



Natural Resources
Canada

Ressources naturelles
Canada

December 14, 2018
NIRB File No.: 16MN056
NRCAN File #: NT-086

Sophia Granchinho, M.Sc., EP
Manager, Impact Assessment
Nunavut Impact Review Board
29 Mitik Street
P.O. Box 1360
Cambridge Bay, NU, X0B 0C0

Sent via email: sgranchinho@nirb.ca

Dear Ms. Granchinho,

Re: The Nunavut Impact Review Board's 2017-18 Annual Monitoring Report for the Meadowbank Gold Project and the Whale Tail Pit Project with Board's Recommendations

On November 6, 2018, Natural Resources Canada (NRCAN) received the Nunavut Impact Review Board's request to *"review the information provided by Agnico Eagle Mines (AEM) for Term and Condition 10 of Project Certificate No. 008 in relation to the additional site-specific permafrost monitoring, mapping and thermal analysis studies and confirm whether the information is complete and that this condition has been satisfied."*

The letter from NIRB states, *"As Natural Resources Canada was not consulted on this information and the results not provided to the NIRB, it appears that Agnico Eagle has not met the requirements of Condition 10."* NRCAN disagrees with this statement. Project Certificate 008 states, *"the Proponent is encouraged to consult with Natural Resources Canada to minimize the potential for impacts from these Facilities."* NRCAN has no regulatory responsibility for the approval of tailings and waste rock facilities, and NRCAN does not interpret encouragement to imply any obligation. Therefore, the lack of consultation with NRCAN cannot be the sole basis for determining that the Proponent has not met the requirements of the Term and Condition.

In terms of the text of T&C 10 itself, it states that *"the Proponent shall undertake additional site-specific permafrost monitoring, mapping and thermal analysis."* NRCAN notes that this language is relatively broad and interprets it in the context of NRCAN's own recommendations in its Final Technical Submission, dated August 14, 2017, which were:

- *NRCAN recommends that the Proponent complete the geotechnical investigations planned and update the characterization of ground ice conditions in the project area to support detailed and final design of project components.*
- *NRCAN recommends:*



- *The Proponent conduct 2D thermal modelling to support detailed and final design of the WRSF including refinement of the cover thickness, and*
- *The Proponent continue to utilize data generated from the Meadowbank monitoring program and data collected from any thermistors installed in the Whale Tail WRSF as well as additional information on material properties of the site, to refine their thermal analysis to support final design and cover design.*

Permafrost monitoring, as indicated in T&C 10, is addressed in the third recommendation from NRCan. The Proponent had indicated they planned to do the thermal monitoring for the WRSF, and Golder had also recommended the installation of thermistors in various locations at the facility in a memo that was included in NRCan's final review. NRCan's final recommendation suggested that results from both the Meadowbank WRSF thermal monitoring and from the planned Whale Tail WRSF monitoring should be used to refine the thermal analysis and final cover design. Given that this monitoring involves the use of thermistors that are installed as the pile is built, and progress with respect to excavation of the pit and disposal of waste rock has not reached a stage where these could be installed, this has not yet been possible.

Permafrost mapping as mentioned in T&C 10 is partially addressed in NRCan's first recommendation. NRCan's recommendation for geotechnical investigations included characterization of the ground ice conditions to support detailed design. The Site-Specific Geotechnical Studies report currently posted on the NIRB registry only includes one paragraph on ground ice conditions. However, the report posted to the registry is clearly a summary and does not contain the results from all of the geotechnical studies undertaken. In response to NIRB's request, NRCan had requested from AEM documentation resulting from permafrost characterization undertaken for specific infrastructure components of the project. AEM provided a post-closure pit-lake thermal assessment, that included general permafrost characterization of the site in the form of a thermistor data summary from ten thermistors on site. However, as this information was not available on the registry, it may have not been submitted to the NIRB.

The second of NRCan's recommendations listed above addresses thermal analysis. NRCan recommended 2D thermal modelling to support the design of the WRSF. The results of this modelling appear to have been posted to the Registry in the form of a technical memorandum from Golder (170710-16MN056-Commitment 39 -Waste Rock Storage Facility Cover Thermal Assessment-IA1E.pdf).

NRCan noted that the NIRB sent this request simultaneously to both NRCan and Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC). In consultation with CIRNAC, NRCan noted that CIRNAC takes the position that the thermal analysis provided for the Whale Tail project up until present is insufficient. NRCan withholds comment on this as the experts at the Geological Survey of Canada, who provide permafrost and thermal expertise on behalf of NRCan, did not review all the thermal data provided by AEM and only considered thermal analysis in the context of NRCan's recommendations and data available on the registry.



Natural Resources
Canada

Ressources naturelles
Canada

Should you have any questions related to NRCan's response to this request, please do not hesitate to contact me at peter.unger@canada.ca.

Sincerely,

Peter Unger

Senior Environmental Assessment Officer/Agent principal d'évaluation environnementale
Office of the Chief Scientist/ Bureau du scientifique principale
Natural Resources Canada / Ressources naturelles Canada
peter.unger@canada.ca
588 Booth Street, Ottawa, Ontario, K1A 0Y

cc: info@nirb.ca

Rob Johnstone, Explosives Safety and Security Branch, Natural Resources Canada

Aruna Dixit, Geological Survey of Canada, Natural Resources Canada

John Clarke, Environmental Assessment Division, Natural Resources Canada

Jamie Quesnel – Agnico Eagle Mines Ltd.

Michelle Blade – Crown-Indigenous Relations and Northern Affairs Canada

Rachel Theoret-Gosselin - Crown-Indigenous Relations and Northern Affairs Canada

Erin Reimer – Nunavut Impact Review Board