



MEADOWBANK DIVISION

Monitoring Program Summary Report

June 2014

Type A Water License 2AM-MEA0815

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SECTION 1 • BACKGROUND

As required under Part I, Item 25 of Type A Water License 2AM-MEA0815, this report documents the water management and monitoring activity at the mine site for the month. This includes water usage, Portage Attenuation Pond discharge water quality, Vault Dewatering water quality, East Dike Seepage discharge water quality, RSF Seepage, Assay Road Seepage and sewage treatment plant discharge water quality (to onsite storm water management pond).

In addition, a summary of spills/actions for the month is included.

SECTION 2 • WATER MANAGEMENT

2.1 WATER USAGE

Freshwater usage for June 2014 is summarized in Table 2.1 below. Total freshwater used for the month was 61,664 m³. The total amount of reclaim water used in the mill for June was 230,833 m³.

On April 23rd, 2013 Agnico Eagle Mines (AEM) Meadowbank Division submitted a request to the Nunavut Water Board for an amendment to increase the freshwater use rate at the Meadowbank Gold Project. The Water license amendment pre-hearing conference and technical meeting was held in Baker Lake on October 16th and 17th, 2013. Final written hearing was held on January 17th, 2014. On January 24th, 2014, AEM received correspondence from NWB advising that hearing record is closed and the Panel will issue, in due time, a decision report to AANDC regarding whether or not to issue the requested amendment, to the Type A Water License, to the Applicant. AEM received on June 30th the Nunavut Water Board approval for Freshwater amendment and reasons for decision. Those documents have been forwarded by NWB to the Minister of Aboriginal Affairs for his approval.

Table 2-1: Freshwater Usage (m³)

	June
Freshwater Storage Tank	61,492
Emulsion Plant	172
Water Truck	0
Total	61,664
Year to date total	679,411

2.2 WASTE ROCK STORAGE FACILITY SEEPAGE

AEM continue to follow the Freshet Action Plan prepared for the annual thaw. This plan includes the pumping of any seepage water from ST-16 to the North Cell TSF. In June, a total of 10,797m³ was pumped out for a total year to date of 26,363m³. AEM also completed bi-weekly monitoring for CN and daily inspections were completed at RSF and NP-2 Lake. To date, the water level in ST-16 area was very low avoiding any seepage to pass thru the till road.

2.3 ASSAY ROAD SEEPAGE

In June, AEM has continued to follow the Freshet Action Plan prepared for the annual thaw. The water in the interception sump and original sump was actively pumped back to the mill for a total of 2,764m³ during the month. Year to date pumped volume is 6,264m³. Daily inspection of the area is conducted and all the water was contain in these containments and do not reach TPL. Samples are taken in TPL and to date no contaminants (CN) have been detected. AEM engaged Tetra Tech (formerly EBA) to perform an assessment, drilling delineation program and to provide a report with recommendations. AEM is still waiting to

receive the final report. Repairs to the containment systems in the mill have continued and are progressing well.

2.4 SEWAGE TREATMENT PLANTS

No (0) effluent wastewater sample was taken from the onsite sewage treatment plant (STP's) in June following an error in the planning.

2.5 PORTAGE ATTENUATION POND EFFLUENT

On June 10th, AEM started to discharge effluent from Portage Attenuation Pond and on June 30th the discharge was stopped. AEM did not plan to discharge again water from Portage Attenuation Pond because after 2014 water contained into the Attenuation Pond will be contaminated by reclaim water. A total of 193,723m³ of water was discharge during the month into Third Portage Lake.

Four weekly effluent samples were taken from the Actiflo Water Treatment Plant (ST-9) in June. All the results were in compliance with Water License Part F, Item 2 for effluent quality limits except for aluminium concentration. On June 10th, June 24th and June 30th, 2014 the aluminum concentration was 1.80 mg/L, 1.55 mg/L, and 1.62 mg/L respectively, exceeding the license limit of 1.5 mg/L as a maximum grab sample. AEM exceed the monthly average concentration limit with 1.53 mg/L. The source of the elevated level of aluminium appears to be from the coagulant used in the water treatment plant, and the difficulty to optimize coagulant dosage.

