



MEADOWBANK DIVISION

Monitoring Program Summary Report

September 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 SEEPAGE5

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 PHASER ATTENUATION POND6

2.10 EAST DIKE SEEPAGE EFFLUENT.....6

2.11 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, Phaser Attenuation Pond, 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 September is summarized in Table 2-1 below.

Table 2-1: Freshwater Usage (m³)

Water Location	Source Lake	Jan	Feb	March	April	May	June
Camp	Third Portage Lake	3 237	3 058	3 404	3 320	3 527	3 304
Mill (freshwater tank)	Third Portage Lake	51 594	165 733	92 668	152 367	136 952	49 471
Emulsion plant	No-name Lake	93	68	88	91	94	47
Total Freshwater Usage (m³)		54 924	168 859	96 161	155 778	140 573	52 822
Ore Water (m³)	Ore	2 606	2 047	2 078	1 500	2 854	3 177
Reclaim Water Usage (m³)	Tailings Pond	219 263	122 845	156 278	89 402	149 282	229 403

Water Location	Source Lake	July	Aug	Sept	Total
Camp	Third Portage Lake	3 330	3 270	3 265	29 715
Mill (freshwater tank)	Third Portage Lake	47 009	43 408	49 672	788 874
Emulsion plant	No-name Lake	68	66	60	675
Total Freshwater Usage (m³)		50 407	46 744	52 997	819 264
Ore Water (m³)	Ore	2 895	3 315	2 430	22 902
Reclaim Water Usage (m³)	Tailings Pond	284 365	289 366	198 531	1 738 735

2.2 WASTE ROCK STORAGE FACILITY SEEPAGE

In September, 1,325 m³ of water was pumped back to the North Cell TSF from the ST-16 sump. Of that amount, 549 m³ and 182 m³ were transferred from respectively the WEP1 and WEP2 sumps to the ST-16 sump.

Agnico Eagle completed in September inspections at the Portage and Vault RSFs. Open water sampling at WEP1 (Station ST-30), WEP2 (Station ST-31), ST-16, NP-2 and the downstream lakes were also completed in September.

2.3 CENTRAL DIKE SEEPAGE

In September, 189,297 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 September, 3,392 m³ of water was pumped back from the mill trench back to the mill. Inspections of the area were conducted this month. Trench sampling and wells monitoring for CN downstream has been taking according to the Freshet Action Plan.

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 September, ice wall continue to be observed into Vault Pit.

2.7 SEWAGE TREATMENT PLANT

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

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 September, 20,492m³ of water was discharged from the Stormwater Management pond to the South Cell TSF.

Table 2.7.1: Seprotech Effluent Results

Parameters	Units	September 3, 2018
Ammonia (NH ₃)	mg N/L	0.61
Ammonia-Nitrogen (NH ₃ -NH ₄)	mg N/L	45.2
Total Kjeldahl Nitrogen	mg N/L	45.9
BOD-5	mg/L	14
COD	mg/L	73
Total Suspended Solids	mg/L	15
Nitrate	mg N/L	4.50
Nitrite	mg N/L	1.15
pH*	Units	7.30
Fecal Coliform	UFC/100 mL	800
Total Coliform	UFC/100 mL	<10,000

*Parameter measured by STP operators

Table 2.7.2: LJ-Mix Effluent Results

Parameters	Units	September 3, 2018
Ammonia (NH ₃)	mg N/L	<0.01
Ammonia-Nitrogen (NH ₃ -NH ₄)	mg N/L	9.44
Total Kjeldahl Nitrogen	mg N/L	11.5
BOD-5	mg/L	12
COD	mg/L	53

Total Suspended Solids	mg/L	14
Nitrate	mg N/L	19.50
Nitrite	mg N/L	0.22
pH*	Units	6.80
Fecal Coliform	UFC/100 mL	40
Total Coliform	UFC/100 mL	<100,000

*Parameter measured by STP operators

2.8 VAULT ATTENUATION POND EFFLUENT

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

2.9 PHASER ATTENUATION POND

In September, 17,337 m³ of water was pumped to the Vault Attenuation Pond from the Phaser Attenuation Pond. Of that amount, 1,992 m³ and 439 m³ were transferred from respectively the Phaser Pit and BB Phaser Pit sumps to the Phaser Attenuation Pond.

