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July 2, 2009

*Via Email*

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**Subject      Water License #2AM-MEA0815, Agnico-Eagle Mines Ltd.,  
Meadowbank Gold Project, Submission of 2008 Annual Report**

Please be advised that on behalf of Indian and Northern Affairs Canada, I have completed a review of the above referenced Agnico-Eagle Mines Ltd. submission 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: July 2/09

To: Richard Dwyer, Nunavut Water Board  
Stéphane Robert, Agnico-Eagle Mines Ltd.  
Peter Kusugak, Indian and Northern Affairs Canada

From: David Abernethy, Indian and Northern Affairs Canada

Re: **Submission of 2008 Annual Report – Water License #2AM-MEA0815 Part B, Item #5 – Agnico-Eagle Mines Ltd. – Meadowbank Gold Project – Kivalliq Region**

## A. PROJECT DESCRIPTION

On June 1/09 the Nunavut Water Board (NWB or Board) distributed Agnico-Eagle Mines Ltd.'s (AEM) 2008 Annual Report for the Meadowbank Gold Project to interested parties for review. The preparation and submission of this report is a requirement of AEM's Type A Water License, #2AM-MEA0815.

The following documents associated with this report have been made available for review on the NWB's online public registry,

- Meadowbank Gold Project, 2008 Annual Report;
- Appendix A1: Independent Geotechnical Expert Review Panel 2008 Report;
- Appendix A2: East Dike Construction Evaluation;
- Appendix B2: 2008 Geochemical Characterization Study – AWPARG & Airstrip Quarries;
- Appendix C1: Certificates of Analysis;
- Appendix C2: 2008 Annual Geotechnical Inspection Report;
- Appendix C3: 2008 AWPARG Fisheries Monitoring Report;
- Appendix C4: 2008 Groundwater Quality Monitoring Program Report;
- Appendix C5: 2008 AEMP Receiving Environment Monitoring Report;
- Appendix C6: 2008 Fish-out of the Northwest Arm of Second Portage Lake Report;
- Appendix C7: 2008 Wildlife Monitoring Summary Report;
- Appendix C8: Maps – Caribou Home Ranges and Migration Routes;
- Appendix C9: 2008 Noise Monitoring Report;

- Appendix D1: Summary of 2008 Plan Revisions;
- Appendix D2: Executive Summary Translations;
- Appendix E1: AWPARG – Reports of Unauthorized Usage;
- Appendix E2: Onboard Vessel Encounter Reports;
- Appendix E3: Summary of 2008 AEM Public Consultation Activities; and,
- Azimuth Consulting Group Inc. *Aquatic Effects Monitoring Program – Targeted Study: Second Portage Lake TSS Effects Assessment Study Meadowbank Gold Project*. Project No. AEM-08-01.2, June 2009.

## **B. RESULTS OF REVIEW**

1. AEM's 2008 Annual Report appears to address all monitoring requirements referenced in their license, particularly those identified in Part B, Item #5 and Schedule B – General Conditions.
2. The submitted report indicates that AEM did not complete any bathymetric survey(s) at the Baker Lake Marshalling Facility prior to shipping activities in 2008, a requirement of Schedule B, Item #4.
3. Schedule B, Item #5b requires AEM to provide geochemical monitoring results including “as-built volumes of waste rock used in construction and sent to the Waste Rock Storage Facilities with estimated balance of acid generation to acid neutralization capacity in a given sample as well as metal toxicity.” Upon review, it is noted that an estimated balance of acid generation to acid neutralization capacity in a given sample as well as metal toxicity was not provided.
4. AEM submitted a 2008 Geochemical Characterization Study for their All Weather Private Access Road (AWPAR) and Airstrip Quarries. The results of composite rock and water sample acid generation and metal leachate analyses are provided along with recommended follow-up monitoring activities. Water sample results are compared to the Metal Mining Effluent Regulations Discharge Limits and the Canadian Council of Ministers of the Environment (CCME) Canadian Water Quality Guidelines for the Protection of Aquatic Life (Sept. 2007). For the AWPARG Quarries, this study states that “Shake Flask Extraction procedures on composite rock samples did not provide evidence of any significant acid generation or metal leaching issues.” For the Airstrip Quarry, it is stated that “CCME Guideline values were exceeded on some occasions for the following elements: aluminum, arsenic, chromium, copper, zinc, and lead, however no evidence of significant contaminant release was observed.” Follow-up monitoring activities are provided in Section 4.3 of the study.

5. This review revealed a significant number of water quality analysis results that exceeded CCME criteria with respect to metals, primarily aluminum, copper, and selenium. INAC realizes that some of these results are from standing or contaminated water that would not be discharged to receiving water. However AEM should provide some discussion in future annual reports that considers whether these results are within background ranges (i.e., baseline data comparison).
6. Appendix A2: East Dike Construction Evaluation of the report and the June 2009 Azimuth Aquatic Effects Monitoring Program submission provide follow-up monitoring information concerning observed TSS and turbidity levels in Second Portage Lake during East Dike construction. This was conducted in accordance with AEM's July 2008 Water Quality Monitoring and Management Plan for Dike Construction and Dewatering. Monitoring results indicate phytoplankton activity was diminished on a short-term basis and there is potential concern over the effects of settled sediment on benthic invertebrates and fish. Follow-up monitoring is planned for the 2009 field season (refer to the June 2009 Azimuth report).

## **C. RECOMMENDATIONS**

1. INAC is requesting that AEM provide a Plan of Action with a firm timetable of implementation that addresses the requirements of the water license. The Plan, as a minimum, must consider,
  - a. When a bathymetric survey at the Baker Lake Marshalling Facility will be completed, by whom, and also when the results will be provided. In addition, the survey should take place prior to this year's (2009) shipping season; and,
  - b. When an estimated balance of acid generation to acid neutralization as well as metal toxicity in a given sample of waste rock used in construction and sent to the Waste Rock Storage Facilities will be provided (required by Schedule B, Item #5b of the license).
2. INAC requests that AEM provide descriptions of all sample locations with future water quality results in addition to the station identification codes (e.g., Table 7.1 in this report makes reference to AS-D1 as a pool of water around the mine site. This location should be described and indicated in a diagram/map). This provides for a more efficient review of the information
3. INAC concurs with the follow-up monitoring activities specified in Section 4.3 of AEM's 2008 Geochemical Characterization Study for their AWPAP and Airstrip Quarries.

4. INAC concurs with the follow-up monitoring activities specified in the June 2009 Azimuth report.
5. INAC recommends that AEM provide a comparison of observed water quality sample analysis results with baseline water quality results in future reports. This will assist in determining if observed levels of metals contained in samples at various locations noted in the Annual Report are naturally occurring or due to mining/construction activity. An interpretive analysis should also be provided.