



MEADOWBANK DIVISION

Monitoring Program Summary Report

August 2017

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 August 2017 is summarized in Table 2-1 below.

Table 2-1: Freshwater Usage (m³)

Water Location	Source	January	February	March	April	May	June	July	August	Total 2017
Camp	Third Portage Lake	3,623	3,144	3,444	3,490	3,692	3,697	3,818	3,433	28,341
Mill (freshwater tank)	Third Portage Lake	45,068	41,345	33,328	53,001	53,152	39,661	43,494	38,174	347,223
Emulsion Plant	No-name Lake	86	97	97	96	101	100	129	123	828
Total Freshwater Usage (m ³)		48,777	44,586	36,869	56,587	56,944	43,459	47,441	41,730	376,392
Reclaim Water Usage (m ³)	Tailings Pond	252,232	232,324	247,396	227,667	246,007	247,131	251,549	257,796	1,962,102

2.2 WASTE ROCK STORAGE FACILITY SEEPAGE

In August 2017, 4,804 m³ of water was pumped back to the North Cell TSF from the ST-16 sump. Of that amount, 1741 m³ and 510 m³ were transferred from the WEP1 and WEP2 sumps respectively to the ST-16 sump.

As per the 2017 Freshet Action Plan, Agnico Eagle completed in August the freshet inspections at the Portage and Vault RSFs, and NP-2 Lake. No major issues were observed. Open water sampling at WEP1 (Station ST-30) and WEP2 (Station ST-31) required under the Freshet Action Plan was completed in August. Open water sampling was also completed in August for ST-16, NP-2 and the downstream lakes.

2.3 CENTRAL DIKE SEEPAGE

In August 2017, 374,648 m³ of water was pumped from the ST-S-5 sump back into the South Cell TSF. Total year to date is 3,493,648 m³. A total of 26,889 m³ of water was transferred from ST-S-5 sump to Goose Pit in August.

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 2017, 3,782 m³ of water was pumped back from well MW-203 back to the mill. Weekly inspections of the area were conducted this month. Well monitoring for CN downstream of the trench as well as open water monitoring required under the Freshet Action Plan were completed in August.

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, 18,095 m³ were pumped out from Vault Pit to the Vault Attenuation Pond. A total of 4,193 m³ 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 August 2017.

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 twice a year 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 7, 2017
Ammonia (NH ₃)	mg N/L	0.97
Ammonia-Nitrogen (NH ₃ -NH ₄)	mg N/L	52.1
Total Kjeldahl Nitrogen	mg N/L	60.9
BOD-5	mg/L	8
COD	mg/L	73
Total Suspended Solids	mg/L	16
Nitrate	mg N/L	1.42
Nitrite	mg N/L	1.44
pH*	Units	7.6
Fecal Coliform	UFC/100 mL	440
Total Coliform	UFC/100 mL	10 000

*Parameter measured by STP operators, ** No result

Table 2.7.2: LJ-Mix Effluent Results

Parameters	Units	August 7, 2017
Ammonia (NH ₃)	mg N/L	0.06
Ammonia-Nitrogen (NH ₃ -NH ₄)	mg N/L	15.6
Total Kjeldahl Nitrogen	mg N/L	24.7
BOD-5	mg/L	5
COD	mg/L	63
Total Suspended Solids	mg/L	16
Nitrate	mg N/L	18.1
Nitrite	mg N/L	0.73
pH*	Units	6.8
Fecal Coliform	UFC/100 mL	>6000
Total Coliform	UFC/100 mL	210 000

*Parameter measured by STP operators

2.8 VAULT ATTENUATION POND EFFLUENT

Discharge from the Vault Attenuation Pond into Wally Lake was in operation throughout the month of August. A total of 65,535 m³ of water was discharged.

TSS monitoring results for August 2017 are shown in Table 2.8.1 below. No Actiflo Water Treatment Plant was necessary during the month as the TSS levels were below the effluent criteria stated in Part F, Item 4 of Water Licence 2AM-MEA1525. Five (5) weekly effluent samples were taken at ST-10 in August. Results are presented in table 2.8.2. No water license exceedances were recorded.