The sample results are shown in Table 2.4.1 below.

Table 2.4.1: ST-9 - Effluent Monitoring

Date Parameters	Units	Max. grab conc.	10-Jun-14	16-Jun-14	24-Jun-14	30-Jun-14	Monthly Average	Max. avg. conc.
pH*		6.0-9.0	6.64	6.60	7.28	NA	6.84	6.0-9.0
TSS	mg/L	30	7	11	6	9	8.25	15
Turbidity*	NTU	15	3.07	2.35	2.18	1.63	2.31	15
Aluminium	mg/L	1.5	1.80	1.14	1.55	1.62	1.53	1.5
Dissolved Aluminium	mg/L	1.0	0.031	0.064	0.098	0.6	0.20	1.0
Arsenic	mg/L	0.6	0.0013	0.0033	0.0035	0.0007	0.0022	0.3
Cadmium	mg/L	0.004	0.00012	0.00008	0.00007	0.00006	0.00008	0.002
Cyanide Total	mg/L	1.0	0.331	0.269	0.358	0.312	0.318	0.5
Copper	mg/L	0.2	0.0046	0.0041	0.0044	0.0049	0.0045	0.1
Mercury	mg/L	0.0008	0.00003	0.00002	0.00002	0.00002	0.00002	0.0004
Ammonia nitrogen	mg N/L	32	9.2	6.6	8.2	7.6	7.9	16
Nickel	mg/L	0.4	0.0421	0.0297	0.0381	0.0362	0.0365	0.2
Nitrate	mg N/L	40	1.3	1.6	1.4	1.4	1.43	20
Lead	mg/L	0.2	<0.0003	<0.0003	0.0039	<0.0003	0.0012	0.1
Phosphorus	mg/L	2.0	0.06	<0.01	<0.01	0.03	0.03	1.0
Zinc	mg/L	0.8	0.004	0.003	0.001	<0.001	0.002	0.4
Chloride	mg/L	2000	90.2	87.3	84.8	91.6	88.5	1000
C10-C50	mg/L	6	<0.1	<0.1	0.1	0.1	0.1	3

*Parameter measured by Environmental Technicians on field

2.6 VAULT DEWATERING EFFLUENT

Continuation of Vault Lake Dewatering began on June 20th and was stopped on June 29th. In June, a total of 139,900 m³ of water was discharged to Wally Lake. The dewatering of Vault Lake was officially completed and the dewatered Vault Lake becomes the Vault Attenuation Pond (contact water).

As per Water License Part D Item 16, the effluent from Vault Lake pit dewatering shall not exceed the following quality limits:

Parameter	Maximum Monthly Mean	Short Term Maximum
Total Suspended Solids	15.0 mg/L	22.5 mg/L
Turbidity	15 NTU	30 NTU
pH	6.0 to 9.0	6.0 to 9.0
Total Aluminium	1.5 mg/L	3.0 mg/L

The pH and Aluminum concentrations at the water intake pump were as follows:

- pH 24 hour minimum/maximum: 7.56 / 8.23 (Limit is 6-9 units)
- pH 30 days minimum/maximum: 7.92 / 8.23 (Limit is 6-9 units)
- Al 24 hour maximum concentration: 0.239 mg/L (Limit is 3.0 mg/L)
- Al 30 days maximum concentration: 0.239 mg/L (Limit is 1.5 mg/L)

The turbidity and Total Suspended Solids (TSS) concentrations at the water intake pump were as follows:

- NTU 24 hour maximum concentration: 16.43 NTU (Maximum Limit is 30 NTU)
- TSS 24 hour maximum concentration: 16.7 mg/L (Maximum Limit is 22.5 mg/L)
- NTU 30 days mean maximum concentration: 14.11 NTU (Maximum Limit is 15 NTU)
- TSS 30 days mean maximum concentration: 13.03 mg/L (Maximum Limit is 15 mg/L)

Table 2.5.1 summarizes the dewatering monitoring results for pH, aluminum, turbidity and TSS for the month.

