



MEADOWBANK DIVISION

Monitoring Program Summary Report

April 2018

Type A Water License 2AM-MEA1525

Table of Contents

SECTION 1 • BACKGROUND..... 3

SECTION 2 • WATER MANAGEMENT 4

2.1 WATER USAGE4

2.2 WASTE ROCK STORAGE FACILITY SEEPAGE4

2.3 CENTRAL DIKE SEEPAGE4

2.4 ASSAY ROAD SEEPAGE4

2.5 SEEPAGE AND RUNOFF FROM THE LANDFILL.....5

2.6 SEEPAGE AT PIT WALL AND PIT WALL FREEZE/THAW AND PERMAFROST AGGRADATION5

2.7 SEWAGE TREATMENT PLANT5

2.8 VAULT ATTENUATION POND EFFLUENT6

2.9 EAST DIKE SEEPAGE EFFLUENT.....6

2.10 NON CONTACT WATER.....7

SECTION 3 • SPILL MANAGEMENT 8

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 April is summarized in Table 2-1 below.

Table 2-1: Freshwater Usage (m³)

Water Location	Source Lake	Jan	Feb	March	April	TOTAL
Camp	Third Portage Lake	3,237	3,058	3,404	3,320	13,019
Mill (freshwater tank)	Third Portage Lake	51,594	165,733	92,668	152,367	462,362
Emulsion plant	No-name Lake	93.2	68	88	91	340
Total Freshwater Usage (m³)		54,924	168,859	96,161	155,778	475,721
Reclaim Water Usage (m³)	Tailings Pond	219,263	122,845	156,278	89,402	587,788

2.2 WASTE ROCK STORAGE FACILITY SEEPAGE

In April, 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 April.

2.3 CENTRAL DIKE SEEPAGE

In April, 181,965m³ 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 April, 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 April, 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 April.

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

Table 2.7.1: Seprotech Effluent Results

Parameters	Units	April 2 nd , 2018
Ammonia (NH ₃)	mg N/L	0.33
Ammonia-Nitrogen (NH ₃ -NH ₄)	mg N/L	36.4
Total Kjeldahl Nitrogen	mg N/L	25.5
BOD-5	mg/L	21
COD	mg/L	80
Total Suspended Solids	mg/L	20
Nitrate	mg N/L	9.5
Nitrite	mg N/L	1.1
pH*	Units	7.2
Fecal Coliform	UFC/100 mL	230
Total Coliform	UFC/100 mL	<10 000

*Parameter measured by STP operators

Table 2.7.2: LJ-Mix Effluent Results

Parameters	Units	April 2 nd , 2018
Ammonia (NH ₃)	mg N/L	0.01
Ammonia-Nitrogen (NH ₃ -NH ₄)	mg N/L	10.8
Total Kjeldahl Nitrogen	mg N/L	17.3
BOD-5	mg/L	17
COD	mg/L	105
Total Suspended Solids	mg/L	86
Nitrate	mg N/L	21
Nitrite	mg N/L	0.22
pH*	Units	7
Fecal Coliform	UFC/100 mL	6 100
Total Coliform	UFC/100 mL	57 000

*Parameter measured by STP operators

2.8 VAULT ATTENUATION POND EFFLUENT

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

2.9 EAST DIKE SEEPAGE EFFLUENT

Discharge from the East Dike Seepage occurred for the entire month. A total of 17,062m³ was discharged into Second Portage Lake in April.

Four (4) weekly effluent samples were collected at ST-8 in April 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	2-Apr-18	9-Apr-18	17-Apr-18	22-Apr-18	30-Apr-18	Maximum Average Concentration
Total Suspended Solids	mg/L	12	3	3	10	15	8.6

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 April 2018 Monthly Monitoring Results

Parameters	Units	April 2 nd , 2018
pH*		7.82
Aluminum	mg/L	0.063
Sulphate	mg/L	8.4
Arsenic	mg/L	0.0009
Copper	mg/L	0.0023
Nickel	mg/L	0.0014
Lead	mg/L	< 0.0003
Zinc	mg/L	0.015
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 April 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 April. All spills reported internally (26) and to regulators (3) 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

