



August 3, 2018

*Your file - Votre référence*  
2AM-MEL1631

*Our file - Notre référence*  
IQALUIT-# 1224693

Richard Dwyer  
Manager of Licencing  
Nunavut Water Board  
P.O. Box 119  
Gjoa Haven, NU X0B 1J0  
*Sent via email: [licensing@nwb-oen.ca](mailto:licensing@nwb-oen.ca)*

Dear Mr. Dwyer,

**Re: Crown-Indigenous Relations and Northern Affairs Canada's (CIRNAC) Review of Agnico Eagle Mines Limited's Submission of Design Report for Culvert's 8, 9, 11 and 22 as well as Construction drawings and fuel farm designs- Water Licence 2AM-WTP1826 - Whale Tail Pit Project**

Thank you for the Nunavut Water Board's July 13, 2018 notice regarding the above mentioned.

The comments and recommendations are provided pursuant to Crown-Indigenous Relations and Northern Affairs Canada's (CIRNAC) 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 for further information at 867-222-9278 or by email at [Ian.Parsons@canada.ca](mailto:Ian.Parsons@canada.ca).

Sincerely,

Ian Parsons  
Manager, Water Resources Division  
Resource Management Directorate  
Nunavut Regional Office  
Crown-Indigenous Relations and Northern Affairs Canada  
IQALUIT, NU X0A 0H0

cc. Spencer Dewar, Director of Resource Management, CIRNAC  
Erik Allain, Director of lands, CIRNAC  
Wajid Daouda, Senior Engineer, CIRNAC



# Technical Memorandum

## Results of Review

### 1. Culverts

- i) In **Section 1.2 - Scope of Work**, roads #8, 9, 11 & 22 are considered as access roads while in **Section 2.1 - Culvert Design Basis and Water Management Strategy**, the same roads are referred to as haul roads. Geotechnical factors to consider in the design and installation of the indicated culverts may vary based on the function that they are intended to serve. Agnico-Eagle is to clarify the type of traffic that will be driving over the culvert and update if necessary the provided design.
- ii) Adequate legend need to be provided on **Drawing 61-417-230-264 – Layout of Proposed Culverts** in order to identify any items (dike, access roads, haul roads, existing roads, etc.) used.
- iii) For drainage and erosion control, "where large diameter culverts cannot be avoided in permafrost regions, it is recommended to use riveted or bolted culverts and consider installation of polystyrene insulation beneath the culvert bedding material on the bottom and sloped sides of the excavation" [Transportation Association of Canada (TAC) - Guidelines for Development and Management of Transportation Infrastructure in Permafrost Regions]. The proposed culvert (1200 mm dia.) should be considered as a large diameter culvert. We notice that there is no insulation beneath the proposed culvert bedding material. Also, we would like to draw attention on the fact that the distance of culvert extension beyond the toe of road fill material is missing. "Culverts should extend a short distance beyond the tote of road fill material to prevent blockage at the end of the culvert by eroded soil" (INAC's Northern Land Use Guidelines - Access: Roads and Trails). Agnico & Eagle is to clarify the design concept or take into consideration the above-highlighted TAC's recommendation for the proposed culvert installation. Also, Agnico & Eagle is to provide dimension of culvert extension on the submitted drawing [**Drawing 61-417-230-226 – Cross Section and Details**].
- iv) The proposed culverts as indicated on the provided plans and profiles do not appear to us clear and consistent. The schedule of the new culverts to be installed as part of this submission needs to be clarified (eg. Explosive Road: We have Culvert ID # is not indicated on the submitted profile).

### 2. Tank Fuel Farm

- i) CIRNAC could find no documentation related to the hydrostatic testing of the tank after its completion. CIRNAC recommends that AEM provide details on the hydrostatic testing of the tank after completion.