



Water Resources Division  
Resource Management Directorate  
Nunavut Regional Office  
P.O. Box 100  
Iqaluit, NU, X0A 0H0

Your file - Votre référence  
2AM-DOH1335 + 2BB-MAE1727  
Our file - Notre référence  
GCDocs# 121491236

February 7, 2024

Robert Hunter  
Licensing Administrator  
Nunavut Water Board  
P.O. Box 119  
Gjoa Haven, NU, X0B 1J0  
E-mail: [licensing@nwb-oen.ca](mailto:licensing@nwb-oen.ca)

**Re: Crown-Indigenous Relations and Northern Affairs Canada's Review of the Licence Updated Interim Closure and Reclamation Plan and the Updated Closure Security for the Hope Bay Project, Type A and B Water Licence No. 2AM-DOH1335 and 2BB-MAE1727**

Dear Robert,

Thank you for the January 10, 2024 invitation to review the referenced licence updated interim closure and reclamation plan and the updated closure security, submitted by Agnico Eagle Mines Limited, for Type A and B Water Licence No. 2AM-DOH1335 and 2BB-MAE1727.

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) examined the application 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*. Please find CIRNAC comments and recommendations in the attached Technical Memorandum.

The applicant shall provide confirmation from the Nunavut Water Board that all outstanding water license fees have been paid in full prior to approval of this application.

If there are any questions or concerns, please contact me at (867) 975-3877 or [Joyce.Demers@rcaanc-cirnac.gc.ca](mailto:Joyce.Demers@rcaanc-cirnac.gc.ca) or Andrew Keim at (867) 975-4550 or [Andrew.Keim@rcaanc-cirnac.gc.ca](mailto:Andrew.Keim@rcaanc-cirnac.gc.ca).

Sincerely,

Joyce Demers, B.Sc.,  
Industrial Coordinator



## **Technical Review Memorandum**

**Date:** February 7, 2024

**To:** Robert Hunter – Licensing Administrator, Nunavut Water Board

**From:** Joyce Demers – Industrial Coordinator, CIRNAC

**Subject:** Crown-Indigenous Relations and Northern Affairs Canada's Review of the Licence Updated Interim Closure and Reclamation Plan and the Updated Closure Security for the Hope Bay Project, Type A and B Water Licence No. 2AM-DOH1335 and 2BB-MAE1727

**Region:** ☒ Kitikmeot ☐ Kivalliq ☐ Qikiqtani

---

### **A. BACKGROUND**

The Doris mine is located approximately 110 km south of the Bathurst Inlet, 705 km northeast of Yellowknife, North West Territories and 153 km southwest of Cambridge Bay in Nunavut. The Hope Bay Project is made of three distinct areas: Doris, Madrid, and Boston. Hope Bay Mine Project which currently holds five separate water license (2AM-DOH1335, 2AM-BOS1835, 2BB-MAE1727, 2BB-BOS1727 and 2BE-HOP1222).

Agnico Eagle Mines Limited (Agnico) submitted an interim closure and reclamation plan (the plan) for review. They have also provided a detailed cost breakdown for the plan for the 2AM-DOH1335 water licence.

CIRNAC provides the following comments and recommendations pertaining to the application package. A summary of the subjects of recommendations can be found in Table 1. Documents reviewed as part of this submission can be found in Table 2 of Section B. Detailed technical review comments can be found in Section C.



**Table 1: Summary of Recommendations**

Recommendation Number	Subject
R1	Water License Fees
R2	Detoxified Cyanide Leach Tailings
R3	Explosives Final Location
R4	Post Closure Monitoring
R5	Underground Mine Workings

## **B. DOCUMENTS REVIEWED AND REFERENCED**

The following table (Table 2) provides a list of the documents reviewed under the submission and reference during the review.

