



Environment and
Climate Change Canada

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May 25, 2016

ECCC File: 6100 000 008/012
NWB File: 2AM-MEA1525

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Via email: licensing@nwb-oen.ca

RE: 2AM-MEA1525 – Agnico Eagle Mines Ltd. – Meadowbank Mine – Various Management Plans

Attention: Karen Kharatyan

Environment and Climate Change Canada (ECCC) has reviewed the information submitted to the Nunavut Water Board regarding the 2015 Water Management Report and Plan (Version 1), Water Quality and Flow Monitoring Plan (Version 5) and the Mine Waste Rock Tailings Management Plan (Version 5). ECCC's specialist advice is provided based on our mandate, in the context of the *Canadian Environmental Protection Act*, the pollution prevention provisions of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

Given that all water from the expansion into Phaser Lake will be managed through the Vault attenuation pond, which includes already established sampling locations, there is no need for additional water quality sampling locations.

The following additional comments are provided:

Water Management Report and Plan (Version 1)

1. Minor Errata

There are several instances where sections of the report and tables are incorrectly referenced, leading the reviewer to the incorrect information. The document should be reviewed for accuracy of section and table references.

2. Updated Mass Balance Model (Section 3.0, Appendix C)

The report uses dissolved values for water quality forecasting, rather than the recommended use of total values. These predicted dissolved values are then directly compared to Canadian Council of Ministers of the Environment (CCME) guidelines, which are based on total values, and do not provide an accurate comparison. In modelling, the use of total values is preferred as it is a more conservative measure.

It is recommended that all future water quality modelling use total metal concentrations in order to be more conservative and to allow accurate comparison to water quality guidelines.

3. Water Quality Forecast Results (Section 4.0, Appendix C)

Several parameters are projected to exceed CCME and/or background/site specific levels upon mine closure, including copper, silver, total nitrogen, ammonia, and selenium. The report goes on to indicate that the overall water quality forecast is not of concern. Given water has already begun to be deposited in the Goose pit, and that closure objectives require that CCME guidelines be met within the pits before the dikes can be breached, it is important to understand the sources of these exceedances and how they may be handled to be reduced at source or treated.

It is recommended that water quality samples be taken from the re-filling pits as soon as is safe to do so in order to provide real data to compare to modelling predictions. Options for treatment or source control should be identified as soon as possible.

4. Treatment Requirements (Section 4.2.4, Appendix C)

It is noted in the report that one option for treating the increased levels of total nitrogen could include an alternative treatment method such as snow making. Snow making is not a proven technology for treatment of total nitrogen and would not be recommended for use in this instance.

5. Input Parameters (Section 3.4 and 5.0, Appendix C)

The water quality modelling that was completed for both the main site and Vault use average concentrations. Water quality modelling should be based on conservative but realistic measurements, and the use of the average has the potential to underestimate the range of concentrations that may be experienced.

It is recommended that future modelling be completed using the 75th percentile of water quality concentrations in order to be more conservative.

ECCC does not have any comments on the Water Quality and Flow Monitoring Plan and Mine Waste Rock and Tailings Management Plan at this time.

Should you require further information, please do not hesitate to contact me at (867) 669-4733 or Melissa.Pinto@ec.gc.ca.

Sincerely,



on behalf of

Melissa Pinto
Environmental Assessment Coordinator

cc: Wade Romanko, Head, Environmental Assessment North (NT and NU), PNR-
EPOD
ECCC Review Team
Stephane Robert, Manager – Regulatory Affairs, Agnico Eagle Mines Ltd.