Table 2.8.1: August 2017 Vault attenuation pond effluent results for TSS

Parameters	Units	1-August-17	7-August-17	14-August-17	21-August-17	29-August-17	Maximum Average Concentration
Total Suspended Solids	mg/L	1	10	3	22	11	9.4

Table 2.8.2: August 2017 Vault attenuation pond effluent results

Parameters	Units	1-August-17	7-August-17	14-August-17	21-August-17	29-August-17
Aluminum	mg/L	0.069	0.202	0.091	0.507	0.389
Sulphate	mg/L	49	40.6	38	62.9	70.5
Arsenic	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper	mg/L	0.0027	0.0023	0.003	0.0052	0.003
Nickel	mg/L	0.0047	0.0041	0.0043	0.0056	0.0045
Lead	mg/L	0.0004	<0.0003	<0.0003	<0.0003	<0.0003
Zinc	mg/L	0.002	0.006	0.001	0.001	0.001
Radium 226	mg/L	0.009	0.002	0.010	ND	0.019
Total Cyanide	mg/L	0.001	<0.001	<0.001	0.001	0.0014

2.9 EAST DIKE SEEPAGE EFFLUENT

On May 9, East Dike Discharge exceeded TSS results regarding the maximum allowable grab sample concentration (30 mg/L) and maximum average concentration (15 mg/L) permitted by Water License, Part F, Item 6. The event was reported via an email sent to the NU Spill Line on May 11 2017. More details were provided in May report.

In August, there was still no discharge from the East Dike Seepage to Second Portage Lake. Agnico Eagle has put in place a daily TSS monitoring program to follow the water quality. Once the results are satisfying for Agnico Eagle and compliant with the MMER regulation for

a period judged acceptable for confirmation that the TSS level meets discharge criteria, the water discharge will resume in Second Portage Lake.

2.10 NON CONTACT WATER

In August, Agnico Eagle completed inspections at ST-5 and ST-6 as per the 2017 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	7-August-17
Total Suspended Solids	mg/l	2

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

Parameters	Units	7-August-17
Total Suspended Solids	mg/l	3

SECTION 3 • SPILL MANAGEMENT

Figure 3.1 shows reported and non-reported spills for 2017 broken down per month and Table 3.1 summarizes Agnico spill reports for August 2017. All spills reported internally (32) 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 2017 Reported and Non-Reported Spills

