



Indian and Northern  
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Nunavut Regional Office  
Operations Directorate  
Water Resources Division  
P.O. Box 100  
Iqaluit, NU X0A 0H0

File #IQA-N 9545-2-2.2AM.MEAA  
CIDMS #333765

May 29, 2009

*Via Email*

Phyllis Beaulieu  
Manager of Licensing  
Nunavut Water Board  
P.O. Box 119  
Gjoa Haven, NU X0E 1J0

Dear Phyllis,

**Subject      Water License #2AM-MEA0815, Agnico-Eagle Mines Ltd.,  
Meadowbank Gold Project, Kivalliq Region, Submission of  
Water Quality Monitoring and Management Plan for Dike  
Construction and Dewatering**

Please be advised that, on behalf of Indian and Northern Affairs Canada, I have completed a review of the above referenced document submitted by Agnico-Eagle Mines Ltd. to the Nunavut Water Board.

A Technical Review Memorandum (attached) is provided to the Board for consideration.

Should you have any questions regarding this submission, feel free to contact me at 867-975-4555 or [David.Abernethy@inac-ainc.gc.ca](mailto:David.Abernethy@inac-ainc.gc.ca).

Regards,  
David W. Abernethy

Cc.    Kevin Buck, Water Resources Division Manager

# Technical Review Memorandum

Date: May 29/09

To: Phyllis Beaulieu, Nunavut Water Board

From: David Abernethy, Indian and Northern Affairs Canada, Water Resources Division, Iqaluit, NU

Re: **Water License #2AM-MEA0815 – Agnico-Eagle Mines Ltd. – Meadowbank Gold Project – Water Quality Monitoring and Management Plan for Dike Construction and Dewatering**

## A. PROJECT DESCRIPTION

On Apr. 24/09 Agnico-Eagle Mines Ltd. (AEM) submitted a revised Water Quality Monitoring and Management Plan for Dike Construction and Dewatering (dated Mar. 30/09) to the Nunavut Water Board (NWB or Board) for approval as required by Part D, Item #11 of Water License #2AM-MEA0815.

This Plan provides an overview of how AEM will satisfy their license requirements with respect to water quality in Third Portage Lake throughout the construction of the Bay-Goose Dikey and the subsequent dewatering program.

In addition to the submitted Plan the following documents were reviewed:

- KI Environmental Services Inc. *Meadowbank Gold Mine Second Portage Lake ChitoVan LC Field Application and Monitoring – Meadowbank Gold Mine, Nunavut*. Richmond: Oct. 3/08;
- L. Connell. *Meadowbank East Dike Construction TSS and Turbidity Issue Update*. Email to L. Grondin, R. Vanengen, G. Mann, D. Gourde, E. Lamontagne, M. Bergeron, S. Robert, and R. Hill. Vancouver: Sept. 19/08;
- D. Abernethy. *Water License #2AM-MEA0815, Agnico-Eagle Mines Ltd., Meadowbank Gold Project, Water Quality Monitoring and Management Plan for Dike Construction and Dewatering*. Iqaluit: Aug. 29/08.
- L. Connell. *Meadowbank East Dike Construction TSS and Turbidity Issue Update*. Email to R. Dwyer, A. Keim, S. Hartman, E. Lamontagne, M. Bergeron, and S. Robert. Vancouver: Aug. 22/08;and,

- AEM Ltd. *Water Quality Monitoring and Management Plan For Dike Construction and Dewatering at the Meadowbank Mine, Revised Final*. July /08;
- NWB. *Water License No: 2AM-MEA0815*. Gjoa Haven: June 9/08.

## **B. RESULTS OF REVIEW**

As a result of my review the following comments / recommendations are provided,

1. INAC generally concurs with the submitted Water Quality Monitoring and Management Plan for Dike Construction and Dewatering proposed by AEM;
2. The installation of a secondary silt curtain and associated lateral silt curtains should improve silt capture as a result of dike construction activities. Proposed monitoring should confirm this. INAC also concurs with extending the placement of the silt curtain to the lake bottom;
3. It was noted in Figure 4 that AEM will provide a recommended course of action to regulators should the mean 24 hour TSS exceed the Short Term Maximum concentrations at any station or the 30 day moving average TSS is greater than the Maximum Monthly Mean concentrations at any station. The previous such monitoring plan reviewed by INAC (Aug. 29/09), which was submitted to the Board, indicated a “shutdown mitigation/action in these types of circumstances. INAC recommends that this type of action (i.e., shutdown) occur if these types of exceedances are determined through monitoring. At that time it would be appropriate to provide a course of action to regulators. This would be similar to Figure 5 of the Plan;
4. Due to the planned construction of various water retention dikes (i.e., Bay-Goose Dike, East Dike, South Camp Dike, and Vault Dike), AEM should submit diagrams that reference water quality monitoring locations, dewatering locations, and construction timetables specific to each or all water retention dikes. Currently this Plan is specific to the Bay-Goose Dike construction and makes reference to the East Dike that was constructed in 2008. A diagram similar to Figure 1 (references East Dike) must be provided for dike construction structures contemplated during this upcoming season; and,
5. The Plan should identify any construction techniques that will minimize the disturbance of lake sediment.