2.10 EAST DIKE SEEPAGE EFFLUENT

In September, a total of 20,789 m³ was discharged into Second Portage Lake.

Four (4) weekly effluent samples were collected at ST-8 in September 2018. 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 September 2018 are shown in Table 2.9.1 below. There have been no exceedances of MMER criteria.

Table 2.9.1: East Dike Seepage Results for TSS

Parameters	Units	Sept 03, 2018	Sept 10, 2018	Sept 17, 2018	Sept 24, 2018	Maximum Average Concentration
Total Suspended Solids	mg/L	1	1	<1	2	1.13

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 September 2018 Monthly Monitoring Results

Parameters	Units	September 10, 2018
pH*		7.24
Aluminum	mg/L	0.06
Sulphate	mg/L	19.4
Arsenic	mg/L	<0.0005
Copper	mg/L	<0.0005
Nickel	mg/L	<0.0005
Lead	mg/L	<0.0003
Zinc	mg/L	<0.001
Radium 226	mg/L	Analyze not yet complete
Total Cyanide	mg/L	0.001

*Parameter measured by environmental technicians

2.11 NON CONTACT WATER

Portage Area East (ST-5) and West diversion ditches (ST-6) water quality results are shown in Tables 2.10.1 and 2.10.2, respectively. TSS results did not exceed the maximum average concentration (15 mg/L) and maximum allowable grab sample concentration (30 mg/L) permitted by the Water License, Part F, Item 6.

Table 2.10.1: Portage Area East Diversion Ditch (ST-5) Results

Parameters	Units	September 4, 2018
Total Suspended Solids	mg/L	<1

Table 2.10.2: Portage Area West Diversion Ditch (ST-6) Results

Parameters	Units	September 4, 2018
Total Suspended Solids	mg/L	<1

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 September.

All spills reported internally (8) 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

