



MEADOWBANK DIVISION

Monitoring Program Summary Report

August 2018

Type A Water License 2AM-MEA1526

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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 August is summarized in Table 2-1 below.

Table 2-1: Freshwater Usage (m³)

Water Location	Source Lake	Jan	Feb	March	April	May	June	July	Aug	Total
Camp	Third Portage Lake	3 237	3 058	3 404	3 320	3 527	3 304	3 330	3 270	26 450
Mill (freshwater tank)	Third Portage Lake	51 594	165 733	92 668	152 367	136 952	49 471	47 009	43 408	739 202
Emulsion plant	No-name Lake	93	68	88	91	94	47	68	66	616
Total Freshwater Usage (m³)		54 924	168 859	96 161	155 778	140 573	52 822	50 407	46 744	766 268
Reclaim Water Usage (m³)	Tailings Pond	219 263	122 845	156 278	89 402	149 282	229 403	284 365	289 366	1 540 204

2.2 WASTE ROCK STORAGE FACILITY SEEPAGE

In August, 3,601 m³ of water was pumped back to the North Cell TSF from the ST-16 sump. Of that amount, 901 m³ and 425 m³ were transferred from respectively the WEP1 and WEP2 sumps to the ST-16 sump.

As per the 2018 Freshet Action Plan, Agnico Eagle completed in August 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 August.

2.3 CENTRAL DIKE SEEPAGE

In August, 205,314 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 August, 2,912 m³ of water was pumped back from the mill trench back to the mill. Weekly 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 August, ice wall continue to be observed into Vault pit. In order to increase the melting rate of this ice wall, water from the Vault pit sump as well as water from Vault Attenuation pond have been sprayed on it.

2.7 SEWAGE TREATMENT PLANT

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

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

Table 2.7.1: Seprotech Effluent Results

Parameters	Units	August 8, 2018
Ammonia (NH ₃)	mg N/L	0.32
Ammonia-Nitrogen (NH ₃ -NH ₄)	mg N/L	35.4
Total Kjeldahl Nitrogen	mg N/L	41.6
BOD-5	mg/L	16
COD	mg/L	63
Total Suspended Solids	mg/L	6
Nitrate	mg N/L	5.81
Nitrite	mg N/L	1.04
pH*	Units	6.50
Fecal Coliform	UFC/100 mL	109
Total Coliform	UFC/100 mL	20,000

*Parameter measured by STP operators

Table 2.7.2: LJ-Mix Effluent Results

Parameters	Units	August 8, 2018
Ammonia (NH ₃)	mg N/L	NA
Ammonia-Nitrogen (NH ₃ -NH ₄)	mg N/L	19
Total Kjeldahl Nitrogen	mg N/L	21.5
BOD-5	mg/L	9
COD	mg/L	42
Total Suspended Solids	mg/L	37
Nitrate	mg N/L	NA
Nitrite	mg N/L	NA
pH*	Units	NA
Fecal Coliform	UFC/100 mL	800
Total Coliform	UFC/100 mL	15,000

*Parameter measured by STP operators

2.8 VAULT ATTENUATION POND EFFLUENT

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

2.9 PHASER ATTENUATION POND

In August, 16,087 m³ of water was pumped to the Vault Attenuation Pond from the Phaser Attenuation Pond. Of that amount, 4,667 m³ and 4,796 m³ were transferred from respectively the Phaser Pit and BB Phaser Pit sumps to the Phaser Attenuation Pond.

2.10 EAST DIKE SEEPAGE EFFLUENT

Due to an increase in internal TSS levels in the East Dike effluent, the discharge has been preventively stopped and diverted to the Portage pit beginning of June. On August 21, the discharge to Second Portage Lake restarted. A total of 7,817 m³ was discharged into Second Portage Lake in August.

Three (3) weekly effluent samples were collected at ST-8 in August 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 August 2018 are shown in Table 2.9.1 below.

Table 2.9.1: East Dike Seepage Results for TSS

Parameters	Units	22-Aug-18	27-Aug-18	29-Aug-18	Maximum Average Concentration
Total Suspended Solids	mg/L	<1	1	5	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 MMER for those criteria.

Table 2.9.2 August 2018 Monthly Monitoring Results

Parameters	Units	August 22, 2018
pH*		7.69
Aluminum	mg/L	<0.005
Sulphate	mg/L	0.9
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

In August, Agnico Eagle completed inspections at ST-5 and ST-6 as per the 2018 Freshet Action Plan. 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	August 8, 2018
Total Suspended Solids	mg/L	2

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

Parameters	Units	August 7, 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 August. As the Whale Tail Project NWB Water License Type A 2AM-WTP1826 has been received, Agnico will start to report the spills via the monthly report required under this license. To be consistency, all spills related to the Whale Tail Project or the Amaruq Exploration Access Road from January to June 2018 have been removed from this report and reported under the new 2AM-WTP1826 monthly report.

