



MEADOWBANK DIVISION

Monitoring Program Summary Report

February 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 February 2017 is summarized in Table 2-1 below.

Table 2-1: Freshwater Usage (m³)

Water Location	Source Lake	Jan	Feb	Total
Camp	Third Portage Lake	3,623	3,144	6,767
Mill (freshwater tank)	Third Portage Lake	45,068	41,345	86,413
Emulsion plant	No-name Lake	86	97	182
Total Freshwater Usage (m³)		48,777	44,586	93,362
Reclaim Water Usage (m³)	Tailings Pond	252,232	232,324	484,556

2.2 WASTE ROCK STORAGE FACILITY SEEPAGE

In February 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 February.

2.3 CENTRAL DIKE SEEPAGE

In February 2017, 408,856 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 February 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 February, water was observed seeping on the eastern wall of the Vault Pit. It was not possible to assess flow. In February, no water was pumped out from Vault Pit to the Vault Attenuation Pond. No water was pumped out from the Portage Pit North and South to the South Cell TSF.

2.7 SEWAGE TREATMENT PLANT

One (1) effluent wastewater sample was collected at the onsite sewage treatment plant (STP) in February 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	February 6, 2017
Ammonia (NH ₃)	mg N/L	1.14
Ammonia-Nitrogen (NH ₃ -NH ₄)	mg N/L	61.4
Total Kjeldahl Nitrogen	mg N/L	67.3
BOD-5	mg/L	22
COD	mg/L	91
Total Suspended Solids	mg/L	59
Nitrate	mg N/L	0.24
Nitrite	mg N/L	1.19
pH*	Units	7.60
Fecal Coliform	UFC/100 mL	48,000
Total Coliform	UFC/100 mL	>800,000

*Parameter measured by STP operators

Table 2.7.2: LJ-Mix Effluent Results

Parameters	Units	February 6, 2017
Ammonia (NH ₃)	mg N/L	0.35
Ammonia-Nitrogen (NH ₃ -NH ₄)	mg N/L	28.3
Total Kjeldahl Nitrogen	mg N/L	35.8
BOD-5	mg/L	11
COD	mg/L	59
Total Suspended Solids	mg/L	17
Nitrate	mg N/L	8.56
Nitrite	mg N/L	0.37
pH*	Units	6.60
Fecal Coliform	UFC/100 mL	170
Total Coliform	UFC/100 mL	22,000

*Parameter measured by STP operators

2.8 VAULT ATTENUATION POND EFFLUENT

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

2.9 EAST DIKE SEEPAGE EFFLUENT

Discharge from the East Dike Seepage occurred for the entire month of February. A total of 11,162 m³ of water was discharged into Second Portage Lake in February 2017. Total year to date is 24,010m³.

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

Table 2.9.2: February 2017 East Dike Seepage Results

Parameters	Units	6-Feb-17	13-Feb-17	21-Feb-17	27-Feb-17	Maximum Average Concentration
Total Suspended Solids	mg/L	4	6	7	8	6.25

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: February 2017 Monthly Monitoring Results

Parameters	Units	6-Feb-17
Aluminum	mg/L	0.046
Sulphate	mg/L	2.9
Arsenic	mg/L	<0.0005
Copper	mg/L	0.0021
Nickel	mg/L	0.0005
Lead	mg/L	<0.0003
Zinc	mg/L	0.005
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 February 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 February 2017. All spills reported internally and to regulators 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

