



MEADOWBANK DIVISION

Monitoring Program Summary Report
November 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 November 2017 is summarized in Table 2-1 below.

Table 2-1: Freshwater Usage (m³)

Water Location	Source Lake	Jan	Feb	March	April	May	June	July
Camp	Third Portage Lake	3,623	3,144	3,444	3,490	3,692	3,697	3,818
Mill (freshwater tank)	Third Portage Lake	45,068	41,345	33,328	53,001	53,152	39,661	43,494
Emulsion plant	No-name Lake	86	97	97	96	101	100	129
Total Freshwater Usage (m³)		48,777	44,586	36,869	56,587	56,944	43,459	47,441
Reclaim Water Usage (m³)	Tailings Pond	252,232	232,324	247,396	227,667	246,007	247,131	251,549

Water Location	Source Lake	Aug	Sept	Oct	Nov	Dec	Total
Camp	Third Portage Lake	3,433	3,389	3,522	3248.00		38,500
Mill (freshwater tank)	Third Portage Lake	38,174	34,107	30,883	35270		447,483
Emulsion plant	No-name Lake	123	98	97.6	92.4		1,115
Total Freshwater Usage (m³)		41,730	37,594	34,503	38,610	0	487,098
Reclaim Water Usage (m³)	Tailings Pond	257,421	241,498	250,866	254,845		2,708,936

2.2 WASTE ROCK STORAGE FACILITY SEEPAGE

In November, no water was pumped back to the North Cell TSF from the ST-16 sump. No water was transferred from the WEP1 and WEP2 sumps respectively to the ST-16 sump. Total year to date pumped from ST-16 sump is 50,553 m³.

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 November.

2.3 CENTRAL DIKE SEEPAGE

In November, 256,514 m³ of water was pumped from the ST-S-5 sump back into the South Cell TSF. Total year to date is 4,115,073m³. In November, Agnico didn't pump a part of the Central Dike seepage water into Goose Pit. A total year to date of 332,177m³.

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 November, no water was pumped back from the trench to the mill, all frozen. 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 November, 4,815m³ were pumped out from Vault Pit to the Vault Attenuation Pond. A total of 6,800m³ 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 November.

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

Table 2.7.1: Seprotech Effluent Results

Parameters	Units	November 6 th , 2017
Ammonia (NH ₃)	mg N/L	0.76
Ammonia-Nitrogen (NH ₃ -NH ₄)	mg N/L	46.6
Total Kjeldahl Nitrogen	mg N/L	59.6
BOD-5	mg/L	23
COD	mg/L	98
Total Suspended Solids	mg/L	15
Nitrate	mg N/L	1.22
Nitrite	mg N/L	1.85
pH*	Units	7.3
Fecal Coliform	UFC/100 mL	320 000
Total Coliform	UFC/100 mL	370 000

*Parameter measured by STP operators

Table 2.7.2: LJ-Mix Effluent Results

Parameters	Units	November 6 th , 2017
Ammonia (NH ₃)	mg N/L	<0.01
Ammonia-Nitrogen (NH ₃ -NH ₄)	mg N/L	2
Total Kjeldahl Nitrogen	mg N/L	6.41
BOD-5	mg/L	22
COD	mg/L	85
Total Suspended Solids	mg/L	18
Nitrate	mg N/L	16.4
Nitrite	mg N/L	0.26
pH*	Units	7.3
Fecal Coliform	UFC/100 mL	1300
Total Coliform	UFC/100 mL	7000

*Parameter measured by STP operators

2.8 VAULT ATTENUATION POND EFFLUENT

No discharge occurred from the Vault Attenuation Pond into Wally Lake in November. Total year to date is 715,606m³.

2.9 EAST DIKE SEEPAGE EFFLUENT

Discharge from the East Dike Seepage occurred from for the entire month. A total of 14,836m³ was discharged into Second Portage Lake in November 2017. Total year to date is 83,928m³.