All spills reported internally (12) and to regulators (2) 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

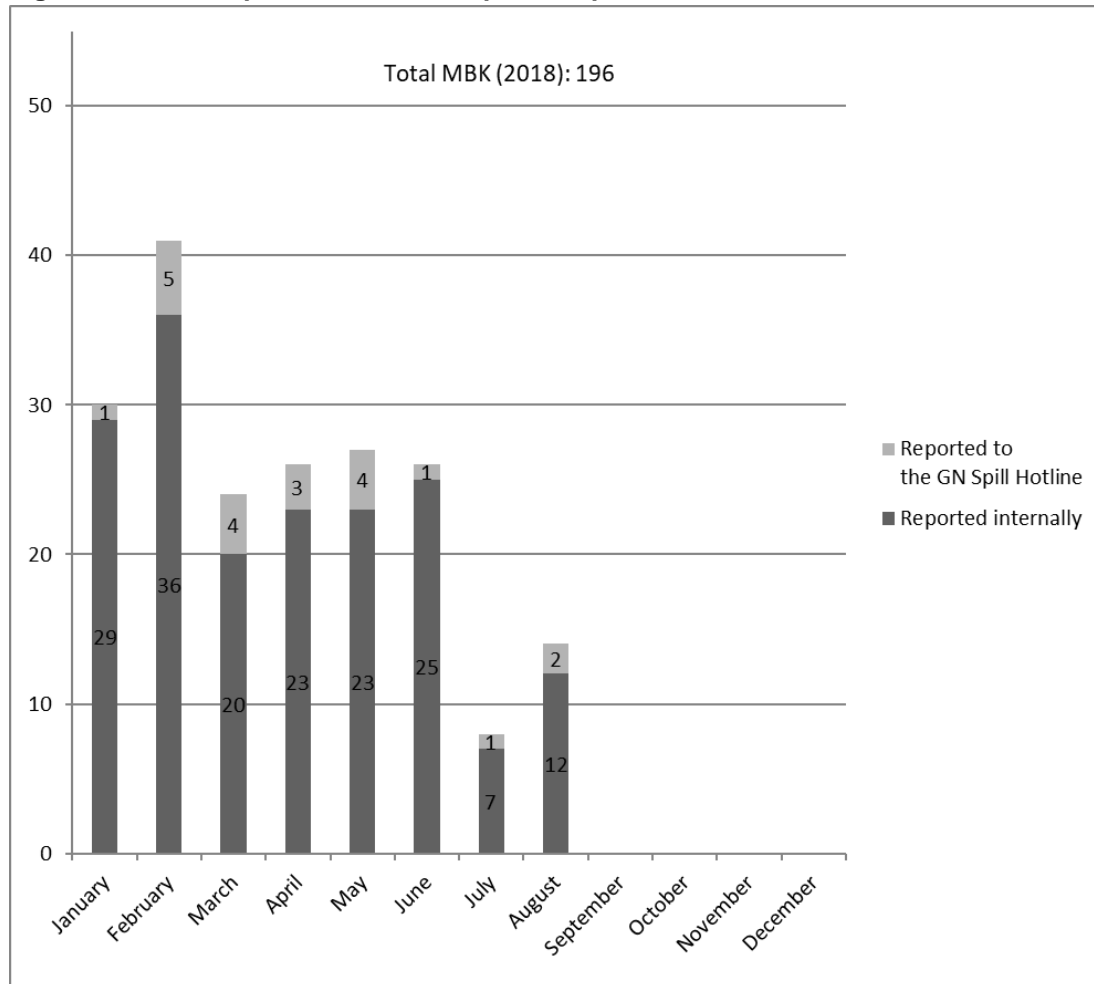


Table 3.1: Summary of Agnico Eagle Internal Spill Reports, August 2018

Reported Spills (Internal and Reported to Regulators)						
Date of Spill	Hazardous Material	Qty	Units (L / Kg)	Location	Cause of spill	Clean-up action taken
August 5	Compressor Oil	0,5	L	MBK Process Plant	Compressor carter failure	Spill was contained and contaminated soil picked up and disposed of appropriately
August 6	Engine oil	15	L	MBK Maintenance	Improper disposal	Spill was contained and contaminated soil picked up and disposed of appropriately
August 9	Oil	130	L	MBK Maintenance Shop	Improper installation of tote suction line	Spill was contained and contaminated soil picked up and disposed of appropriately
August 10	Hydraulic oil	40	L	Vault road - front of kitchen	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
August 10	Hydraulic oil	4	L	MBK Iron pad	Mechanical failure on equipment	Spill was contained and contaminated soil picked up and disposed of appropriately
August 12	Hydraulic oil	15	L	MBK Bay 8 (Truck shop)	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
August 19	Tailings	3000	L	MBK Saddle dam 4	Draining valve on the tailing line going from pig launcher to booster pump broke off during the night sending a small amount of	Spill was contained and contaminated soil picked up and disposed of appropriately

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					tailing on top of the dike.	
August 19	Hydraulic oil	10	L	Vault Parking	O-ring failure	Spill was contained and contaminated soil picked up and disposed of appropriately
August 20	Hydraulic oil	95	L	MBK Primary Crusher	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
August 29	Diesel	30	L	Baker Lake Tank Farm	Truck driver forgot to unhook the loading arm before leaving the tank farm and broke the arm	Spill was contained and contaminated soil picked up and disposed of appropriately
August 29	Hydraulic oil	10	L	MBK Pushback parking	Hydraulic Tank Overflow	Spill was contained and contaminated soil picked up and disposed of appropriately
August 30	Hydraulic oil	95	L	Vault Ramp	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
August 31	Coolant	70	L	Vault Kitchen Parking	Coolant hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately
August 31	Diesel	15	L	BB Phaser Ramp	Tank vent broke while refueling	Spill was contained and contaminated soil picked up and disposed of appropriately