



May 27, 2011

Our reference  
IQALUIT-#464478

Sent by email: [licensing@nunavutwaterboard.org](mailto:licensing@nunavutwaterboard.org)

Richard Dwyer  
Licensing Administrator  
Nunavut Water Board  
Gjoa Haven, Nunavut  
X0E 1J0

Your reference  
2AM-MEA0815/B15

**Re: Type 'A' Water Licence No. 2AM-MEA0815 – Meadowbank Gold  
Project – Agnico-Eagle Mines Ltd. – Kivalliq Region – 2010 Annual  
Report**

Dear Richard,

Thank you for your May 6, 2011 request for written representations on the above  
referenced annual report submission.

A Technical Review Memorandum is provided for the Board's consideration.

Please do not hesitate to contact me by telephone at 867 975-4555 or email at  
[David.Abernethy@inac-ainc.gc.ca](mailto:David.Abernethy@inac-ainc.gc.ca) for further information.

Regards,

David W. Abernethy  
Water Resources Regional Coordinator  
Operations Directorate  
Nunavut Regional Office  
Iqaluit, Nunavut  
X0A 0H0

Encl.

c.c.: J. Rogers, Water Resources Manager  
K. Robertson, A/Field Operations Manager

## Technical Review Memo

<b>TO</b>	Richard Dwyer Licensing Administrator Nunavut Water Board	OUR REFERENCE File #9545-2-2.2AM.MEAA IQALUIT-#464478
<b>FROM</b>	David Abernethy Water Resources Regional Coordinator Indian and Northern Affairs Canada	YOUR REFERENCE 2AM-MEA0815/B15  DATE May 27, 2011
<b>SUBJECT</b>	Type 'A' Water Licence No. 2AM-MEA0815 – Meadowbank Gold Project – Agnico-Eagle Mines Ltd. – Kivalliq Region – 2010 Annual Report	

### A. PROJECT DESCRIPTION

On May 6, 2011 the Nunavut Water Board (the Board) provided notification of the 2010 Annual Report submitted by Agnico-Eagle Mines Ltd (AEM) under their Meadowbank Gold Project, Type A Water Licence (Part B, Item 5). The Annual Report is available on the Board's online public registry and AEM mailed a paper copy to the Indian and Northern Affairs Canada's (INAC) Iqaluit office.

### B. RESULTS OF REVIEW

On behalf of the INAC Water Resources Division, I am providing the following comments/ recommendations for the Board's consideration,

#### 1. General

- The INAC Water Resources Division reviews monthly monitoring reports submitted by AEM under Part I, Item 25 of the Water Licence.

#### 2. Water Use

- According to AEM monitoring data, 1,148,505 m<sup>3</sup> of freshwater was consumed in 2010. This exceeded the licensed limit of 700,000 m<sup>3</sup>. Also, Section 7.14 of the submitted Annual Report states that AEM will request an increase to their annual freshwater allowance through a licence amendment application in the second quarter of 2011. The INAC Water Resources Division recommends that this amendment application include revised Water Management and Waste Management Plans which are required under Part F, Item 16 of the Water Licence.

- Under 9(1) (b) of the Northwest Territories Waters Regulations, AEM should have provided annual water use fees to the Nunavut Water Board payable to the Receiver General of Canada.

### **3. Waste Management**

- To date, AEM has not constructed a hydrocarbon contaminated soil treatment facility (landfarm). Recovered hydrocarbon contaminated soils have been directed to quarry sites (numbers 5, 6, and 22) for temporary storage. The INAC Water Resources Division recommends that the Board request AEM to explain how they intend to manage this recovered material and provide the total amount of hydrocarbon contaminated soils that were recovered in 2010. Any observed drainage or ponding in quarries used to temporarily store such materials should be monitored for oil and grease as part of the Schedule B, Item 5 geochemical monitoring requirements.
- Section 4.1 of the submitted Annual Report states that a revision of the August 2008 Operational ARD/ ML Sampling and Testing Plan is ongoing and will be completed in the second quarter of 2011. The INAC Water Resources Division will review this revised plan once it is made available.
- The quality of effluent reporting from the sewage treatment plant consistently has low pH values, below 6. However, data demonstrates that the sewage treatment plant is treating domestic wastewater. This effluent is directed to a stormwater management pond and then subsequently discharged into the Tailings Storage Facility. Although the licence does not include effluent discharge criteria from the sewage treatment plant, AEM should work toward having pH values in the range of 6-9. Also, INAC recommends that future monthly monitoring reports address and explain pH values that do not fall within this range and describe any planned mitigation practices.

### **4. Monitoring Program**

- Although a field trial program has not yet been implemented to determine the capping thickness required for the Tailings Storage Facility, AEM should be collecting subsurface temperature and climate data to be used in the design and future monitoring of this program.
- According to Section 7.4 of the submitted Annual Report, "Surface runoff and seepage at the waste rock storage facility was not observed in 2010." The INAC Water Resources Division questions whether flowing water or seepage occurred in this area in 2010, particularly during spring freshet. AEM should carefully monitor their waste rock storage facility in addition to all other waste management facilities (e.g., the landfill) during spring freshet conditions and major rainfall events, to analyze effluent quality and the appropriateness of mitigation measures.

## **5. Vault Haul Road Crossing**

- On January 12, 2011 AEM submitted final design and construction drawings for the Vault Haul Road Crossing as required by Part D, Item 3 of their Water Licence. The Vault crossing stream is characterized as a diffuse, boulder predominated channel that connects Turn Lake to Drill Trail Lake, two headwater lakes that drain into Second Portage Lake. Construction of this stream crossing is planned for the 2011- 2012 winter season. AEM has taken flow levels, including peak flows during snowmelt and precipitation events, into account when designing this crossing. However, the INAC Water Resources Division recommends that precipitation and flow level data be collected in 2010 and be incorporated into the crossing's design as modifications may be required. INAC would also like the data to be included in the annual reports.

Prepared by David Abernethy

c.c.: J. Rogers, Water Resources Manager  
K. Robertson, A/Field Operations Manager