



MEADOWBANK DIVISION

Monitoring Program Summary Report

May 2018

Type A Water License 2AM-MEA1526

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-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, 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 May is summarized in Table 2-1 below.

Table 2-1: Freshwater Usage (m³)

Water Location	Source Lake	Jan	Feb	March	April	May	Total
Camp	Third Portage Lake	3,237	3,058	3,404	3,320	3,527	16,546
Mill (freshwater tank)	Third Portage Lake	51,594	165,733	92,668	152,367	136,952	599,314
Emulsion plant	No-name Lake	93.2	68	88	91	94	434
Total Freshwater Usage (m³)		54,924	168,859	96,161	155,778	140,573	616,294
Reclaim Water Usage (m³)	Tailings Pond	219,263	122,845	156,278	89,402	149,282	737,070

2.2 WASTE ROCK STORAGE FACILITY SEEPAGE

In May, 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 May.

2.3 CENTRAL DIKE SEEPAGE

In May, 177,736 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 May, 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 May, 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 May.

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

Table 2.7.1: Seprotech Effluent Results

Parameters	Units	May 8 th , 2018
Ammonia (NH ₃)	mg N/L	0.31
Ammonia-Nitrogen (NH ₃ -NH ₄)	mg N/L	33.7
Total Kjeldahl Nitrogen	mg N/L	37.8
BOD-5	mg/L	13
COD	mg/L	67
Total Suspended Solids	mg/L	8
Nitrate	mg N/L	7.22
Nitrite	mg N/L	1.09
pH*	Units	7.4
Fecal Coliform	UFC/100 mL	80
Total Coliform	UFC/100 mL	2 000

*Parameter measured by STP operators

Table 2.7.2: LJ-Mix Effluent Results

Parameters	Units	May 8 th , 2018
Ammonia (NH ₃)	mg N/L	0.02
Ammonia-Nitrogen (NH ₃ -NH ₄)	mg N/L	3.9
Total Kjeldahl Nitrogen	mg N/L	6.02
BOD-5	mg/L	8
COD	mg/L	44
Total Suspended Solids	mg/L	2
Nitrate	mg N/L	21.8
Nitrite	mg N/L	0.23
pH*	Units	6.8
Fecal Coliform	UFC/100 mL	1 000
Total Coliform	UFC/100 mL	35 000

*Parameter measured by STP operators

2.8 VAULT ATTENUATION POND EFFLUENT

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

2.9 EAST DIKE SEEPAGE EFFLUENT

Discharge from the East Dike Seepage occurred for the entire month. A total of 19,078 m³ was discharged into Second Portage Lake in May.

Four (4) weekly effluent samples were collected at ST-8 in May 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	8-May-18	14-May-18	22-May-18	28-May-18	Maximum Average Concentration
Total Suspended Solids	mg/L	6	<1	<1	1	2

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 MMR for those criteria.

Table 2.9.2 May 2018 Monthly Monitoring Results

Parameters	Units	May 14th, 2018
pH*		7.24
Aluminum	mg/L	0.047
Sulphate	mg/L	9.7
Arsenic	mg/L	0.0044
Copper	mg/L	0.0006
Nickel	mg/L	0.0008
Lead	mg/L	<0.0003
Zinc	mg/L	0.003
Radium 226	mg/L	Reduced frequency
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 May 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 May. All spills reported internally (31) and to regulators (9) 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