Table 2.5.1: Vault Lake Dewatering Monitoring

Date	ST-DD-3				License Requirement			
	Turbidity	TSS	pH	Total Aluminium	NTU 30-day Mean	TSS 30-day Mean	pH 30-day Mean	Al 30-day Mean
	NTU	mg/L		mg/L	15	15	6.0 - 9.0	3.0
2014-06-21	13.09	9.2	8.23	0.239	13.09	9.20	8.23	
2014-06-22	12.81	13.2	8.21		12.95	11.20	8.22	
2014-06-23	16.43	16.7	7.64		14.11	13.03	8.03	
2014-06-24	13.65	10.0	7.80		14.00	12.28	7.97	0.24
2014-06-25	12.62	8.4	7.96		13.72	11.50	7.97	0.24
2014-06-26	12.21	7.2	8.02		13.47	10.78	7.98	0.24
2014-06-27	10.84	10.8	7.56		13.09	10.79	7.92	0.24
2014-06-28	10.90	8.8			12.82	10.54	7.92	0.24

2.7 EAST DIKE SEEPAGE EFFLUENT

No East Dike Seepage Discharge since May 2nd following a visual turbidity increase due to the freshet. AEM expect that as soon as the freshet is complete, the turbidity level will decrease and the discharge to Second Portage Lake will resume. Total year to date discharged is 48,743 m³.

2.8 NON CONTACT WATER

Portage Area East diversion ditch (ST-5) results are shown in Table 2.4.1 below and Portage Area West diversion ditch (ST-6) results are shown in Table 2.4.2.

TSS results didn't 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 4. Furthermore, to comply with Water License Part D item 22, sediment barriers were in place throughout the month of June and daily visual inspections were conducted to prevent entry of sediments into the receiving environment.

Table 2.4.1: Portage Area East Diversion Ditch (ST-5) Results

Parameters	Units	24-June-14
Total Suspended Solids	mg/l	1

Table 2.4.2: Portage Area West Diversion Ditch (ST-6) Results

Parameters	Units	24-June-14
Total Suspended Solids	mg/l	4

SECTION 3 • SPILL MANAGEMENT

AEM has developed a system of tracking spills on-site. Table 3.1 summarizes the AEM spill reports for the month. Six (6) spills occurred on site and one (1) was reported to the GN spill hotline. AEM contained and cleaned up all the spills.

Table 3-1: Summary of AEM Internal Spill Reports

Date of Spill	Hazardous Material	Quantity (L/Kg)	Location	Cause of spill	Clean-up action taken	Reported to Spill Hot Line
2014-06-02	Caustic soda	4.54	Row 11 Sea can Laydown	While moving a sea can containing Caustic soda with the Hyster, 5 bags of product fell out of the sea can. Upon contact with the ground, the bags busted open as they fell 10 to 12. Feet.	Area of spill was immediately taped off to prevent anyone to go near the spill area, product was cleaned up and disposed of at Tailings pond.	Yes
2014-06-06	Jet-A fuel	20	Baker Lake Jet A Pad	AFS truck driver didn't open the main air valve on the trailer creating a bypass and causing a spill on the ground.	Ground has been scraped and contaminated material was bring at the Meadowbank landfarm later.	No
2014-06-07	Hydraulic oil	20	Pit D	Broken hydraulic hose on the boom of Loader 980.	Cleaned-up of the area and contaminated material disposed at the landfarm.	No
2014-06-11	Diesel	20	In front of Blue Maintenance Coverall	Equipment was parked in front of Blue Maintenance Coverall for repair. When equipment was moved inside a small spill was visible on the ground.	Contaminated material was shoveled and picked up and disposed at the landfarm.	No
2014-06-20	Contaminated water	60	East side of the leach pad	A hole was discovering through the secondary containment concrete floor and water was starting to come out of the secondary containment on the east side.	A plastic bag was installed as well as some slurry berm around the hole to prevent more water to seep out. The floor was fix later on using SIKa Grout 212 and EWL.	No
2014-06-23	Used Sika Equipment Cleaner	10	Entrance to Mill smoke shack by reagent bay	Used 20L pail of Sika equipment cleaner was used to keep open the door of the Mill smoke shack. The wind knocked over the pail.	Mill Maintenance employee quickly put absorbant pads on the spill. The skid steer picked up the contaminated material and was processed through the sag mill.	No