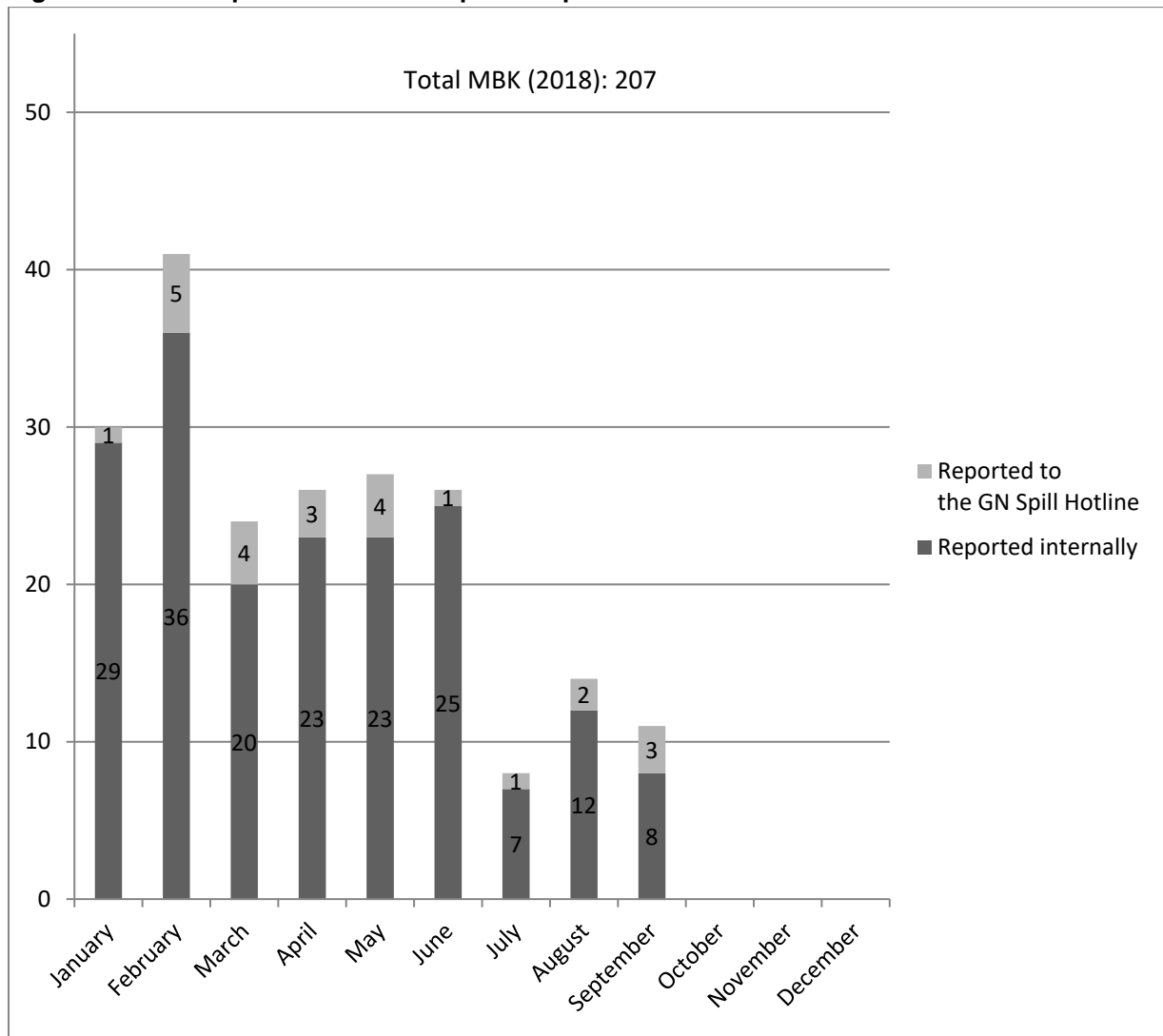


Table 3.1: Summary of Agnico Eagle Internal Spill Reports, September 2018

Reported Spills (Internal and Reported to Regulators)						
Date of Spill	Hazardous Material	Qty	Units (L / Kg)	Location	Cause of spill	Clean-up action taken
September 1, 2018	Hydraulic oil	70	L	Vault pit	Pressure gauge failure on the grease system	Spill was contained and contaminated soil picked up and disposed of appropriately
September 2, 2018	Hydraulic oil	5	L	MBK Pit E	O-ring failure	Spill was contained and contaminated soil picked up and disposed of appropriately
September 4, 2018	Hydraulic oil	30	L	MBK Pit E5	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
September 11, 2018	Hydraulic oil	500	L	Vault Pit	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
September 12, 2018	Compressor oil	30	L	Portage Pit	Compressor seal failure	Spill was contained and contaminated soil picked up and disposed of appropriately
September 18 2018	Coolant	30	L	MBK Pit E	Coolant hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
September 19 2018	Coolant	40	L	MBK Primary crusher	Coolant hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
September 22 2018	Hydraulic oil	70	L	BB Phaser Pit	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

September 24 2018	Diesel	600	L	MBK Maintenance	Feed pipe of the diesel service truck broke during operations.	Spill was contained and contaminated soil picked up and disposed of appropriately
September 27, 2018	Hydraulic oil	10	L	MBK Washroom Portage	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
September 28 2018	Mill tailings	2,000	L	MBK Saddle Dam 2	Pig stuck in tailing line. The line was broken with air pressure applied to remove the pig	Spill was contained and contaminated soil picked up and disposed of appropriately