



June 21, 2013

Phyllis Beaulieu
Manager of Licensing
Nunavut Water Board
Gjoa Haven, NU X0E 1J0

Our reference
IQALUIT-#689945

Your reference
2AM-MEA0813/TR/G

Re: Water Licence No. 2AM-MEA0813 – Meadowbank Gold Project – Agnico-Eagle Mines Ltd. – East Dike Seepage Modification Request

Dear Ms. Beaulieu,

Thank you for your email of May 21, 2013 concerning the above mentioned modification request submitted by Agnico-Eagle Mines Ltd.

A memorandum is provided for the Board's consideration. Comments have been provided pursuant to the Department's mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Indian Affairs and Northern Development Act*.

Please do not hesitate to contact me by telephone at 867-975-4555 or email at david.abernethy@aandc-aadnc.gc.ca for further information.

Yours very truly,

David Abernethy
Regional Coordinator
Water Resources Division
Resource Management Directorate
Aboriginal Affairs and Northern Development Canada
Iqaluit, NU X0A 0H0

Encl.

c.c.: Murray Ball, Manager of Water Resources, AANDC, Iqaluit, NU
Erik Allain, Manager of Field Operations, AANDC, Iqaluit, NU

Memorandum

TO	Phyllis Beaulieu Manager of Licensing Nunavut Water Board	OUR REFERENCE IQALUIT-#689945
FROM	David Abernethy Water Resources Regional Coordinator Aboriginal Affairs and Northern Development Canada	YOUR REFERENCE 2AM-MEA0813/TR/G1 DATE June 21, 2013
SUBJECT	Water Licence No. 2AM-MEA0813 – Meadowbank Gold Project – Agnico-Eagle Mines Ltd. – East Dike Seepage Modification Request	

A. Background

On January 21, 2013, the Nunavut Water Board (the “NWB” or “Board”) provided notification of Agnico-Eagle Mines Ltd.’s (the “Proponent”) request to modify the Meadowbank Gold Project’s Type ‘A’ water licence to permit the discharge of water that seeps through the Portage Deposit’s East Dike back to Second Portage Lake in accordance with Part F, Item 4 of the licence (NWB 2013). This request was submitted pursuant to Part G, Item 1 of the licence and is available for review on the NWB’s online public registry. It comprises of the following documentation:

- Cover letter dated April 22, 2013 (AEML 2013a)
- Water licence modification request dated April 4, 2013 (AEML 2013b); and,
- Appendix A. Technical Memorandum on the discharge of dike seepage water into Third Portage Lake and Second Portage Lake dated November 24, 2011 (Golder 2011).

Interested parties were requested to review the submitted modification request and make representations by June 21, 2013.

Approximately 1,000 m³ of water seeps through the East Dike per day. This water collects in two sumps and is subsequently pumped to the Portage attenuation pond. Once this water has been pumped to the Portage attenuation pond it is considered contact water as it is mixed with site run off and collection water from the Portage and Goose Pit. As stated in Section 1 of AEML 2013b,

As per the site water licence, any water collected in the Attenuation Pond is treated (with all the attenuation water) through the site Water Treatment Plant prior to discharge to Third Portage

Lake. In an effort to reduce freshwater consumption, Agnico Eagle Mines is assessing whether the East Dike seepage water can be used for milling, progressive re-flooding, or dust suppression during operations. Unfortunately, this may not be feasible throughout the year as the volume of seepage from the East Dike is not large enough to successfully be pumped over long distances (i.e., to the mill).

Part F, Item 4 of the licence (NWB 2008) states:

Prior to discharge, all water collected within the Non-Contact Water diversions during Operations as monitoring stations ST-5, ST-6, and ST-7, shall not exceed the following Effluent quality limits:

Parameter	Maximum Average Concentration (mg/L)	Maximum Allowable Grab Sample Concentration (mg/L)
TSS	15	30

The Proponent is proposing the installation of a diffuser to control erosion and disturbance of bottom sediment as water pumped back to Second Portage Lake. This diffuser will be positioned on the east side of the East Dike and connect to the shore by a 45 m long pipe. As stated in AEML 2013a,

Based on discharge modeling presented in the application, the discharge water quality is not expected to cause adverse effects to the aquatic environment. Nevertheless, monitoring programs will follow Type 'A' water licence requirements including non-contact water monitoring, the Metal Mining Effluent Regulations sampling (if applicable), and the Core Receiving Environment Monitoring Program.

