



MEADOWBANK DIVISION

Monitoring Program Summary Report

February 2018

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 is summarized in Table 2-1 below.

Table 2-1: Freshwater Usage (m³)

Water Location	Source Lake	Jan	Feb	Total
Camp	Third Portage Lake	3,237	3,058	6,295
Mill (freshwater tank)	Third Portage Lake	51,594	165,733	217,327
Emulsion plant	No-name Lake	93.2	68	161
Total Freshwater Usage (m³)		54,924	168,859	223,783
Reclaim Water Usage (m³)	Tailings Pond	219,263	122,845	342,108

2.2 WASTE ROCK STORAGE FACILITY SEEPAGE

In February, 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 2018 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 2018 Freshet.

NP2- Winter water sampling through ice into NP-2 Lake has been done in February.

2.3 CENTRAL DIKE SEEPAGE

In February, 189,026 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, no water was pumped back from the trench to the mill due to frozen conditions. Weekly inspections of the area were conducted this month.

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, no water was pumped out from Vault Pit to the Vault Attenuation Pond. No water 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 February.

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 February, no water has been discharged from the Stormwater Management pond to the South Cell TSF.

Table 2.7.1: Seprotech Effluent Results

Parameters	Units	February 5 th , 2018
Ammonia (NH ₃)	mg N/L	0.18
Ammonia-Nitrogen (NH ₃ -NH ₄)	mg N/L	15.5
Total Kjeldahl Nitrogen	mg N/L	23.7
BOD-5	mg/L	45
COD	mg/L	94
Total Suspended Solids	mg/L	30
Nitrate	mg N/L	9.43
Nitrite	mg N/L	0.56
pH*	Units	6.8
Fecal Coliform	UFC/100 mL	220
Total Coliform	UFC/100 mL	9000

*Parameter measured by STP operators

Table 2.7.2: LJ-Mix Effluent Results

Parameters	Units	February 5 th , 2018
Ammonia (NH ₃)	mg N/L	<0.01
Ammonia-Nitrogen (NH ₃ -NH ₄)	mg N/L	4.34
Total Kjeldahl Nitrogen	mg N/L	10.6
BOD-5	mg/L	43
COD	mg/L	93
Total Suspended Solids	mg/L	36
Nitrate	mg N/L	15.8
Nitrite	mg N/L	0.65
pH*	Units	7
Fecal Coliform	UFC/100 mL	2400
Total Coliform	UFC/100 mL	210000

*Parameter measured by STP operators

2.8 VAULT ATTENUATION POND EFFLUENT

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

2.9 EAST DIKE SEEPAGE EFFLUENT

Discharge from the East Dike Seepage occurred for the entire month. A total of 13,937 m³ was discharged into Second Portage Lake in February.

Four (4) weekly effluent samples were collected at ST-8 in February. TSS monitoring results are presented in Table 2.9.1.below. No exceedance in relation to the water license was recorded.

Table 2.9.1: East Dike Seepage Results for TSS

Parameters	Units	Feb. 6, 2018	Feb. 13, 2018	Feb. 21, 2018	Feb. 26, 2018	Maximum Average concentration
Total Suspended Solids	mg/L	4	6	22	13	11.25

Monthly regular sampling pursuant to the Water License was also conducted at this location. Results are shown in Table 2.9.2 below. There have been no exceedances of MMER for those criteria.

Table 2.9.2 February 2018 Monthly Monitoring Results

Parameters	Units	February 6, 2018
pH*		8.31
Aluminum	mg/L	0.053
Sulphate	mg/L	7.2
Arsenic	mg/L	<0.0005
Copper	mg/L	0.001
Nickel	mg/L	0.0015
Lead	mg/L	0.0041
Zinc	mg/L	<0.001
Radium 226	mg/L	<0.002
Total Cyanide	mg/L	<0.001

*Parameter measured by environmental technicians

2.10 NON CONTACT WATER

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

SECTION 3 • SPILL MANAGEMENT

Figure 3.1 shows reported and non-reported spills for 2018 broken down per month and Table 3.1 summarizes Agnico Eagle spill reports for February. All spills reported internally (45) and to regulators (5) 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 2018 Reported and Non-Reported Spills