Four (4) weekly effluent samples were collected at ST-8 in November 2017. 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	Nov. 6 th , 2017	Nov. 13 th , 2017	Nov. 20 th , 2017	Nov. 27 th , 2017	Maximum Average concentration
Total Suspended Solids	mg/L	5	6	8	5	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 November 2017 Monthly Monitoring Results

Parameters	Units	November 6th, 2017
Aluminum	mg/L	0.059
Sulphate	mg/L	6.8
Arsenic	mg/L	<0.0005
Copper	mg/L	0.0005
Nickel	mg/L	0.0009
Lead	mg/L	<0.0003
Zinc	mg/L	0.001
Radium 226	mg/L	<0.002
Total Cyanide	mg/L	0.001

2.10 NON CONTACT WATER

No water samplings were conducted at ST-5 and St-6 in November due to frozen condition.

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 November 2017. All spills reported internally (24) and to regulators (0) 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

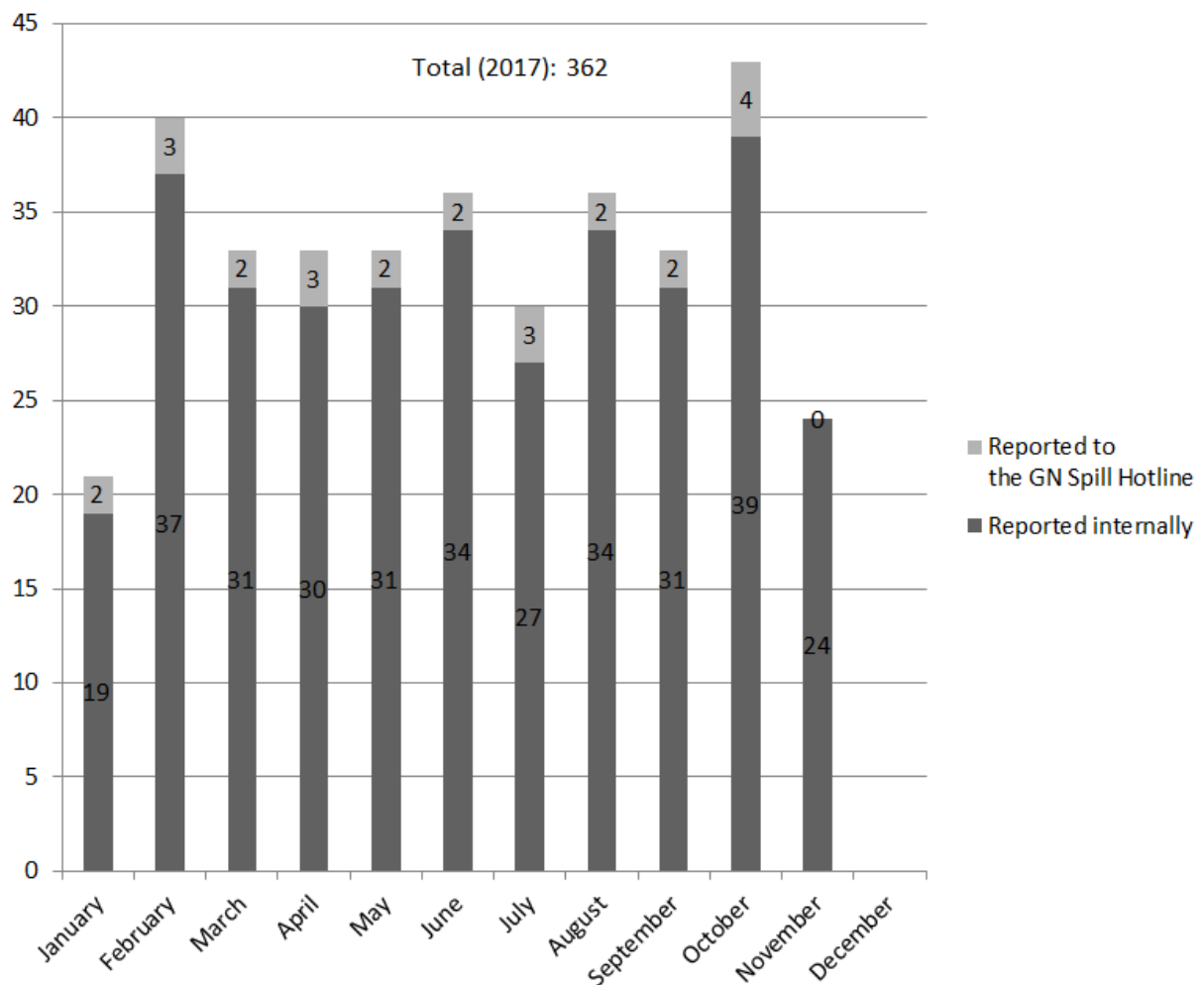


Table 3.1: Summary of Agnico Eagle Internal Spill Reports, November 2017

Spill Description							
Date of Spill	Hazardous Material	Qty	Units (L / Kg)	Location	Cause of spill	Clean-up action taken	Reported to Spill GN HotLine (Y/N)
November 1, 2017	Coolant	50	L	Vault parking	O'ring failure from radiator	Spill was contained and contaminated soil picked up and disposed of appropriately.	N
November 2, 2017	Compressor oil	30	L	Portage Pit	O'ring hose failure	Spill was contained and contaminated soil picked up and disposed of appropriately.	N
November 2, 2017	Diesel	90	L	Vault parking	Busted fuel Hose	Spill was contained and contaminated soil picked up and disposed of appropriately.	N
November 6, 2017	Coolant	10	L	Vault parking	Leaking radiator	Spill was contained and contaminated soil picked up and disposed of appropriately.	N
November 7, 2017	Hydraulic Oil	10	L	Portage Pit	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately.	N
November 5, 2017	Hydraulic Oil	1	L	Vault Pit	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately.	N
November 7, 2017	60 WT gear oil	40	L	Phaser Pit	Maintenance repair	Spill was contained and contaminated soil picked up and disposed of appropriately.	N
November 8, 2017	Transmission oil	10	L	Vault kitchen	Transmission cover was unscrew	Spill was contained and contaminated soil picked up and disposed of appropriately.	N
November 8, 2017	Coolant	10	L	Camp / Sana yard	Leak on a hose	Spill was contained and contaminated soil picked up and disposed of appropriately.	N