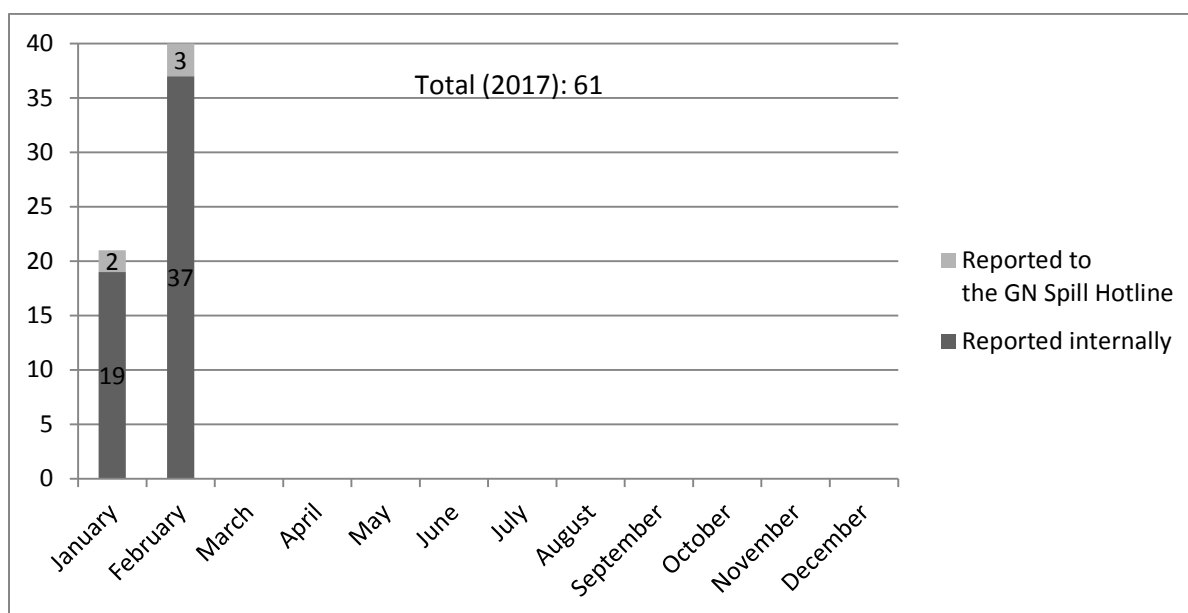


Table 3.1: Summary of Agnico Eagle Internal Spill Reports, February 2017

Date of Spill	Hazardous Material	Quantity	Units (L / Kg)	Location	Cause of spill	Clean-up action taken	Reported to Spill GN HotLine (Y/N)
February 1, 2017	Diesel Fuel	15	L	Primary crusher Stockpile	Fuel tank vent failure	Spill was contained. Contaminated soil picked up and disposed of appropriately	No
February 1, 2017	Transmission Oil	30	L	Vault Parking	Broken hydraulic hose	Other - Spill was collected but disposed of in wrong location.	No
February 2, 2017	Hydraulic Oil	80	L	Vault Pit	Broken hydraulic hose	Spill was contained. Contaminated soil picked up and disposed of appropriately	No
February 3, 2017	Hydraulic Oil	35	L	Vault Pit	Broken hydraulic hose	Contaminated soil picked up and disposed of appropriately	No
February 4, 2017	Hydraulic Oil	60	L	Portage Pit	Broken hosing filter	Spill was contained. Contaminated soil picked up and disposed of appropriately	No
February 5, 2017	Hydraulic Oil	70	L	Vault Rock Storage Facility	Broken hydraulic hose	Spill was contained. Contaminated soil picked up and disposed of appropriately	No
February 7, 2017	Hydraulic Oil	40	L	Portage Pit	Broken hydraulic hose	Spill was contained. Contaminated soil picked up and disposed of appropriately	No
February 9, 2017	Coolant	50	L	Vault Rock Storage Facility	Broken coolant hose	Contaminated soil picked up and disposed of appropriately	No
February 10, 2017	Hydraulic Oil	5	L	Vault Road	Broken hydraulic hose	Contaminated soil picked up and disposed of appropriately	No
February 11, 2017	Engine Oil	10	L	Vault Pit	Cracked oil pan	Contaminated soil picked up and disposed of appropriately	No
February 11, 2017	Coolant	30	L	Marginal Stockpile	Radiator failure	Contaminated soil picked up and disposed of appropriately	No
February 12, 2017	Coolant	3	L	MBK Camp	Coolant overfilling	Contaminated soil picked up and disposed of appropriately	No
February	Hydraulic oil	350	L	Vault Pit	Broken hydraulic	Contaminated soil	Yes