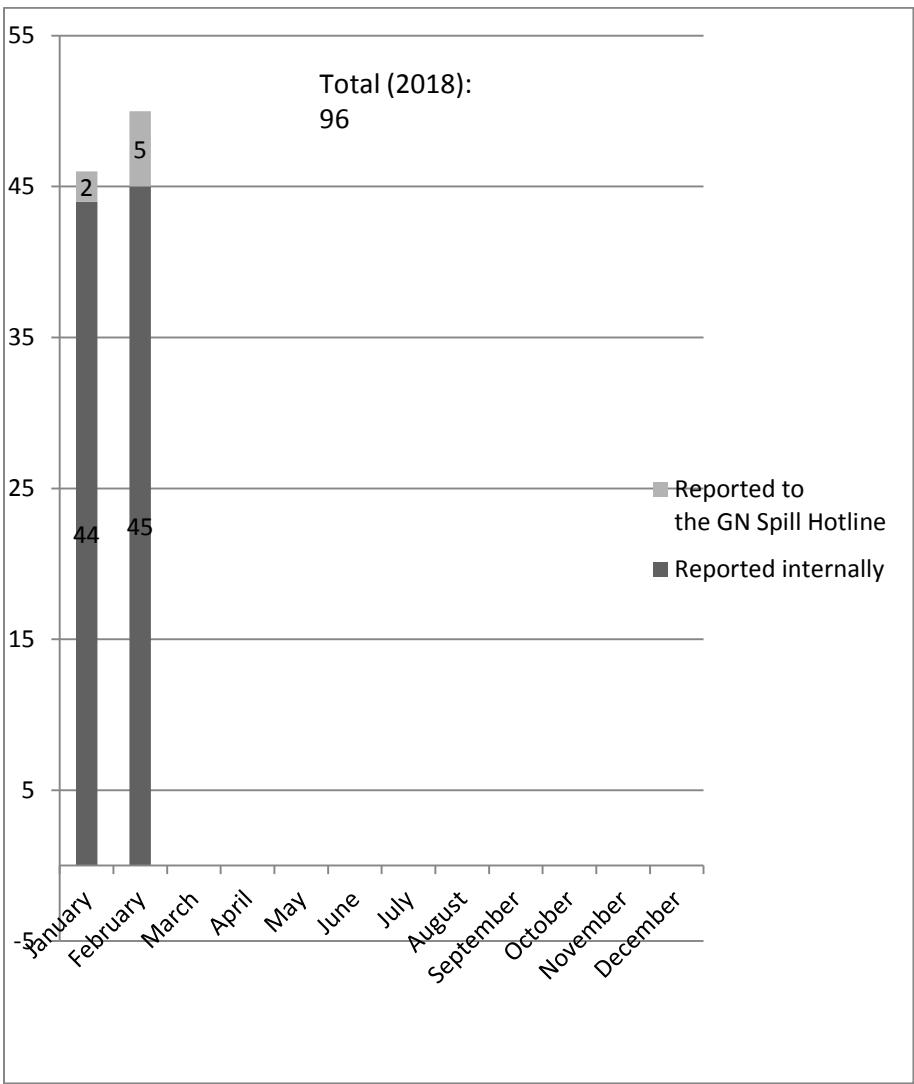


Table 3.1: Summary of Agnico Eagle Internal Spill Reports, February 2018

2018 Reported Spills (Internal and Reported to Regulators)						
Date of Spill	Hazardous Material	Qty	Units (L / Kg)	Location	Cause of spill	Clean-up action taken
1-Feb-18	Coolant	2	L	Vault pit	Loose heater hose	Spill was contained and contaminated soil picked up and disposed of appropriately
2-Feb-18	Diesel	30	L	Service building parking	Overflow of the fuel tank	Spill was contained and contaminated soil picked up and disposed of appropriately
4-Feb-18	Hydraulic oil	20	L	Phaser pattern	Broken o'ring hose	Spill was contained and contaminated soil picked up and disposed of appropriately
4-Feb-18	Hydraulic oil	3	L	Construction - Amaruq	Leak on the hydraulic line quick attach	Spill was contained and contaminated soil picked up and disposed of appropriately
4-Feb-18	Hydraulic oil	3	L	Construction - Amaruq	Leak on the hydraulic line quick attach	Spill was contained and contaminated soil picked up and disposed of appropriately
5-Feb-18	Engine oil	0.5	L	Construction - Amaruq	The throttle was too low, the breather plugged and the oil goes out by the oil gauge.	Spill was contained and contaminated soil picked up and disposed of appropriately
6-Feb-18	Hydraulic oil	100	L	Pushback parking	Leak - Rear wheel seal failed	Spill was contained and contaminated soil picked up and disposed of appropriately
7-Feb-18	Diesel Fuel	4	L	Construction - Amaruq	Leak	Spill was contained and contaminated soil picked up and disposed of appropriately
7-Feb-18	Hydraulic oil	150	L	Phaser road	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
7-Feb-18	Hydraulic oil	30	L	Pushback parking	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
9-Feb-18	Hydraulic oil	70	L	Vault pit	Leak on the traction valve	Spill was contained and contaminated soil picked up and disposed of appropriately
9-Feb-18	Hydraulic oil	30	L	Service building parking	Hose came loose	Spill was contained and contaminated soil picked up and disposed of appropriately
10-Feb-18	Engine oil	10	L	BB Phaser road	Frozen breather	Spill was contained and contaminated soil picked up and disposed of appropriately