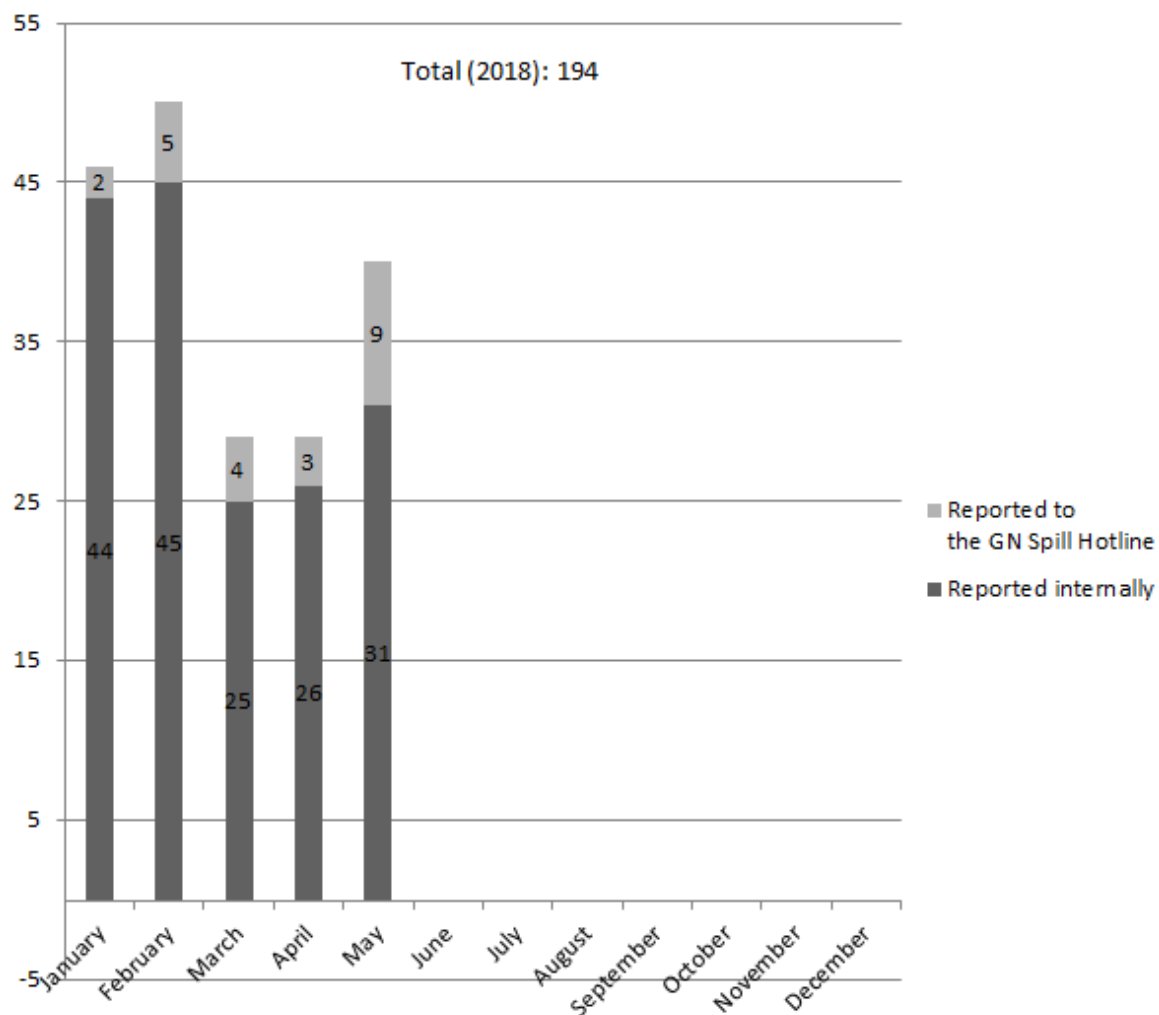


Table 3.1: Summary of Agnico Eagle Internal Spill Reports, May 2018

2018 Reported Spills (Internal and Reported to Regulators)						
Date of Spill	Hazardous Material	Qty	Units	Location	Cause of spill	Clean-up action taken
1-May	Hydraulic oil	350	L	Open Pit Meadowbank	Major leak	Spill was contained and contaminated soil picked up and disposed of appropriately
1-May	Hydraulic oil	80	L	Maintenance Meadowbank	Rear wheel seal failure	Spill was contained and contaminated soil picked up and disposed of appropriately
1-May	Diesel fuel	20	L	Construction - Amaruq	Overfilling	Spill was contained and contaminated soil picked up and disposed of appropriately
3-May	Hydraulic oil	20	L	Meadowbank	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
3-May	Hydraulic oil	10	L	Amaruq Road - Meadowbank	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
3-May	Hydraulic oil	10	L	Construction - Amaruq	Leak from a hose.	Spill was contained and contaminated soil picked up and disposed of appropriately
4-May	Hydraulic oil	80	L	Mine Meadowbank	Cylinder failure	Spill was contained and contaminated soil picked up and disposed of appropriately
4-May	Hydraulic oil	5	L	Mine Meadowbank	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
4-May	Coolant	20	L	Contractor Site Services Meadowbank	Heater hose busted	Spill was contained and contaminated soil picked up and disposed of appropriately
5-May	Hydraulic oil	30	L	Maintenance Meadowbank	Possible loose valve on oil tote.	Spill was contained and contaminated soil picked up and disposed of appropriately
5-May	Hydraulic oil	30	L	Mine Meadowbank	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately

Type A Water License 2AM-MEA1526
Monitoring Program Summary Report

6-May	Engine oil	4	L	Construction - Amaruq	Oil Filter became loose and oil spilled	Spill was contained and contaminated soil picked up and disposed of appropriately
6-May	Coolant	1	L	Construction - Amaruq	Loose coolant filter	Spill was contained and contaminated soil picked up and disposed of appropriately
6-May	Coolant	12	L	Construction - Amaruq	Hose rupture	Spill was contained and contaminated soil picked up and disposed of appropriately
7-May	Hydraulic oil	3	L	Construction - Amaruq	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
7-May	Hydraulic oil	130	L	Construction - Amaruq	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
7-May	Waste water (sewage)	30	m ³	Construction - Amaruq	3 inch waste water pipe rupture	Spill was contained and contaminated soil picked up and disposed of appropriately
8-May	Diesel	100	L	Construction - Amaruq	Omitting to open a fuel compartment trap while transferring fuel	Spill was contained and contaminated soil picked up and disposed of appropriately
8-May	Coolant	6	L	Construction - Amaruq	Leak from the radiator cap	Spill was contained and contaminated soil picked up and disposed of appropriately
9-May	Hydraulic oil	80	L	Mine Meadowbank	Hose was being built and tank was not vented therefore pressurized and slowly leaked	Spill was contained and contaminated soil picked up and disposed of appropriately
9-May	Diesel	80	L	Maintenance Meadowbank	Leak	Spill was contained and contaminated soil picked up and disposed of appropriately
10-May	Coolant	20	L	Mine Meadowbank	Coolant hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
10-May	Hydraulic oil	20	L	Open Pit Meadowbank	Crack in boom cylinder	Spill was contained and contaminated soil picked up and disposed of appropriately
10-May	Hydraulic oil	185	L	Mine Meadowbank	Brake line failure	Spill was contained and contaminated soil picked up and disposed of

Type A Water License 2AM-MEA1526
Monitoring Program Summary Report

						appropriately
11-May	Hydraulic oil	20	L	Mine Meadowbank	Brake line failure	Spill was contained and contaminated soil picked up and disposed of appropriately
12-May	Hydraulic oil	20	L	Contractor Mine Meadowbank	Fitting hydraulic oil failure	Spill was contained and contaminated soil picked up and disposed of appropriately
13-May	Coolant	10	L	Mine Meadowbank	Coolant hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
14-May	Hydraulic oil	20	L	Open Pit Meadowbank	Steering hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
14-May	Treated waste water	29	mg/L	Amaruq	Exceeding oil and grease criteria results. The exceedance may be due to a fault of the kitchen grease trap system.	Spill was contained and contaminated soil picked up and disposed of appropriately
14-May	Hydraulic oil	10	L	Contractor Engineering Meadowbank	Fitting hydraulic oil failure	Spill was contained and contaminated soil picked up and disposed of appropriately
17-May	Hydraulic oil	10	L	Mine Meadowbank	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
18-May	Hydraulic oil	20	L	Mine Meadowbank	Leak	Spill was contained and contaminated soil picked up and disposed of appropriately
18-May	Coolant	120	L	Meadowbank	Coolant hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
21-May	Hydraulic oil	20	L	Contractor Mine Meadowbank	Broken seal on main hydraulic pump	Spill was contained and contaminated soil picked up and disposed of appropriately
25-May	Hydraulic oil	200	L	Construction - Amaruq	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
26-May	Hydraulic oil	85	L	Open Pit Meadowbank	Busted hose	Spill was contained and contaminated soil picked up and disposed of

Type A Water License 2AM-MEA1526
Monitoring Program Summary Report

						appropriately
26-May	Hydraulic oil	60	L	Open Pit Meadowbank	Leaking hose	Spill was contained and contaminated soil picked up and disposed of appropriately
28-May	Hydraulic Oil	150	L	Mine Meadowbank	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
28-May	Hydraulic Oil	50	L	Auxiliary Equipment Meadowbank	Hydraulic leak	Spill was contained and contaminated soil picked up and disposed of appropriately
31-May	Coolant	80	L	Mine Meadowbank	Coolant hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately