Total Cyanide	mg/L	0.003

\*Parameter measured by environmental technicians

## **2.11 NON CONTACT WATER**

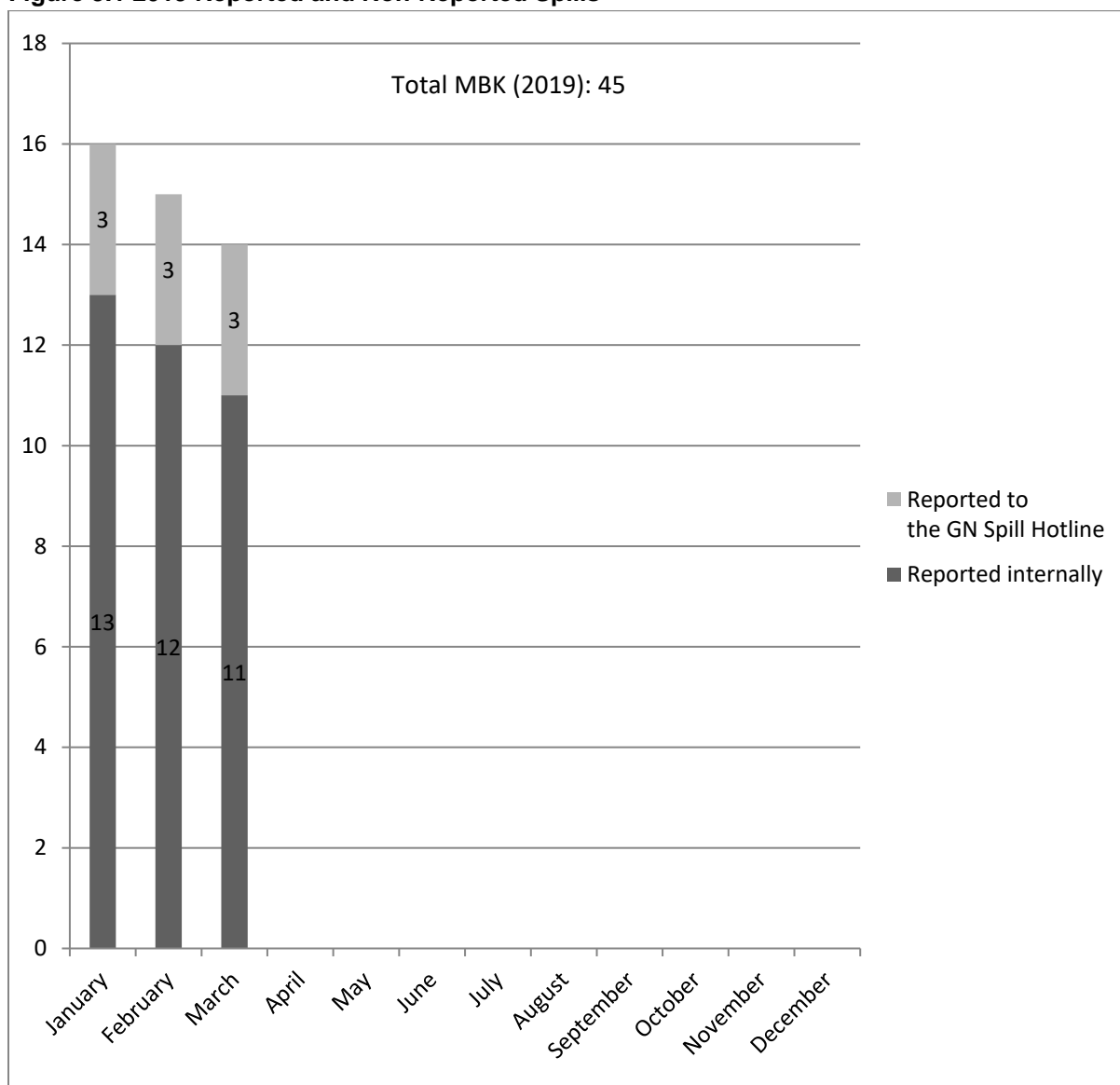
No water sample at Portage Area East (ST-5) and West (ST-6) diversion ditches in March due to frozen condition.

## SECTION 3 • SPILL MANAGEMENT

Figure 3.1 shows reported and non-reported spills for 2019 broken down per month and Table 3.1 summarizes Agnico Eagle spill reports for March.

All spills reported internally (11) were managed appropriately on site according to Agnico's spill contingency plan. Three (3) were reported to regulators in March. Spills were contained and cleaned, contaminated material was disposed to the appropriate area (landfarm, TSF if required), and the clean-up actions were monitored closely by the Environment Department. There was no off site impact to any watercourses.

**Figure 3.1 2019 Reported and Non-Reported Spills**





**Table 3.1: Summary of Agnico Eagle Internal and Reported Spill Reports, March 2019**

<b>Date of Spill</b>	<b>Hazardous Material</b>	<b>Qty</b>	<b>Units (L / Kg)</b>	<b>Location</b>	<b>Cause of spill</b>	<b>Clean-up action taken</b>
March 8, 2019	Hydraulic Oil	260	L	Portage Pit	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately. Absorbant pads use during the recovering.
March 10, 2019	Hydraulic Oil	70	L	Pit B Waste Rock Storage	Equipment failure	Equipment was shut down and repaired. Contaminated soil picked up and disposed of appropriately
March 13, 2019	Coolant	40	L	Portage Pit	Coolant hose failure	Contaminated soil picked up and disposed of appropriately
March 14, 2019	Waste Oil	250	L	Truck Shop	Operator punctured a hole in the tote with the zoom boom forks causing waste oil to spill in the sea-can and on the ground	The area has been scrapped clean and all contaminated material has been brought to the landfarm area
March 16, 2019	Diesel Exhaust Fluid	50	L	Vault Coverall	Tote was punctured due to the expansion of the fluid with cold weather	Contaminated soil has been collected and moved into a yellow bin at the incinerator.
March 21, 2019	Hydraulic Oil	80	L	Maintenance Shop	Fitting on hydraulic hose failure	Contaminated soil picked up and disposed of appropriately
March 22, 2019	Hydraulic Oil	90	L	Maintenance Shop	Steel plug in the final drive failure	Spill was contained and contaminated soil picked up and disposed of appropriately

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March 25, 2019	Diesel Fuel	30	L	Core shack area	Fuel filter failure	Advise maintenance department for repairs. Shovel the contaminated snow and disposed at landfarm
March 29, 2019	Brake fluid	20	L	Portage Pit	Brake line failure	Spill was contained and contaminated soil picked up and disposed of appropriately
March 29, 2019	Brake fluid	20	L	Portage Pit	Brake line failure	Advise maintenance department for repairs. Contaminated soil picked up and disposed of appropriately
March 29, 2019	Coolant	30	L	Portage Pit	Coolant hose failure	Advise maintenance department for repairs. Contaminated soil picked up and disposed of appropriately
March 30, 2019	Hydraulic Oil	92	L	Portage Pit	Hydraulic hose failure	Contaminated soil picked up and disposed of appropriately
March 31, 2019	Coolant	15	L	Maintenance area	Tote not closed properly when removing from the lube truck.	Contaminated soil picked up and disposed of appropriately
March 31, 2019	Diesel Fuel	300	L	Portage Pit	Diesel tank punctured	Contaminated material recovered and disposed at landfarm