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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

**File: 2AM-MEL1631/TR/D1, 2**

October 31, 2016

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**Subject: Final Design and Construction Drawings for Berm 3 and Channel 5; Type "A" Water Licence 2AM-MEL1631, Meliadine Gold Project, Agnico Eagle Mines Ltd.**

Dear Ms. Turmel and Mr. Quesnel:

The Nunavut Water Board ("NWB") received from Agnico Eagle Mines Ltd. (AEM or Licensee) on September 23, 2016 the Construction Design Report entitled: "Design Report for Berm 3 and Channel 5 Meliadine Gold Project, NU", including Issued for Construction Drawings for the proposed infrastructures as a requirement of Part D, Item 1 of the Licence 2AM-MEL1631 (Licence). The Report was completed by Tetra Tech EBA Inc. for AEM and dated September 20, 2016.

AEM stated in their submission that *Proposed Channel5 is required to divert the runoff from the A12 catchment area into the proposed water collection pond CP5, from where the water will be further pumped to the final water collection pond CP1 for treatment and discharge when the water quality meets discharge criteria. Channel5 is also required to avoid the upstream runoff water flowing into the proposed Tiri_1000_01 open pit when the pit development starts in Year 2 (2021).*

*Proposed Berm3 is required to temporarily retain the water under an extreme rainfall event when the water cannot be entirely passed through Channel5 during the short period of the peak flooding event or when the water level in CP5 is temporarily high.*

The Report was distributed for public review and comments. Comments were received from Indigenous and Northern Affairs Canada (INAC) and Kivalliq Inuit Association (KIA) on October 7, 2016. On October 20, 2016, AEM provided its responses to comments.

In its comment INAC stated that *the proposed construction materials (run-of mine rock fill) need geochemical characterization (acid generating and metal leaching potential) in light of water licence condition, i.e., Water Licence 2AM-MEL1631, Part D, 2(c),* and recommended that *in order to demonstrate that the run-of-mine rock fill is non-potentially acid generating (NPAG) and non-metal Leaching (ML), the Licensee should provide geochemical analysis of the materials (waste rock and fill) for the proposed construction.*

AEM responded that based on samples from the rock types, collected as part of the geochemical characterization program for Tiriganiaq (Golder, 2014) the excavations and material generated in the proposed Channel 5 / Berm 3 area, the shallow bedrock in this area is expected to be non-PAG and report a low potential for metal leaching. AEM also stated that *construction material for the proposed Berm 3 will be sourced from run-of-mine waste rock and from the excavation of the saline water storage pond, and static and on-going kinetic testing of three run-of-mine waste rock samples demonstrate that this material is non-PAG and has a low potential for metal leaching.*

KIA's comments and questions were related to the estimation of the ice free sand material and ice bearing till material's quantity to be used during the construction of Berm 3, the difference in particle size for each of these materials and how this will ensure the integrity of Berms 3 over the berms operation life, the difference in ice content for each of these materials and how this will impact on the integrity of Berms 3 over the berms operation life; field compaction tests to be potentially undertaken as part of the QA/QC to be completed during the construction of Berm 3; type and frequency of field compaction tests to be completed; and on why field compaction tests may not be completed.

AEM stated in its responses that the *Selected Unfrozen Till Fill for Berm 3 construction will be primarily sourced from the unfrozen till material that had been excavated from the active layer over the footprint of the saline water storage pond during the pond construction early this fall…* and that *the selected unfrozen till material used for construction of Berm 3 should have a fines (<0.075 mm in size) content of 20% to 60% by weight to have a relatively low hydraulic conductivity*. According to Licensee *2 types of the fill materials will be used for Berm3 construction – Run-of-Mine Rockfill (as berm slope erosion protection) and Selected Unfrozen Till Fill (as berm core).* The Run-of-Mine Rockfill will be primarily sourced from the waste rock from underground mine development, with a wide variation in gradation, and with a maximum particle size of 600 mm.
It was indicated that a field QA/QC program will be carried out during the Berm 3 construction, and field compaction tests to inspect the till density after compaction will be included. AEM also stated that *depending on the soil and field conditions, field density testing may include proof rolling or in-situ density testing using nuclear densometer or other methods (sand-cone method),* and *the minimum frequency of the testing will be one per lift of the Selected Unfrozen Till Fill.*

On October 25, 2016, INAC informed the Board that INAC is satisfied with AEM's response *as long as continued testing shows the material being used is non-PAG and has low potential for*

*metal leaching.*

By copy of this letter the Board acknowledges that the Report addresses the requirements of Part D Item 2 of Licence 2AM-MEL1631, and has approved the Report through the Board Motion No. 2016-A1-008, dated October 26, 2016, as required by Part D, Item 1 of Licence. The Licensee is also advised that the Board's "approval" of this document is a verification that the proposed activity is consistent with the existing terms and conditions of the Licence and more specifically with the Part D, Item 2, and may proceed in accordance with the Report and drawings provided. It should be noted that the Board's "approval" is NOT intended or offered as any representation regarding the suitability of the plans nor third party verification of the design, construction, planning or engineering discussed in the document.

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

Yours truly,

Karén Kharatyan
A/Manager of Licensing / Sr. Technical Advisor

cc: Distribution List - Meliadine