Crown-Indigenous Relations and Northern Affairs Canada
Relations Couronne-Autochtones et Affaires du Nord Canada

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

Your file - Votre référence
2AM-MEL1631
Our file - Notre référence
GCDocs#149693324

September 2, 2026

Robert Hunter
Licensing Administrator
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 Waste Rock Storage Facility 3 Raise Design Report for Meliadine Project, Type A Water Licence No. 2AM-MEL1631

Dear Robert,

Thank you for the August 13, 2026 invitation to review the referenced Design Report, submitted by Agnico Eagle Mines Ltd. for Type A Water Licence No. 2AM-MEL1631.

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

If there are any questions or concerns, please contact me at (587) 338-6428 or sarah.forte@rcaanc-cirnac.gc.ca or Andrew Keim at (867) 975-4550 or andrew.keim@rcaanc-cirnac.gc.ca.

Sincerely,

Sarah Forté
Regional Coordinator

Canada

Crown-Indigenous Relations and Northern Affairs Canada | Relations Couronne-Autochtones et Affaires du Nord Canada

Technical Review Memorandum

Date: September 2, 2026

To: Robert Hunter – Licensing Administrator, Nunavut Water Board

From: Sarah Forté – Regional Coordinator, CIRNAC

Subject: **Crown-Indigenous Relations and Northern Affairs Canada's Review of Waste Rock Storage Facility 3 Raise Design Report for Meliadine Project, Type A Water Licence No. 2AM-MEL1631**

Region: ☐ Kitikmeot ☒ Kivalliq ☐ Qikiqtani

A. BACKGROUND

The Meliadine Gold Mine Project is located near the western shore of Hudson Bay in the Kivalliq Region of Nunavut, approximately 25 km north of Rankin Inlet. The project is owned and operated by Agnico Eagle Mines Ltd. (Agnico Eagle) under Type A water licence No. 2AM-MEL1631.

Agnico Eagle has provided a Design Report for the Waste Rock Storage Facility 3 (WRSF3) Raise. Currently WRSF3 has a capacity of 12.5 M-m^3 and it is used for storing both waste rock and overburden. The proposed Raise would increase the capacity by 4.7 M-m^3, for a total design storage capacity of 17.2 M-m^3.

CIRNAC provides the following comments and recommendations pertaining to the Design Report. 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	Encapsulating overburden
R-02	Mitigation measures for long-term stability
R-03	Climate scenarios for thermal modelling

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
Waste Rock Storage Facility 3 (WRSF3) Raise Design Report, Meliadine Gold Mine, Nunavut	Tetra Tech Canada Inc., 65-686-230-TCR-001, Rev. 1, August 6, 2026
Tailings Storage Facility (TSF) Design Update Report Meliadine Gold Mine, Nunavut	Tetra Tech Canada Inc., 65-684-230-TCR-002, Rev. 1, April 2, 2026
Including future climate data in decision-making	Government of Canada website (Role of climate information in decision-making - Canada.ca), accessed August 31, 2026

C. RESULTS OF REVIEW

1. Encapsulating overburden

Comment:

The design approach described in Section 5.2 of the Design report is: "*waste rock and overburden materials will be co-disposed within the facility, with the overburden encapsulated within the central portion of the facility.*" The issued for construction drawings in appendix E, stability analysis figures in appendix D, and thermal analysis figures in appendix C all show a minimum thickness of 5 m of waste rock covering overburden.

The different appendices of the Design Report do not use the same assumptions regarding the volume and timing of overburden placement, raising questions on the capacity to cover overburden with waste rock. Table 1 in appendix C, "Preliminary Waste Rock and Overburden Placement Plan for WRSF3", states that from Summer 2029 until the end of mine waste placement in Summer 2031, only waste rock will be placed on the benches. This would allow any overburden placed in the centre of the facility prior to Summer 2029 to be encapsulated in waste rock. However, Table 1 in appendix B (Design Basis Memo) "Summary of Overburden and Waste Rock at WRSF3" lists that during the final year, 2031, both 3.26 M-m^3 of waste rock and 1.11 M-m^3 of overburden will be placed in WRSF3.

Overburden has different geotechnical properties than waste rock and could be more susceptible to erosion and dust generation, making it important to ensure it is encapsulated as planned.

Recommendation:

(R-01) CIRNAC recommends that Agnico Eagle:

a. Clarify why there is a discrepancy in the type of material in to be placed in WRSF3 in 2031 between appendices B and C; and
b. Confirm the waste rock to be placed in 2031 will be sufficient to create a 5-m thick cover of all overburden placed the same year.

2. Mitigation measures for long-term stability

Comment:

Ice-rich silt and sand layers are found beneath the footprints of both the WRSF3 and the tailings storage facility (TSF). These layers can lead to long-term creep deformation and creep deformation analyses for the TSF were reported on in the TSF Design Update Report. Section 5.5.1 of the WRSF3 Report states: "*the results of the creep deformation analyses completed for the TSF are considered to provide a conservative upper-bound reference for evaluating potential long-term creep deformation at WRSF3.*"

The TSF Report included proposed mitigation measures "*to address the potential for long-term deformation associated with the ice-rich SILT layer in the TSF foundation.*" No similar measures were found in the WRSF3 Report despite the TSF model's use as a reference for WRSF3.

Recommendation:

(R-02) CIRNAC recommends that Agnico Eagle explain why mitigation measures to prevent long-term creep deformation are not proposed for WRSF3, and if necessary include such measures in their plans.

3. Climate scenarios for thermal modelling

Comment:

The Design Basis in appendix B states "*Thermal analyses will be carried out to estimate permafrost temperatures in the foundation under the designed long-term climate change scenarios*". The analyses were performed using the CMIP6 SSP2-4.5 climate change dataset developed by Okane, as described in the Thermal Analysis Memo of appendix C.

Uncertainty in predicting future climate is most effectively addressed by using an ensemble of results from several climate models and including results based on several emissions scenarios (Government of Canada, 2026). A clear record of the consideration of

multiple scenarios for infrastructure design decisions would provide project evaluators with the infrastructure design's sensitivity to climate change.

Recommendation:

(R-03) CIRNAC recommends that in future thermal analyses, Agnico Eagle use climate model predictions from several plausible emission scenarios to better describe effects of climate change on proposed infrastructure.