**Table 2: Documents Reviewed and Referenced**

Document Title	Author, File No., Rev., Date
240109 2AM-DOH and 2AM-BOS Update Email to NWB-ILAE	Jennifer Range, January 9, 2024
240109 2AM-DOH1335 Hope Bay Project Doris-Mardid ICRP-ILAE	Agnico Eagle Mines Limited, January 2024
240109 2AM-DOH1335_Basis_of_Estimate_Security_Update_December2023-w Ap-r1-ILAE	Nunami Stantec Limited, December 20, 2023
240110 2AM-DOH1335, 2BB-MAE1727 Updated Closure Security Estimate and ICRP's - Email Dist-OLAE	Robert Hunter, January 10, 2024
240123 2AM-DOH1335 Transport Canada comment for 2AM-DOH1335, 2BB-MAE1727 Updated ICRPs-ILAE	Scott Kidd, January 23, 2024



## **C. RESULTS OF REVIEW**

### **1. Water License Fees**

#### **Comment:**

The applicant shall confirm with the Nunavut Water Board that all outstanding water license fees have been paid in full prior to approval of this application.

#### **Recommendation:**

(R-01) CIRNAC recommends that the applicant confirm with the Nunavut Water Board that all fees have been paid in full.

### **2. Detoxified Cyanide Leach Tailings**

#### **Comment:**

Under section 1.3 in the document labeled 240109 2AM-DOH1335 Hope Bay Project Doris-Mardid ICRP-ILAE it states that;

“This ICRP addresses the following project changes from the current approved ICRP:

...

- Increase in tailings volume. Filtered detoxified cyanide leach tailings continues to be mixed with waste rock and used as backfill and floatation tailings are deposited as a low solids content slurry in the existing Doris TIA;”

It is unclear how the cyanide leach tailings will be detoxified and if there is a possibility for cyanide to leach out of the underground workings into artesian flows/ ground water.

#### **Recommendation:**

(R-02) CIRNAC recommends that the applicant provide further information on this process and describe how the cyanide will be detoxified and how it will remain stable inside the portal following disposal.

### **3. Explosives Final Location**

#### **Comment:**

In the document labeled 240109 2AM-DOH1335 Hope Bay Project Doris-Mardid ICRP-ILAE under section 4.5.4 states that;

“Any residual prepared explosives will be disposed of underground.”



The concern is that the explosives may accidentally detonate which may allow containments find its way into water bodies or ground water depending on the location of the detonating.

**Recommendation:**

(R-03) CIRNAC recommends that the applicant describe how the explosives will remain stable inside the portal.

#### **4. Post Closure Monitoring**

**Comment:**

In the document labeled 240109 2AM-DOH1335 Hope Bay Project Doris-Mardid ICRP-ILAE under section 4.7 it stats that;

“Based on engineering design and analysis, it is expected that post-closure monitoring will be required for ten years.”

The concern is that 10 years is not long enough to ensure long-term site stability. CIRNAC’s position is that post-closure monitoring should be extended to 25 years. This would also keep the project consistent with what was agreed upon for Doris (2AM-DOH1335) during the security estimate update for both the duration and the manor agreed upon.

Section 8 would also need to be updated to reflect what was previously agreed upon that post closure monitoring take place over a period of 25 years.

**Recommendation:**

(R-04) CIRNAC recommends that the post-closure monitoring be extended to 25 years to reflect what was previously agreed upon for the Doris water license 2AM-DOH1335.

#### **5. Underground Mine Workings**

**Comment:**

It is unclear exactly what items/soil types will be backfilled into the underground mine working and to what standard they will be placed there in. For example in section 4.5.4 in the document labeled 240109 2AM-DOH1335 Hope Bay Project Doris-Mardid ICRP-ILAE it states that;

“...The granular protective cover of the tank farms will be tested for the presence of unacceptable levels of hydrocarbons. Remediation options will be determined following the testing, to be appropriate for the type and extent of contamination. If required, this material will be placed in mega-bags and disposed of underground. ...”



This is a concern as it is unclear what exactly the modeling used to determine if the ground within the mine workings will remain frozen or if there exist potential for artesian flows/ground water infiltration.

Additionally, it is unclear how the proponent would access the workings underground given the ice lensing and cap that have developed within the portal. It is unclear how these items will be placed into the underground mine workings as it is presumed to be iced over following years of inactivity.

**Recommendation:**

(R-05) CIRNAC recommends that the applicant provide a list of contaminated soils and expected volumes to be placed inside the underground mine workings. Additionally, the applicant should be prepared to provide the modeling used to determine the safety of this option in the event that the project comes out of Care and Maintenance and a security review will be required.