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November 9, 2017	Diesel	5	L	Meadow bank tank farm	Spill occurred when removing the fuel tube from the tanker truck.	Spill was contained and contaminated soil picked up and disposed of appropriately.	N
November 12, 2017	Diesel	5	L	Vault parking	Hydraulic "O" ring failure	Spill was contained and contaminated soil picked up and disposed of appropriately.	N
November 11, 2017	Diesel	30	L	Vault parking	Frozen Vent On Fuel Tank	Spill was contained and contaminated soil picked up and disposed of appropriately.	N
November 12, 2017	Hydraulic Oil	50	L	Vault Pit	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately.	N
November 13, 2017	Diesel	10	L	Vault Pit	Broken component on a fuel line from the fuel tank to the engine	Spill was contained and contaminated soil picked up and disposed of appropriately.	N
November 14, 2017	Hydraulic Oil	80	L	Vault Pit	Hydraulic Block failure	Spill was contained and contaminated soil picked up and disposed of appropriately.	N
November 14, 2017	Engine Oil	12	L	Maintenance Shop	Engine failed and oil engine spilled	Spill was contained and contaminated soil picked up and disposed of appropriately.	N
November 20, 2017	Hydraulic Oil	20	L	Vault parking	Blown hydraulic line	Spill was contained and contaminated soil picked up and disposed of appropriately.	N
November 24, 2017	Hydraulic oil	10	L	Vault Phaser 1 Dump	Broken hydraulic oil	Spill was contained and contaminated soil picked up and disposed of appropriately.	N
November 24, 2017	Coolant	40	L	Portage Pit	Broken coolant hose	Spill was contained and contaminated soil picked up and disposed of appropriately.	N

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November 24, 2017	Hydraulic oil	10	L	Vault parking	Busted hydraulic o-ring	Spill was contained and contaminated soil picked up and disposed of appropriately.	N
November 26, 2017	Hydraulic Oil	10	L	Pushback Parking	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately.	N
November 27, 2017	Hydraulic Oil	25	L	Portage Pit	Final drive plug failure	Spill was contained and contaminated soil picked up and disposed of appropriately.	N
November 27, 2017	Hydraulic Oil	25	L	Vault Pit	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately.	N
November 27, 2017	Hydraulic Oil	15	L	Portage Pit	Broken hydraulic hose	Spill was contained and contaminated soil picked up and disposed of appropriately.	N