



Water Resources Division
Resource Management Directorate
Nunavut Regional Office
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Your file - Votre référence
2AM-MEA1526; 2AM-WTP1826;
2BB-MEA1828
Our file - Notre référence
CIDM# 1286599

July 6, 2020

Richard Dwyer
Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU, X0B 1J0
E-mail: licensing@nwb-oen.ca

Re: Crown-Indigenous Relations and Northern Affairs Canada review of Agnico Eagle Mines Limited's Meadowbank Gold Mine Project and Whale Tail Pit Project 2019 Annual Report

Dear Mr. Dwyer,

Thank you for your April 24, 2020 invitation to review the Meadowbank Gold Mine Project and Whale Tail Pit Project 2019 Annual Report by Agnico Eagle Mines Limited for Water Licenses 2AM-MEA1526, 2AM-WTP1826 and 2BB-MEA1828.

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) reviewed the annual report pursuant to its mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Crown-Indigenous Relations and Northern Affairs Act*. CIRNAC water resources has three recommendations below:

1. Geotechnical Design

With respect to the Whale Tail Pit Project, the 2019 performance of some of the water management structures deviated from their design intent as the four dikes at the Whale Tail site performed below expectations, including:

1. Whale Tail Dike – High seepage rates observed through the foundation.
2. Mammoth Dike – Water levels in Mammoth Lake were above their normal operating levels.
3. Waste Rock Storage Facility (WRSF) Dike – A degradation of the thermal condition in the keytrench of WRSF Dike was observed in the summer of 2019 leading to high seepage and uncontrolled discharge to Mammoth Lake.



4. Northeast Dike – The dike is incapable of diverting non-contact water from the Whale Tail Lake watershed to the Nemo Lake watershed, as intended.

AEM identified these performance issues with the dikes and implemented measures to mitigate the concerns. CIRNAC recommends that AEM conduct an assessment of its designs for the Whale Tail Pit Project water retention structures to identify and improve these designs, construction, and operational process that may have contributed to the lower than expected performance at the Whale Tail site.

2. Permafrost Degradation

According to the Thermal Monitoring Report 2020, the thermal monitoring results from thermistor number WTD 0+710 U/S for Whale Tail Project indicated permafrost degradation. The report (AEM, March 2020, pg. 7) states:

A degradation of the permafrost at the Eastern abutment of Whale Tail Dike was observed following flooding of the area in the summer of 2019 (0+710 U/S). This was predicted to occur eventually based on the thermal model of the structure but not within such a short timeframe.

CIRNAC recommends that AEM continue analysis of the thermal monitoring, mine waste and cover systems, and any permafrost degradation to update their thermal modelling predictions, and the Waste Rock and Tailings Management Plans for Meadowbank and Whale Tail sites. The result should be reported in the 2020 annual report and subsequent annual reports.

3. Water Quality

The Whale Tail 2019 Dike Construction and Dewatering Monitoring Report indicated that there were more than four events of exceedance in Total Suspended Solids for May, August and October during Whale Tail Lake Dewatering. These exceedances are in non-compliance with the Water Licence Part D Item 7. CIRNAC recommends that AEM continue to monitor dike dewatering, especially between between May and October, to identify the cause of the high TSS, and implement prevention measures to prevent TSS exceedances in the future.

If there are any questions or concerns, please contact me at (867) 975-4550 or godwin.okonkwo@canada.ca.

Sincerely,

Godwin Okonkwo
Manager Water Resources



Crown-Indigenous Relations
and Northern Affairs Canada

Relations Couronne-Autochtones
et Affaires du Nord Canada