



Water Resources Division
Resource Management Directorate
Nunavut Regional Office
918 Nunavut Drive
Iqaluit, NU, X0A 3H0

Your file - Votre référence
(Licence No. 2AM-MEL1631)
Our file - Notre référence
GCDocs#145609519

April 21, 2026

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's Review of the Design Report for Discovery Road Phase 1 at the Meliadine Mine project, Type A Water Licence No. 2AM-MEL1631

Dear Richard,

Thank you for the March 23, 2026, invitation to review the referenced design report, submitted by Agnico Eagle Mines Limited under the existing Type A Water Licence No. 2AM-MEL1631.

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's 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 Jordan Beer at jordan.beer@rcaanc-cirnac.gc.ca or Andrew Keim at (867) 975-4550 or Andrew.Keim@rcaanc-cirnac.gc.ca.

Sincerely,

Jordan Beer, M.Sc.,
Regional Coordinator



Technical Review Memorandum

Date: April 21, 2026

To: Richard Dwyer – Manager of Licensing, Nunavut Water Board

From: Jordan Beer – Regional Coordinator, CIRNAC

Subject: Crown-Indigenous Relations and Northern Affairs Canada’s Review of the Design Report for Discovery Road Phase 1 at the Meliadine Mine project, Type A Water Licence No. 2AM-MEL1631

Region: Kitikmeot Kivalliq Qikiqtani

A. BACKGROUND

The Meliadine Mine project is a gold mining project run by Agnico Eagles Mining Limited (Applicant), with active operations ongoing since 2016. The mine site is located approximately 25 km north of Ranken Inlet and 80 km southwest of Chesterfield Inlet in the Kivalliq Region of Nunavut. The project exists between the latitudes of 62° 47' 52" N and 63° 2' 53" N and between the longitudes of 92° 3' 10" W and 92° 16' 19" W. The main camp is located at 63° 2' 24.180" N and 92° 13' 44.288" W.

The Applicant has submitted a design report for a the Discovery Road Phase 1. This project involves building a 4 km road connecting the existing All Weather Access Road (AWAR) to the Meliadine Lake boat launch. The Applicant also intends to build a parking lot, a turnaround area, and a road slanting into Meliadine Lake for direct boat access. The Applicant proposes a minimum fill thickness of 1.2 m to prevent the underlying ice-rich permafrost from thawing. Five culverts will be built to manage surface water, and the road will slant away from the center line to prevent pooling.

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
R-01	Road Closure and Reclamation Plans
R-02	Thaw Susceptibility
R-03	Sedimentation and Erosion Controls
R-04	Stockpiling
R-05	DRC02 Q100 Freeboard
R-06	Construction Timing

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
260323 2AM-MEL1631 6537-117-230-REP-001_R3 - Discovery road Phase1 - Design Report-For use-IMLE	Tetra Tech, March 12 2026 and WSP Canada Inc., August 26, 2025.
241025 2AM-MEL1631 Amended Licence-OASE Final	Nunavut Water Board, October 25 2024
240126 2AM-MEL1631 Meliadine WL Amendment_AppF19-RoadMgmtPlan-v9_NWB-IMLE	Agnico Eagle Mines Limited, January 2024
250331-11MN034-2024 Annual Report-App 29-14 Sediment & Erosion Mgmt Plan-IMRE	Agnico Eagle Mines Limited, March 2025
130125-11MN034-Golder Rpt Bsln Model Calibration-App 7.3B-IA2E	Golder Associates, January 2013



C. RESULTS OF REVIEW

1. Road Closure and Reclamation Plans

Comment:

Section 11 of the Road Management Plan indicates that upon mine closure, road surfaces will be rehabilitated to promote natural re-vegetation, remove water crossings, and re-established natural drainages. Agnico emphasizes that they are obligated to fully decommission all roads unless directed otherwise by the landowners and regulatory agencies.

Section 3.3 of the Tetra Tech Design Report frames the boat launch as long-term infrastructure, indicating that “The construction of the Discovery Road is considered a good opportunity to enhance boat launch access to Meliadine Lake for the local community”

CIRNAC is seeking clarification on the long-term plans for the road, since the goal of long-term increased access for community members is at odds with the Applicant’s decommissioning obligations.

Recommendation:

R-01) CIRNAC recommends that the Applicant indicate their long-term closure or hand-off plans for the road and boat launch following the mine’s closure. If the boat launch is intended for long-term community use, CIRNAC recommends indicating who will take responsibility for the road post-closure.

2. Thaw Susceptibility

Comment:

Section 2.2 of the Design Report indicates that the project site is underlain by ice-rich and thaw-susceptible permafrost with an active layer varying between 1.0 and 3.0 m.

Section 3.2 of the Design Report proposes a minimum fill thickness of 1.2 m in order to prevent thaw settlement, with increased thickness over culverts. However, Section 5 of the Road Management Plan indicates that “a minimum road fill thickness of at least 1.3 m is required above ice rich subgrade soils” in order to prevent permafrost thaw. The report does not indicate how the Applicant arrived at a value of 1.2 m, and does not justify how this will be sufficient to prevent thaw settlement.

