



Water Resources Division
Nunavut Regional Office
Iqaluit, NU X0A 0H0

Your file - Votre référence
2AM-WTP1826

August 21, 2018

Our file - Notre référence
CIDM# 1225640

Richard Dwyer
Manager of Licensing
Nunavut Water Board
Gjoa Haven, NU X0B 1J0

Sent via email: licensing@nwb-oen.ca

**Re: Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)
Technical Review Comments of the Design Report For the North East Dike
– Whale Tail Project under Agnico Eagle Mines Limited's Type "A" Water
Licence No. 2AM-WTP1826.**

Dear Mr. Dwyer,

Thank-you for the email notice, received on July 27, 2018, regarding the above mentioned Design Report for the North East Dike at Whale Tail Pit Project.

CIRNAC reviewed the proponent's design report involving the North East Dike. Comments are provided pursuant to CIRNAC's mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Indian Affairs and Northern Development Act*.

If you have any questions or require further information with respect to this matter, contact me at 867-222-9278 or ian.parsons@canada.ca, or Michelle Blade at 867-975-3877 or michelle.blade@canada.ca.

Regards,
Ian Parsons
Manager, Water Resources Division

Cc. Spencer Dewar, Director, Resource Management Directorate – CIRNAC, NRO
Erik Allain, Director of Lands – CIRNAC, NRO



Technical Review Memorandum

To: Richard Dwyer, Manager of Licensing, NWB

From: Ian Parsons, Manager, Water Resources Division – CIRNAC, NRO

Date: August 17, 2018

Re: Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) Technical Review Comments of the Design Report For the North East Dike – Whale Tail Project under Agnico Eagle Mines Limited's Type "A" Water Licence No. 2AM-WTP1826.

Applicant:	Agnico Eagle Mines Limited
Representatives:	Jamie Quesnel and Ryan Vanengen
Project:	Whale Tail Pit Project
Region:	Kivalliq

A. BACKGROUND

On July 11, 2018, the Minister of Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) approved Agnico Eagle Mines Limited's Whale Tail Pit Project Type 'A' Water Licence No. 2AM-WTP1826 application. The Whale Tail Pit Project is a gold deposit located near Baker Lake, Nunavut.

The following is a technical review of the Design Report for the North East (NE) Dike at the Whale Tail Pit Project.

B. RESULTS OF REVIEW

Comments and recommendations are provided by CIRNAC Water Resources Division, pursuant to the Department's mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Indian Affairs and Northern Development Act*.

DESIGN REPORT OF NORTH EAST DIKE

▪ Dam Classification

The report refers to Canadian Dam Association (CDA, 2014) in some sections and CDA, 2007, rev 2013 in other sections for the design criteria. CIRNAC is unable to find CDA, 2014 on the Dam Safety Publications list of the Canadian Dam Association. The most recent edition of the indicated safety guidelines available on the CDA website is

Canada



dated 2013. Although, the narratives provided to justify the NE Dike classification (Significant) are reasonable, CIRNAC is seeking clarification regarding reference to CDA, 2014 and sections of the technical bulletin that are applicable to the design.

- **Instrumentation and Monitoring Plan**

Agnico Eagle shall periodically perform inspection to verify the general layout and performance from a seepage point of view. CIRNAC requests Agnico Eagle to confirm the frequency (months, years, etc.) of the required inspection. The NE Dike is a temporary structure and its overall design concept is based on lessons learned from previous studies (stability, seepage, thaw settlement, stress, wind and waves) carried out for Whale Tail, Mammoth Dike and the Waste Rock Storage Facility Dike. However, CIRNAC requests confirmation that the indicated inspections will be completed in accordance with Section 3.6.2 – Visual Inspections (routine inspections, engineering inspections and special inspections) of the Dam Safety Guidelines 2007 (2013 Edition).

- **Drainage and Flow Path Map**

The report describes how the dike will direct flow, however CIRNAC has uncovered inconsistencies. Section 1.2 of the report states “water from the pond that will be created on the upstream side of the dike will be periodically pumped out and treated for suspended solids at the Attenuation Pond.” The area of this pond is not depicted in the report.

Section 4.3 NE Pond Operational Criterion states “in case of a flood larger than the design flood, water will overflow towards Nemo Lake rather than towards the mine site”. There are two issues here. First, where is the NE Pond located? CIRNAC assumes this is the same pond mentioned in Section 1.2 without a name. CIRNAC therefore recommends attaching a detailed map with the size and location of this pond with this report.

Section 5.1.3 of the report states “the NE Dike collects a watershed of approximately 206 ha as shown on Figure 5-2. It will be used to store runoff water from this watershed, to stop it from flowing towards the mine site and pit, before it can be pumped towards Mammoth Lake.” In this section, the report indicates that the water will be pumped toward Mammoth Lake. Earlier in the report, it’s stated that water would be pumped to the attenuation pond. CIRNAC recommends that the applicant provide clarification.

In summary, CIRNAC recommends that the applicant provide a more detailed map depicting flow direction, the location of the NE Pond, and direction of pumping. Supplemental information shall also clarify where the water will be pumped from/to, as well as at what water elevation will the water flow towards Nemo lake instead of being pumped to the Attenuation Pond.