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10-Feb-18	Hydraulic oil	70	L	Vault parking	Broken brake line	Spill was contained and contaminated soil picked up and disposed of appropriately
11-Feb-18	Hydraulic oil	20	L	Vault parking	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
11-Feb-18	Hydraulic oil	89	L	Construction - Amaruq	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
12-Feb-18	Diesel	30	L	Vault pit	Leak from a fuel tank plug	Spill was contained and contaminated soil picked up and disposed of appropriately
12-Feb-18	Hydraulic oil	80	L	Mine Meadowbank	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
12-Feb-18	Hydraulic oil	200	L	Portage pit	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
13-Feb-18	Fuel	20	L	Phaser pit	Blocked air breather	Spill was contained and contaminated soil picked up and disposed of appropriately
13-Feb-18	Fuel	30	L	Vault pit	Leak	Spill was contained and contaminated soil picked up and disposed of appropriately
15-Feb-18	Engine oil	10	L	Vault pit	Starter gasket failed	Spill was contained and contaminated soil picked up and disposed of appropriately
15-Feb-18	Hydraulic oil	5	L	Vault parking	Steering hose busted	Spill was contained and contaminated soil picked up and disposed of appropriately
15-Feb-18	Hydraulic oil	25	L	Vault parking	Torque plug and wheel seal failed	Spill was contained and contaminated soil picked up and disposed of appropriately
15-Feb-18	Hydraulic oil	20	L	Vault	Blown o-ring on valve	Spill was contained and contaminated soil picked up and disposed of appropriately
16-Feb-18	Fuel	5	L	Phaser pattern	Frozen bleeder valve	Spill was contained and contaminated soil picked up and disposed of appropriately
18-Feb-18	Hydraulic oil	25	L	Vault coverall	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
18-Feb-18	Hydraulic oil	5	L	Tear drop road area	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
19-Feb-18	Hydraulic oil	15	L	Vault pit	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
19-Feb-18	Hydraulic oil	35	L	Vault coverall	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
19-Feb-18	Coolant	50	L	Vault	Engine overheat causing overflow	Spill was contained and contaminated soil picked up and disposed of appropriately

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19-Feb-18	Hydraulic oil	20	L	Vault parking	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
19-Feb-18	hydraulic oil	9	L	Construction - Amaruq	Body valve leaking	Spill was contained and contaminated soil picked up and disposed of appropriately
20-Feb-18	hydraulic oil	20	L	Vault parking	Bucket cylinders were replaced causing the spill	Spill was contained and contaminated soil picked up and disposed of appropriately
20-Feb-18	Hydraulic oil	40	L	Vault parking	Valve from the tank was not completely close- frozen	Spill was contained and contaminated soil picked up and disposed of appropriately
20-Feb-18	Hydraulic oil	10	L	Construction - Amaruq	Leak from the ripper hose	Spill was contained and contaminated soil picked up and disposed of appropriately
20-Feb-18	Hydraulic oil	90	L	Construction - Amaruq	Busted o ring on the bucket cylinder	Spill was contained and contaminated soil picked up and disposed of appropriately
20-Feb-18	Hydraulic oil	80	L	Tear drop road	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately
21-Feb-18	Diesel	1	L	Construction - Amaruq	Leak	Spill was contained and contaminated soil picked up and disposed of appropriately
21-Feb-18	Hydraulic oil	30	L	Vault pit	Hole in right boom cylinder	Spill was contained and contaminated soil picked up and disposed of appropriately
23-Feb-18	Hydraulic oil	2	L	Vault parking	Busted hose	Spill was contained and contaminated soil picked up and disposed of appropriately
24-Feb-18	Hydraulic oil	80	L	Vault parking	Wheel seal failed	Spill was contained and contaminated soil picked up and disposed of appropriately
25-Feb-18	Hydraulic oil	50	L	BB Phaser	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
25-Feb-18	Hydraulic oil	10	L	Portage pit	Hydraulic hose busted	Spill was contained and contaminated soil picked up and disposed of appropriately
26-Feb-18	Hydraulic oil	600	L	Vault	Hydraulic "O" ring failure	Spill was contained and contaminated soil picked up and disposed of appropriately
26-Feb-18	Hydraulic oil	50	L	BB Phaser	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
26-Feb-18	Coolant	70	L	Phaser pit	Coolant hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
27-Feb-18	Hydraulic oil	120	L	Phaser pit	Leak from the stick cylinder	Spill was contained and contaminated soil picked up and disposed of appropriately
28-	Hydraulic	30	L	Phaser pit	Hydraulic hose	Spill was contained and

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Feb-18	oil				broke	contaminated soil picked up and disposed of appropriately
28-Feb-18	Hydraulic oil	10	L	Mine Meadowbank	Broken O'ring on hammer	Spill was contained and contaminated soil picked up and disposed of appropriately