The design report also does not discuss climate projections for the project site, or the implications this has for road design. The mine is projected to enter closure in 2032. However, the road may persist beyond this, depending on the Applicant’s response to R-01.

The concern is that there is insufficient information for CIRNAC to evaluate whether the road is designed to withstand thaw settlement over its lifetime. Permafrost thaw and subsequent settlement can affect surface water regimes, and may negate the effectiveness of the planned surface water management strategies.

**Recommendation:**

- R-02a) CIRNAC recommends that the Applicant describe how it arrived at a minimum fill thickness value of 1.2 m, and explain how this will sufficiently prevent thaw settlement.
- R-02b) CIRNAC recommends that the Applicant describe the climate change projections for the project site, and describe how the road is designed to withstand the effects of climate change induced thaw over the road's intended lifetime.

3. Sedimentation and Erosion Controls**Comment:**

Part D-2e of Water License 2AM-MEL1631 states that detailed reports submitted prior to Construction shall include "Technical specifications for sedimentation, erosion control and bank stabilization measures, including proposed materials, location and extent, place methods and quantities required".

Section 3.3 of Tetra Tech's design report states that "precautions will be taken so that no material will be entered into water" during construction of the boat launch access road, parking lot, and turnaround.

Section 7.4 of Tetra Tech's design report states that "During the installation of the culverts, if required, erosion and sediment control measures will be used in the work area to prevent sedimentation to downstream water bodies. Work will be monitored in accordance with the Sediment and Erosion Management Plan."

Finally, section 3.1 of the WSP design report states that "the work areas shall be monitored for erosion and sediment transport as required during construction. Any required mitigation measures will be put in place as per the sediment and erosion management plan".

No other information on erosion and sediment release control was provided. The Sedimentation and Erosion Plan provides a list of mitigation measures that could be implemented, but the Applicant has not indicated which of these measures it intends to take during this construction project. The concern is that without listing the technical specifications, proposed materials, location, extent, methods, and quantities, CIRNAC is unable to evaluate whether construction activities are likely to result in erosion and sedimentation into nearby freshwater bodies.

Recommendation:

R-03) CIRNAC recommends that the Applicant specify what measures will be taken during road and culvert construction to prevent sedimentation and erosion, including the proposed materials, location and extent, place methods and quantities required. CIRNAC requests particular details around sedimentation and erosion controls during construction within 31 m of Meliadine Lake.



4. Stockpiling

Comment:

Section 1.3 of the design report indicates that the Applicant intends to begin by farming and stockpiling esker material in June 2026. The Applicant does not indicate where it intends to farm material from, or where it intends to stockpile the material.

The concern is that the farming and stockpiling activities could result in sedimentation and erosion depending on their location

Recommendation:

R-04) CIRNAC recommends that the Applicant indicate where it intends to farm esker materials from, and where it intends to stockpile the materials. CIRNAC also recommends that the Applicant clarify whether farming or stockpiling activities will occur within 31m of the high water mark of any water body.

5. DRC02 Q100 Freeboard

Comment:

Section 7.1 of the design report indicates that the available freeboard to the Culvert Inlet Crown for culvert DRC02 during a 1-in-100 year flood event is -0.04m. The Applicant notes that “this water level was determined to be acceptable due to the high return period of the design event and due to riprap protection design for 0.3 m above the culvert inlet crown. As well, the peak flow is only sustained for a short duration.”

1-in-100 year flood events were calculated using the Water Balance Model developed by Golder in 2009, and updated by WSP in 2024 to include data from 1981-2023. CIRNAC was unable to locate the 2024 updated model report. However, based on the initial model detailed in “130125-11MN034-Golder Rpt Bsln Model Calibration-App 7.3B-IA2E”, the model does not appear to account for changes in precipitation due to climate change.

Section 7.2 of the Road Management Plan indicates that culvert capacity should be adequate to ensure that the culvert(s) pass the water under all hydraulic conditions.

The concern is that the proposed culvert design does not fully accommodate the projected 1-in-100 year flood event, and does not leave any margin for error if precipitation events are higher than estimated by the Water Balance Model.

Recommendation:

R-05a) CIRNAC recommends that the Applicant provide information on how the Water Balance Model was updated in 2024, including whether the updated model accounts for the effects of climate change on precipitation.

R-05b) CIRNAC recommends that the Applicant reconsider the design for culvert DRC02 to, at minimum, fully accommodate the projected 1-in-100 year flood event.



6. Construction Timing

Comment:

Section 5 of The Road Management Plan states that road construction should be conducted in winter to the greatest extent possible in order to prevent insulation of thawed subgrade soils. The Plan indicates that winter activities should include laying down the base of the roads, installing culverts, and building up the base of the road.

Section 1.3 of the design report indicates that “The first year of construction, 2026, will start in June and focus on farming and stockpiling of esker material and beginning road placement.”

The concern is that construction will be conducted during peak thaw season, potentially insulating thawed subgrade soils and leading to permafrost thaw.

Recommendation:

- R-05a) CIRNAC recommends that the Applicant clarify what construction activities will be conducted in each season.
- R-05b) CIRNAC recommends that the Applicant explain how the proposed schedule will prevent permafrost degradation, and how it will align with the measures listed in section 5 of the Road Management Plan.