



MEADOWBANK DIVISION

Monitoring Program Summary Report

March 2017

Type A Water License 2AM-MEA1525

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SECTION 1 • BACKGROUND

As required under Part I, Item 20 of Type A Water License 2AM-MEA1525, 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, 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 2017 is summarized in Table 2-1 below.

Table 2-1: Freshwater Usage (m³)

Water Location	Source Lake	Jan	Feb	March	Total
Camp	Third Portage Lake	3,623	3,144	3,444	10,211
Mill (freshwater tank)	Third Portage Lake	45,068	41,345	33,328	119,741
Emulsion plant	No-name Lake	86	97	97	280
Total Freshwater Usage (m³)		48,777	44,586	36,869	130,232
Reclaim Water Usage (m³)	Tailings Pond	252,232	232,324	247,396	731,952

2.2 WASTE ROCK STORAGE FACILITY SEEPAGE

In March 2017, no water was pumped back to the North Cell TSF from the ST-16 sump as it is frozen.

Inspections/Monitoring as per the Freshet Action Plan will resume in 2017 Freshet. As well, sampling at WEP1 (Station ST-30), WEP2 (Station ST-31), ST-16, NP2, and the downstream lakes required under the Freshet Action Plan will resume in 2017 Freshet. NP2-Winter water sampling through ice into NP-2 Lake has been done in March.

2.3 CENTRAL DIKE SEEPAGE

In March 2017, 449,239 m³ 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 2017, no water was pumped from the interception trench back to the mill as it is all frozen.

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, water was observed seeping on the eastern wall of the Vault Pit. It was not possible to assess flow. In March, no water was pumped out from Vault Pit to the Vault Attenuation Pond. A total of 10,351m³ was pumped out from Portage Pit North to the South Cell TSF. No water was pumped out from the Portage Pit South.

2.7 SEWAGE TREATMENT PLANT

One (1) effluent wastewater sample was collected at the onsite sewage treatment plant (STP) in March 2017.

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 twice a year during summer months.

Table 2.7.1: Seprotech Effluent Results

Parameters	Units	March 6, 2017
Ammonia (NH ₃)	mg N/L	0.77
Ammonia-Nitrogen (NH ₃ -NH ₄)	mg N/L	52.2
Total Kjeldahl Nitrogen	mg N/L	49.5
BOD-5	mg/L	17
COD	mg/L	74
Total Suspended Solids	mg/L	13
Nitrate	mg N/L	1.80
Nitrite	mg N/L	1.81
pH*	Units	7.70
Fecal Coliform	UFC/100 mL	120
Total Coliform	UFC/100 mL	>8,000

*Parameter measured by STP operators

Table 2.7.2: LJ-Mix Effluent Results

Parameters	Units	March 6, 2017
Ammonia (NH ₃)	mg N/L	<0.01
Ammonia-Nitrogen (NH ₃ -NH ₄)	mg N/L	2.42
Total Kjeldahl Nitrogen	mg N/L	5.63
BOD-5	mg/L	10
COD	mg/L	59
Total Suspended Solids	mg/L	8
Nitrate	mg N/L	15.10
Nitrite	mg N/L	0.24
pH*	Units	6.90
Fecal Coliform	UFC/100 mL	130
Total Coliform	UFC/100 mL	>80,000

*Parameter measured by STP operators

2.8 VAULT ATTENUATION POND EFFLUENT

No discharge occurred from the Vault Attenuation Pond into Wally Lake in March.

2.9 EAST DIKE SEEPAGE EFFLUENT

Discharge from the East Dike Seepage occurred for the entire month of March. A total of 12,321 m³ of water was discharged into Second Portage Lake in March 2017. Total year to date is 36,331m³.

Four (4) weekly effluent samples were collected at ST-8 in March 2017. 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 2017 are shown in Table 2.9.2 below.

Table 2.9.2: March 2017 East Dike Seepage Results

Parameters	Units	6-March-17	13-March-17	22-March-17	29-March-17	Maximum Average Concentration
Total Suspended Solids	mg/L	14	3	3	9	7.30

Monthly regular sampling pursuant to the Water License was also conducted at this location. Results are shown in Table 2.9.3 below. There have been no exceedances of MMER or Water License criteria.

Table 2.9.3: March 2017 Monthly Monitoring Results

Parameters	Units	29-March-17
Aluminum	mg/L	0.035
Sulphate	mg/L	15.8
Arsenic	mg/L	0.0023
Copper	mg/L	<0.0005
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	<0.001

2.10 NON CONTACT WATER

No water sampling at ST-5 and ST-6 was completed in March due to frozen condition.