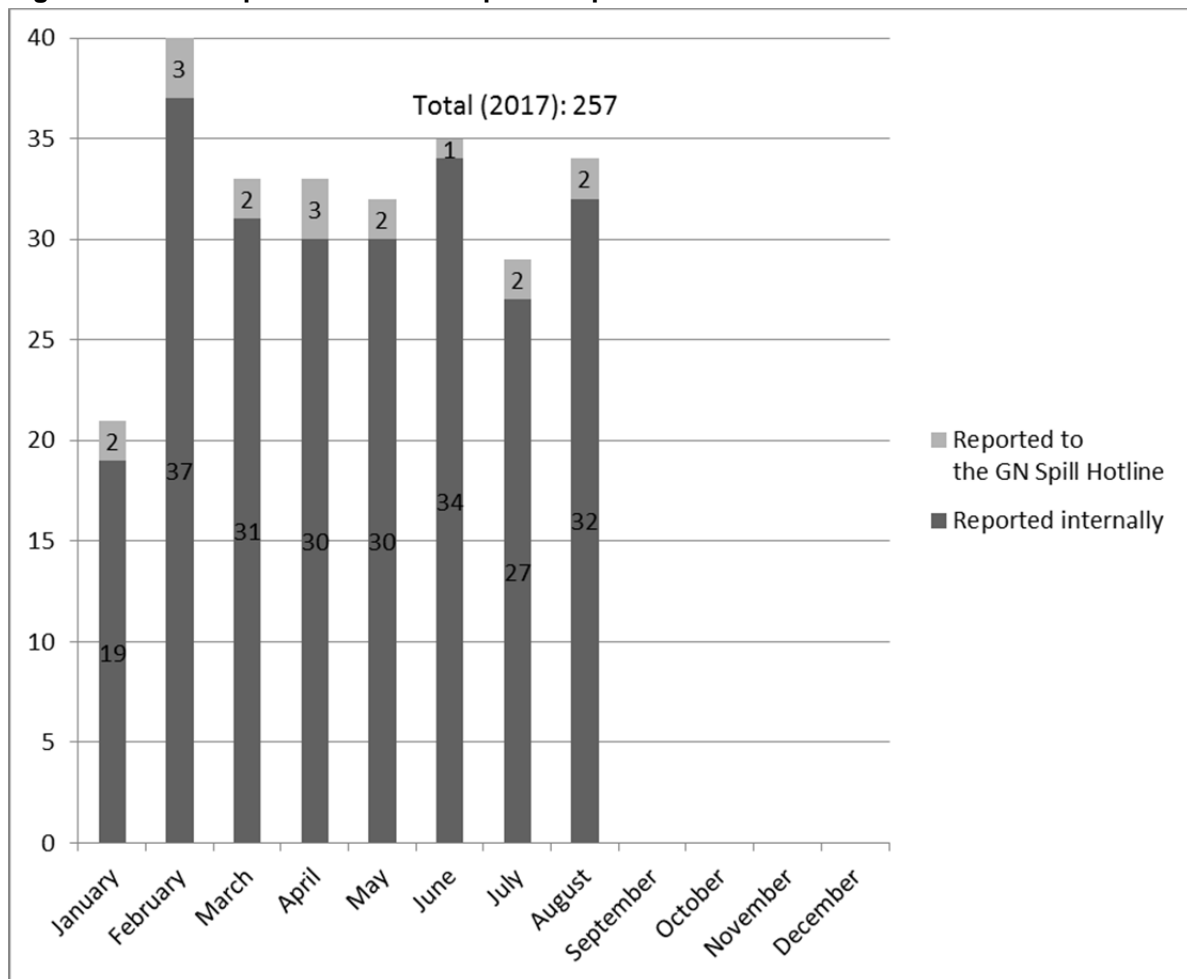


Table 3.1: Summary of Agnico Eagle Internal Spill Reports, August 2017

Date of Spill	Hazardous Material	Quantity	Units (L / Kg)	Location	Cause of spill	Clean-up action taken	Reported to Spill GN HotLine
August 3, 2017	Hydraulic oil	50	L	Portage Rock Storage Facility	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 3, 2017	Hydraulic oil	30	L	Vault pit	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 3, 2017	Coolant	50	L	Vault parking	Broken coolant hose	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 4, 2017	Hydraulic oil	15	L	Portage Rock Storage Facility	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 6, 2017	Coolant	5	L	Vault pit	Broken coolant hose	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 6, 2017	Hydraulic oil	80	L	Vault pit	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 7, 2017	Hydraulic oil	200	L	Phaser Pit	Pinched valve	Spill was contained and contaminated soil picked up and disposed of appropriately	Y
August 8, 2017	Hydraulic oil	10	L	Vault pit	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 9, 2017	NaOH	25	kg	AWAR km 23	Tractor-Trailer roll-over	Spill was contained and contaminated soil picked up and disposed of appropriately	Y

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August 9, 2017	Hydraulic oil	20	L	135 Waste dump	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 9, 2017	Coolant	15	L	Vault pit	Broken water pump	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 10, 2017	Hydraulic oil	15	L	135 Waste dump	Broken O'ring	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 12, 2017	Transmission Fluid	20	L	Vault parking	Loose hose on transmission	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 12, 2017	Hydraulic oil	10	L	Tailing pond	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 12, 2017	Hydraulic oil	30	L	Waste dump	Hydraulic hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 13, 2017	Hydraulic oil	40	L	Portage pit	Broken steering hose	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 15, 2017	Coolant	1	L	Meadowbank camp	Broken coolant hose	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 16, 2017	Hydraulic oil	40	L	Transit laydown	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 16, 2017	Hydraulic oil	4	L	Saddle Dam 3	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately	N

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August 16, 2017	Hydraulic oil	80	L	Vault pit	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 17, 2017	Engine oil	40	L	Portage pit	Engine leak	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 17, 2017	Hydraulic oil	90	L	Vault pit	Broken O'ring	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 18, 2017	Engine oil	20	L	Portage pit	Residual oil from maintenance repairs	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 20, 2017	Hydraulic oil	15	L	Vault pit	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 20, 2017	Hydraulic oil	40	L	Vault pit	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 23, 2017	Hydraulic oil	35	L	Vault transit	Broken hydraulic pump	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 25, 2017	Coolant	75	L	Primary Crusher	Broken coolant hose	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 25, 2017	Hydraulic oil	50	L	Primary Crusher	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 25, 2017	Transmission oil	90	L	Portage pit	Broken transmission hose	Spill was contained and contaminated soil picked up and disposed of appropriately	N

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August 26, 2017	Hydraulic oil	6	L	Portage pit	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 29, 2017	Hydraulic oil	4	L	Waste dump	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 29, 2017	Coolant	30	L	Vault pit	Broken coolant hose	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 31, 2017	Hydraulic oil	40	L	Meadowbank camp	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately	N
August 31, 2017	Hydraulic oil	45	L	Vault pit	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately	N