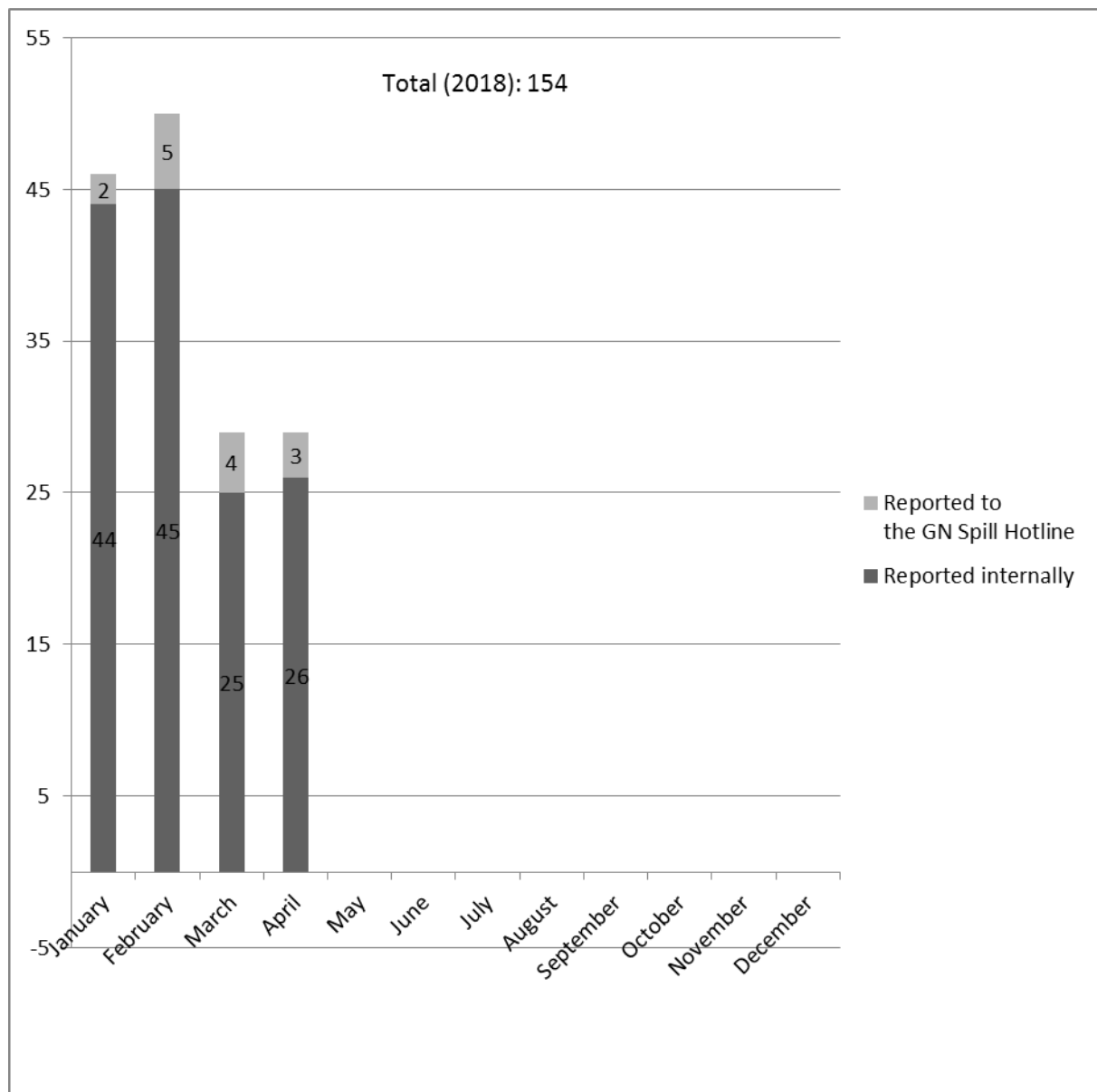


Table 3.1: Summary of Agnico Eagle Internal Spill Reports, April 2018

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-Apr-2018	Coolant	75	L	Mine Meadowbank	Failed radiator	Spill was contained and contaminated soil picked up and disposed of appropriately
4-Apr-2018	Diesel	35	L	Mine Meadowbank	Fuel hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
4-Apr-2018	Coolant	50	L	Mine Meadowbank	Radiator leak	Spill was contained and contaminated soil picked up and disposed of appropriately
5-Apr-2018	Hydraulic oil	30	L	Mine Meadowbank	Leak	Spill was contained and contaminated soil picked up and disposed of appropriately
9-Apr-2018	Hydraulic oil	5	L	Mine Meadowbank	Leak	Spill was contained and contaminated soil picked up and disposed of appropriately
10-Apr-2018	Hydraulic oil	20	L	Mine Meadowbank	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately

Type A Water License 2AM-MEA1525
Monitoring Program Summary Report

10-Apr-2018	Hydraulic oil	350	L	Mine Meadowbank	Hoist cylinder hose busted	Spill was contained and contaminated soil picked up and disposed of appropriately
11-Apr-2018	Hydraulic oil	30	L	Mine Meadowbank	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
11-Apr-2018	Diesel fuel	20	L	Construction - Amaruq	Overfilling	Spill was contained and contaminated soil picked up and disposed of appropriately
12-Apr-2018	Coolant	8	L	Construction - Amaruq	Defective radiator cap	Spill was contained and contaminated soil picked up and disposed of appropriately
15-Apr-2018	Steering Fluid	2	L	Meadowbank	Leak	Spill was contained and contaminated soil picked up and disposed of appropriately
16-Apr-2018	Antifreeze	83	L	Open Pit Meadowbank	Engine fan broke the radiator	Spill was contained and contaminated soil picked up and disposed of appropriately
16-Apr-2018	Hydraulic oil	80	L	Open Pit Meadowbank	Fan motor test	Spill was contained and contaminated soil picked up and disposed of appropriately
18-Apr-2018	Hydraulic oil	90	L	Open Pit Meadowbank	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
18-Apr-2018	Coolant	80	L	Open Pit Meadowbank	Radiator leak	Spill was contained and contaminated soil picked up and disposed of appropriately

Type A Water License 2AM-MEA1525
Monitoring Program Summary Report

20-Apr-2018	Fuel	30	L	Open Pit Meadowbank	Overfilling	Spill was contained and contaminated soil picked up and disposed of appropriately
20-Apr-2018	Hydraulic oil	70	L	Open Pit Meadowbank	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
21-Apr-2018	Coolant	180	L	Open Pit Meadowbank	Coolant hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
22-Apr-2018	Coolant	15	L	Drill and Blast Mine Meadowbank	Busted hose	Spill was contained and contaminated soil picked up and disposed of appropriately
22-Apr-2018	Coolant	60	L	Auxiliary Equipment Meadowbank	Leaf spring broke and ripped coolant lines off	Spill was contained and contaminated soil picked up and disposed of appropriately
22-Apr-2018	Hydraulic oil	80	L	Drill and Blast Mine Meadowbank	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
24-Apr-2018	Hydraulic oil	200	L	Mine Meadowbank	Hydraulic "O" ring failure	Spill was contained and contaminated soil picked up and disposed of appropriately
25-Apr-2018	Hydraulic oil	20	L	Open Pit Meadowbank	Leak	Spill was contained and contaminated soil picked up and disposed of appropriately
26-Apr-2018	Transmission oil	40	L	Construction - Amaruq	Rock broke the transmission panel	Spill was contained and contaminated soil picked up and disposed of appropriately

Type A Water License 2AM-MEA1525
Monitoring Program Summary Report

26-Apr-2018	Hydraulic oil	65	L	Open Pit Meadowbank	Busted hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately
27-Apr-2018	Hydraulic oil	10	L	Open Pit Meadowbank	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
28-Apr-2018	Hydraulic oil	20	L	Open Pit Meadowbank	Busted hose	Spill was contained and contaminated soil picked up and disposed of appropriately
29-Apr-2018	Hydraulic oil	30	L	Drill and Blast Mine Meadowbank	Broken fitting on a hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately
30-Apr-2018	Hydraulic oil	15	L	Open Pit Meadowbank	Broken hydraulic tilt cylinder hose	Spill was contained and contaminated soil picked up and disposed of appropriately