SECTION 3 • SPILL MANAGEMENT

Figure 3.1 shows reported and non-reported spills for 2017 broken down per month and Table 3.1 summarizes Agnico spill reports for March 2017. All spills reported internally (31) and to regulators (2) were managed appropriately on site according to Agnico's spill contingency plan. 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 2017 Reported and Non-Reported Spills

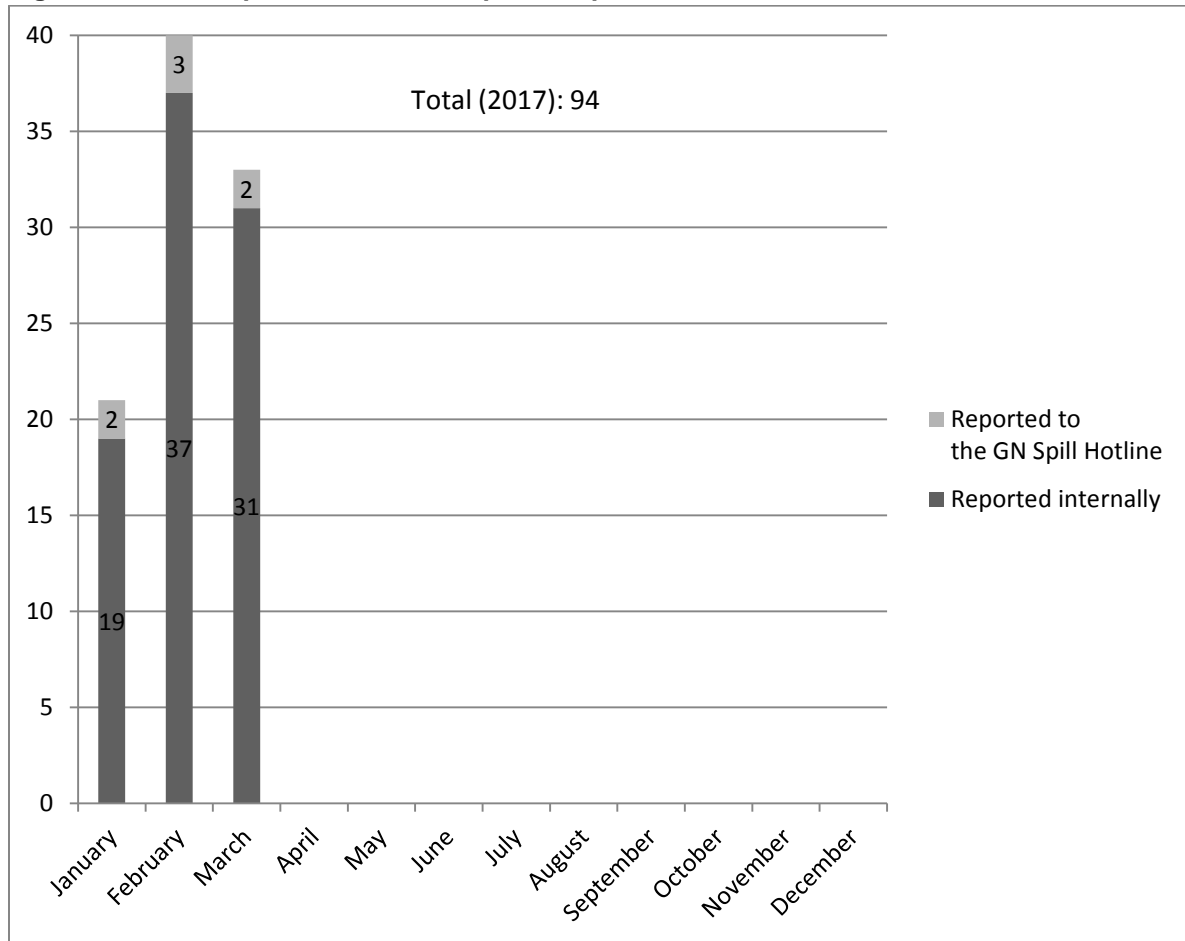


Table 3.1: Summary of Agnico Eagle Internal Spill Reports, March 2017

Date of Spill	Hazardous Material	Quantity	Units (L / Kg)	Location	Cause of spill	Clean-up action taken	Reported to Spill GN HotLine (Y/N)
March 1, 2017	Hydraulic Oil	10	L	Vault Pit	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of in the landfarm.	N
March 1, 2017	Diesel Fuel	5	L	Maintenance Shop	Mechanical failure	Spill was contained and contaminated soil picked up and disposed of in the landfarm.	N
March 2, 2017	Hydraulic Oil	15	L	Portage Pit	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of in the landfarm.	N
March 2, 2017	Hydraulic Oil	60	L	Vault Parking	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of in the landfarm.	N
March 4, 2017	Hydraulic Oil	50	L	Vault Parking	Broken O'ring	Contaminated soil picked up and disposed of appropriately	N
March 5, 2017	Hydraulic Oil	60	L	Portage Pit	Broken hydraulic hose	Contaminated soil picked up and disposed of appropriately	N
March 5, 2017	Power Steering Oil	1	L	Vault Parking	Broken steering hose	Contaminated soil picked up and disposed of appropriately	N
March 6, 2017	Windshield Washer	25	L	Blue Coverall	Drop the drum on the side when moving close to is area	Contaminated soil picked up and disposed of appropriately	N
March 6, 2017	Hydraulic Oil	50	L	Primary crusher	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of in the landfarm.	N
March 6, 2017	Coolant	50	L	Vault Pit	Broken coolant hose	Contaminated soil picked up and disposed of appropriately	N
March 11, 2017	Hydraulic Oil	60	L	Vault Pit	Broken O'ring	Contaminated soil picked up and disposed of appropriately	N
March 12, 2017	Coolant	60	L	Vault Pit	Broken coolant hose	Contaminated soil picked up and disposed of appropriately	N
March 13,	Hydraulic Oil	70	L	Vault Pit	Broken hydraulic	Contaminated soil	N

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2017					hose	picked up and disposed of appropriately	
March 13, 2017	Hydraulic Oil	500	L	Portage Pit	Broken O'ring and pump	Spill was contained and contaminated soil picked up and disposed of in the landfarm.	Y
March 18, 2017	Hydraulic Oil	15	L	Portage Pit	Quick attach on hydraulic hose came loose	Spill was contained and contaminated soil picked up and disposed of in the landfarm.	N
