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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File: 2AM-MEL1631/TR/F9

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**Subject: Operation & Maintenance Manual Saline Water Treatment Plant;
Type “A” Water Licence 2AM-MEL1631, Meliadine Gold Project, Agnico Eagle
Mines Limited**

Dear Ms. Huza and Mr. Quesnel:

The Nunavut Water Board (“NWB”) received from Agnico Eagle Mines Limited (Agnico Eagle or Licensee) on June 4, 2018 the Operation & Maintenance Manual Saline Water Treatment Plant, dated May 2018 (O&M Manual or Manual) for Board approval as required under Part F, Item 9 of the Water Licence 2AM-MEL1631.

As stated by Agnico Eagle the O&M Manual was prepared in accordance with the “Guidelines for the Preparation of an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories, 1996”. It is also indicated that *the Manual has been adapted the use of a mechanical saline contact water treatment facility, and it is a component of the Meliadine Environmental Management System.* The main objectives of this Manual are summarized as follows:

- 1. To define the location, design and operating procedures to be used in the treatment of saline water generated at the Meliadine Project; and*
- 2. To provide monitoring requirements for the Saline Water Treatment Plant (SWTP).*

The O&M Manual was distributed for a thirty (30) day public review and comments on June 4, 2018. On June 28, 2018, the Environment and Climate Change Canada (ECCC) provided its comments to NWB, indicating that the Manual sets out the maximum allowable salt plant effluent

concentrations, as derived from a geochemical model. *The table should also indicate the expected concentrations for treated effluent parameters. In addition, ECCC notes temperature, pH and total suspended sediments (TSS) are missing from the table.*

On July 10, 2018, Crown-Indigenous and Northern Affairs Canada (CIRNAC or former INAC) advised the Board that *the description of the saline water treatment is very well described. However, CIRNAC has one question: what happens to the brine bags? How and where are they disposed of?* CIRNAC was also looking for the capacity of the saline pond and the contingencies that are in place in the event of a prolonged breakdown of the saline water treatment plant.

On July 19, 2018, Agnico Eagle responded to CIRNAC comments, indicating that *solid salt produced will be placed in double bags which will be stored into seacans to prevent dissolution of the salt. When required, the salt will be reused for underground mining activities. The exceeding bags of solid salt will be sent south on the barges for final disposal in accordance with regulations.* Agnico Eagle also informed the NWB that underground saline water is firstly stored in an underground stope that has a total capacity of approximately 11 000 m³, and is then transferred to the surface Saline Pond which has a total storage capacity of 33 000 m³, and *the storage capacity is managed to keep the saline pond and stope volumes as low as possible, in order to have enough space for abnormal flow condition or SWTP shutdown.*

On July 30, 2018, Agnico Eagle provided an updated Operation & Maintenance Manual Saline Water Treatment Plant, dated July 2018, addressing both ECCC and CIRNAC comments. On July 30, 2018, CIRNAC advised the Board that CIRNAC is satisfied with the response provided by Licensee. On August 1, 2018, ECCC informed the Board that they are satisfied with the provided updated document.

The Board finds the O&M Manual functional and generally satisfying Licence requirements, and by copy of this letter has approved the Operation & Maintenance Manual Saline Water Treatment Plant, dated July 2018 through the Board Motion No. 2018-A1-009, dated August 7, 2018, as required by Part F, Item 9 of Licence.

Should you have any questions, please feel free to contact the undersigned at (867) 360-6338 or karen.kharatyan@nwb-oen.ca.

Regards,

Karén Kharatyan
Director of Technical Services

cc: Distribution List - Meliadine