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12, 2017					hose	picked up and disposed of appropriately	
February 14, 2017	Hydraulic oil	10	L	Bay Goose Waste dump	During mechanical repairs	Contaminated soil picked up and disposed of appropriately	No
February 14, 2017	Hydraulic oil	60	L	Portage Pit	Broken hydraulic hose	Contaminated soil picked up and disposed of appropriately	No
February 14, 2017	Activated carbon	30	Kg	Transit Laydown 4	Broken bag inside a seacan	Took the roll off bin to the area than removed all material from the ground	No
February 15, 2017	Hydraulic Oil	80	L	Portage Pit	Broken O'ring	Spill was contained and contaminated soil picked up and disposed of appropriately.	No
February 16, 2017	Hydraulic oil	90	L	End of truck shop	Mechanical failure	Contaminated soil picked up and disposed of appropriately	No
February 17, 2017	Windshield Washer	10	L	Vault Camp	Valve on washer fluid tote was not fully closed and some washer fluid leaked	Contaminated soil picked up and disposed of appropriately	No
February 18, 2017	Coolant	25	L	Vault Pit	Radiator failure	Spill was contained and contaminated soil picked up and disposed of appropriately.	No
February 18, 2017	Hydraulic Oil	5	L	Goose Road	Broken O'ring	Spill was contained and contaminated soil picked up and disposed of appropriately.	No
February 18, 2017	Coolant	90	L	Vault Parking	Coolant Leak on equipment	Contaminated soil picked up and disposed of appropriately	No
February 18, 2017	Hydraulic Oil	90	L	Vault Pit	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of in the landfarm.	No
February 18, 2017	Coolant	50	L	Vault Pit	Coolant Leak on equipment	Contaminated soil picked up and disposed of appropriately	No
February 19, 2017	Coolant	40	L	Portage Pit	Broken coolant hose	Contaminated soil picked up and disposed of appropriately	No
February 20, 2017	Hydraulic Oil	60	L	Vault Road	Torque converter failure	Spill was contained and contaminated soil picked up and disposed of in the landfarm.	No

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February 20, 2017	Hydraulic Oil	3	L	Portage Pit	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately.	No
February 21, 2017	Hydraulic Oil	180	L	Mill	Unscrewed hydraulic line	Spill was contained and contaminated soil picked up and disposed of in the landfarm.	Yes
February 22, 2017	Hydraulic Oil	70	L	Mill	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of in the landfarm.	No
February 22, 2017	Hydraulic Oil	15	L	Portage Pit	Broken O'ring	Spill was contained and contaminated soil picked up and disposed of in the landfarm.	No
February 22, 2017	Hydraulic Oil	90	L	Mill	Unscrewed hydraulic line	Spill was contained and contaminated soil picked up and disposed of in the landfarm.	No
February 22, 2017	Coolant	20	L	Portage Pit	Broken coolant hose	Spill was contained and contaminated soil picked up and disposed of appropriately.	No
February 23, 2017	Hydraulic Oil	8	L	FGL Shop	During the transport of the used oil with a zoom-boom, the drum fell on the ground. (It was not attached)	Spill was contained and contaminated soil picked up and disposed of in the landfarm.	No
February 23, 2017	Hydraulic Oil	70	L	Portage Pit	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of in the landfarm.	No
February 24, 2017	Transmission Oil	15	L	Maintenance Shop	Broken transmission line	Spill was contained and contaminated soil picked up and disposed of in the landfarm.	No
February 24, 2017	Coolant	20	L	Vault Camp	Broken coolant hose	Spill was contained and contaminated soil picked up and disposed of appropriately.	N
February 25, 2017	Grey Water	130	L	Camp	Operator was pumping from STP to sewage truck and the hose broke	Spill was contained and contaminated soil picked up and disposed of appropriately.	Yes
February 25, 2017	Hydraulic Oil	60	L	Vault Pit	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of in the landfarm.	No

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February 26, 2017	Diesel Fuel	5	L	Vault Parking	Fuel breather blocked	Contaminated soil picked up and disposed of appropriately	No
February 27, 2017	Hydraulic Oil	25	L	Vault Pit	Broken hydraulic hose	Contaminated soil picked up and disposed of appropriately	No