



MEADOWBANK DIVISION

## **Monitoring Program Summary Report**

**March 2014**

Type A Water License 2AM-MEA0815

Table of Contents

SECTION 1 • BACKGROUND..... 3

SECTION 2 • WATER MANAGEMENT ..... 4

2.1 WATER USAGE .....4

2.2 WASTE ROCK STORAGE FACILITY SEEPAGE .....4

2.3 ASSAY ROAD SEEPAGE .....4

2.4 SEWAGE TREATMENT PLANTS.....4

2.5 PORTAGE ATTENUATION POND EFFLUENT .....5

2.6 VAULT DEWATERING EFFLUENT .....5

2.7 EAST DIKE SEEPAGE EFFLUENT.....6

2.8 NON CONTACT WATER.....6

SECTION 3 • SPILL MANAGEMENT ..... 7

## **SECTION 1 • BACKGROUND**

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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 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**

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### **2.1 WATER USAGE**

Freshwater usage for March 2014 is summarized in Table 2.1 below. Total freshwater used for the month was 145,875 m<sup>3</sup>. The total amount of reclaim water used in the mill for March was 156,568 m<sup>3</sup>.

On April 23<sup>rd</sup>, 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. Water license amendment pre-hearing conference and technical meeting was held in Baker Lake on October 16<sup>th</sup> and 17<sup>th</sup>. Final written hearing was held on January 17<sup>th</sup>, 2014. On January 24<sup>th</sup>, 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 is still waiting for the final decision.

**Table 2-1: Freshwater Usage (m<sup>3</sup>)**

|                           | <b>March</b>   |
|---------------------------|----------------|
| Freshwater Storage Tank   | 145,636        |
| Emulsion Plant            | 239            |
| Water Truck               | 0              |
| <b>Total</b>              | <b>145,875</b> |
| <b>Year to date total</b> | <b>279,650</b> |

### **2.2 WASTE ROCK STORAGE FACILITY SEEPAGE**

The RSF seepage has been frozen since October 5<sup>th</sup>, 2013. In March, weekly inspections were completed at RSF and NP-2 Lake. No more monthly sample has been taken in NP-2 Lake as the ice is thicker than 5 feet (safety issue). AEM is working on a freshet action plan.

### **2.3 ASSAY ROAD SEEPAGE**

No more seepage has been visible since November 24<sup>th</sup>. Samples are taken in TPL monthly and to date no contaminants (CN) have been detected. AEM has engaged Tetra Tech (formerly EBA) to perform an assessment, drilling delineation program and provide a report with recommendations in early 2014. Repairs of the containment systems in the mill have commenced and the intent is to have this completed prior to freshet.

### **2.4 SEWAGE TREATMENT PLANTS**

One (1) effluent wastewater sample was taken from the onsite sewage treatment plant (STP's) in March.

The Seprotech STP results are shown in Table 2.3.1 below; the LJ-Mix STP results are shown in Table 2.3.2. The results of the discharge indicate the system was working well. The effluent is discharged to the onsite storm water pond and is not discharged to the natural environment.

**Table 2.3.1: Seprotech Effluent Results**

| Parameters              | Units      | March 3, 2014 |
|-------------------------|------------|---------------|
| Ammonia                 | mg N/L     | <0.01         |
| Ammonia-Ammonium        | mg N/L     | 8.7           |
| Total Kjeldahl Nitrogen | mg N/L     | 8.9           |
| BOD-5                   | mg/L       | 1             |
| COD                     | mg/L       | 32            |
| Total Suspended Solids  | mg/L       | 6             |
| Nitrate                 | mg N/L     | 29.6          |
| Nitrite                 | mg N/L     | 0.04          |
| pH*                     | Units      | 5.60          |
| Fecal Coliform          | UFC/100 mL | 3             |
| Total Coliform          | UFC/100 mL | 50            |

\*Parameter measured by STP operators

**Table 2.3.2: LJ-Mix Effluent Results**

| Parameters              | Units      | March 3, 2014 |
|-------------------------|------------|---------------|
| Ammonia                 | mg N/L     | <0.01         |
| Ammonia-Ammonium        | mg N/L     | 18.2          |
| Total Kjeldahl Nitrogen | mg N/L     | 18.5          |
| BOD-5                   | mg/L       | 5             |
| COD                     | mg/L       | 75            |
| Total Suspended Solids  | mg/L       | 11            |
| Nitrate                 | mg N/L     | 39            |
| Nitrite                 | mg N/L     | 0.07          |
| pH*                     | Units      | 4.3           |
| Fecal Coliform          | UFC/100 mL | 3             |
| Total Coliform          | UFC/100 mL | 40            |

\*Parameter measured by STP operators

## 2.5 PORTAGE ATTENUATION POND EFFLUENT

There was no Portage Attenuation Pond Discharge thru Actiflo Water Treatment Plant (ST-9) in March.

## 2.6 VAULT DEWATERING EFFLUENT

In March, no water was discharged to Wally Lake.

## 2.7 EAST DIKE SEEPAGE EFFLUENT

During the month, a total of 12,971 m<sup>3</sup> was discharged thru a diffuser into Second Portage Lake for a total year to date of 37,480m<sup>3</sup>. Monitoring results are shown in Table 2.7.1 below.

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.

**Table 2.7.1: East Dike Seepage Discharge Results**

| Parameters             | Units | 5-Mar-14 | 11-Mar-14 | 17-Mar-14 | 24-Mar-14 | Maximum Average Concentration |
|------------------------|-------|----------|-----------|-----------|-----------|-------------------------------|
| Total Suspended Solids | mg/L  | 8        | 11        | 14        | 21        | 13.50                         |

## 2.8 NON CONTACT WATER

In March, there was no water discharged through the non-contact water diversion ditches due to freezing conditions.

## 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. Seven (7) spills occurred on site and none 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 |
|---------------|--------------------|-----------------|--------------------------|--|--|----------------------------|
| 2014-03-01    | Engine oil         | 50              | Haul Truck Parking       | During start-up of Haul Truck - the air compressor failed and the pressure from the engine oil broke the seal. | Spill pads were placed on the ground under the spill. Site Services picked up contaminated snow/material with Backhoe and placed in yellow roll off bin. | No                         |
| 2014-03-06    | Diesel Fuel        | 50              | Refueling station MBK    | The rope holding the valve open got stuck and caused the overfilling of the fuel truck.                        | Snow was disposed of in the yellow bin then at the TSF.  | No                         |
| 2014-03-10    | Diesel Fuel        | 20              | Refueling station MBK    | Fuel leak on the mast to fill the fuel truck because a seal broke on fueling arm.                              | Absorbant pads were disposed in the HAZMAT and the snow in the TSF.  | No                         |
| 2014-03-11    | Diesel fuel        | 25              | Vault tank farm          | Valve was not closed properly on fuel line.  | Valve was closed and spill contained. Contaminated materiel sent to landfarm.  | No                         |
| 2014-03-14    | Hydraulic oil      | 75              | Pit E2 - pattern 5116636 | Blown hydraulic hose on backhoe 8.   | Spill was stopped and contained. Contaminated material sent to landfarm.   | No                         |
| 2014-03-19    | Sewage black water | 50              | Sewage treatment plant   | Operator error in emptying the vacuum truck. Sewage ended up outside on the pipe.                              | Was cleaned up and disposed at TSF. Procedure updated and operators will be met.   | No                         |
| 2014-03-21    | Glycol             | 50              | TSF                      | While moving glycol totes, one was leaking.  | Used loader 966 to scrape all glycol and snow and disposed at TSF.   | No                         |