March 20, 2017	Engine Oil	15	L	Portage Pit	Oil pan punctured	Contaminated soil picked up and disposed of appropriately	N
March 21, 2017	Water + Rust	30	L	Mbk tank farm	Unfrozen contaminated snow melted during idling	Contaminated soil picked up and disposed of appropriately	N
March 21, 2017	Water + Rust	90	L	Mbk tank farm	Unfrozen contaminated snow melted during idling	Contaminated soil picked up and disposed of appropriately	N
March 21, 2017	Hydraulic Oil	50	L	Vault Camp	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of in the landfarm.	N
March 21, 2017	Hydraulic Oil	20	L	Maintenance Shop	Broken seal	Spill was contained and contaminated soil picked up and disposed of in the landfarm.	N
March 22, 2017	Engine Oil	40	L	Portage Pit	Mechanical failure	Contaminated soil picked up and disposed of appropriately	N
March 22, 2017	Hydraulic Oil	15	L	Vault Parking	Mechanical failure	Contaminated soil picked up and disposed of appropriately	N
March 22, 2017	Hydraulic Oil	10	L	Pushback parking	Mechanical failure	Spill was contained and contaminated soil picked up and disposed of in the landfarm.	N
March 23, 2017	Engine Oil	10	L	Portage Pit	Mechanical failure	Contaminated soil picked up and disposed of appropriately	N
March 24, 2017	Transmission Oil	44	L	End of the airstrip	Broken transmission hose	Contaminated soil picked up and disposed of appropriately	N
March 25, 2007	Hydraulic Oil	4	L	end of Airstrip	Broken hydraulic hose	Contaminated soil picked up and disposed of appropriately	N
March 25,	Hydraulic Oil	40	L	Portage Pit	Broken hydraulic	Contaminated soil	N

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2017					hose	picked up and disposed of appropriately	
March 26, 2017	Hydraulic Oil	60	L	Portage Pit	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of in the landfarm.	N
March 27, 2017	Hydraulic Oil	20	L	Vault Pit	Broken hydraulic hose	Contaminated soil picked up and disposed of appropriately	N
March 27, 2017	Coolant	15	L	Vault Pit	Broken coolant hose	Contaminated soil picked up and disposed of appropriately	N
March 29, 2017	Hydraulic Oil	80	L	Portage Pit	Broken hydraulic hose	Contaminated soil picked up and disposed of appropriately	N
March 29, 2017	Diesel Fuel	4885	L	MBK AWAR km 77	The tanker when off-road and flip on his side puncturing the tank	Transfer the fuel to another tanker, move the tanker out of the ditch and clean up the contaminated material	Y
March 30, 2017	Hydraulic Oil	30	L	Pushback parking	Broken hydraulic hose	Contaminated soil picked up and disposed of appropriately	N