The Proponent planned to install the diffuser and associated piping on-ice during freeze-up conditions. This infrastructure would be anchored with large boulders and allowed to sink once the lake ice melts in the spring. This installation method was intended to prevent in-water construction activity and reduce any sediment disturbance (Section 3.1 of AEML 2013b).

As stated in Section 2.2 of AEML 2013b, the East Dike was constructed from non-potentially acid generating ("NPAG") rock generated at the airstrip quarry and water quality monitoring results indicate that seepage water is consistent with Second Portage Lake baseline data.

Golder 2011, included as an appendix to the Proponent's application, summarizes model estimates of mixing of dike seepage water with ambient lake water. As stated in Section 1.0 of Golder 2011,

The objective of the modeling effort was to determine the maximum allowable concentrations of seepage water to meet regulatory guidelines for drinking water and the protection of aquatic life in Third Portage Lake and Second Portage Lake, at the edge of a 30 m mixing zone around the discharge outfalls.

It is noted that the Proponent has committed to verify with Environment Canada if the *Metal Mining Effluent Regulations* will be applied to the discharge of seepage water to Second Portage Lake (AEML 2013b).

B. Results of Review

The Department is not opposed to the submitted modification request. However, the following recommendations are submitted for the Board's consideration,

1. As recommended by Golder 2011 and acknowledged in AEML 2013b, the discharge velocity should not exceed 6 m/s to promote mixing of seepage water and minimize the potential for lake-bottom erosion.
2. If water quality sample results are collected 30 m from the discharge outfall as part of the Proponent's Core Receiving Environment Monitoring Program requirements, monitoring results should be included in annual monitoring report submissions.
3. Any seepage water that does not meet licence criteria should be directed to the Portage attenuation pond.
4. Should the Proponent decide to install the diffuser during the open water season, best practices should be applied to prevent the disturbance of lake bottom sediment.
5. A minimum 10 days notice should be provided to an Inspector appointed under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* prior to any planned discharge of East Dike seepage water.
6. Following correspondence with Environment Canada, the Proponent should provide written notification to the Board on whether or not the *Metal Mining Effluent Regulations* will apply to the East Dike diffuser.

C. Works Cited

NWB 2013. Nunavut Water Board. *Subject: Submission of Request for East Dike Seepage Modification*. Memo from Robin Ikkutisluk, Nunavut Water Board, to Stephane Robert, Agnico-Eagle Mines Ltd. May 21, 2013.

- 130521 2AM-MEA0815 Modification Tech Report Dist for Comments-OLAE

NWB 2008. Nunavut Water Board. *Water Licence No. 2AM-MEA0815*. Granted to Agnico-Eagle Mines Ltd. June 9, 2008

AEML 2013a. Agnico-Eagle Mines Ltd. – Meadowbank Division. *RE: Meadowbank Water Licence 2AM-MEA0815 – East Dike Seepage Modification*. Memo from Stephane Robert and Kevin Buck, Agnico-Eagle Mines Ltd., to Phyllis Beaulieu, Nunavut Water Board. April 22, 2013.

- 130422 2AM-MEA0815 Ltr NWB East Dike Seepage Modification Request-IMLE

AEML 2013b. Agnico-Eagle Mines Ltd. – Meadowbank Division. *Meadowbank Mine – East Dike Seepage – NWB Application for a Type A Water License Modification*. April 4, 2013.

- 130422 2AM-MEA0815 East Dike Seepage Doc_in support of NWB modification-IMLE

Golder 2011. Golder Associates. *Discharge of Dike Seepage Water into Third Portage Lake and Second Portage Lake – Meadowbank Gold Project, Nunavut*. Technical Memorandum from Paul Beddoes and Nicolas Lauzon, Golder Associates, to Stephane Robert, Agnico-Eagle Mines Ltd. Document No. 1297-1112210096 1124_11 TM. November 24, 2011.

- 130422 2AM-MEA0815 Appendix A Golder Technical Memo-IMLE

Prepared by David Abernethy