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ECCC File: 6100 000 008/021
NIRB File: 2AM-WTP1830, 2AM-MEA1530



February 27, 2026

via email at: richard.dwyer@nwb-oen.ca

Richard Dwyer
Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0

Dear Richard Dwyer:

RE: 2AM-WTP1830, 2AM-MEA1530 – Agnico Eagle Mines Ltd. – Meadowbank Complex – Interim Closure and Reclamation Plan V.1

Environment and Climate Change Canada (ECCC) has reviewed the information submitted to the Nunavut Water Board (NWB) by Agnico Eagle Mines Ltd. (“the Proponent”) regarding the above-mentioned Interim Closure and Reclamation Plan.

ECCC provides expert information and knowledge to project assessments on subjects within the department’s mandate, including climate change, air quality, water quality, biodiversity, environmental emergencies preparedness and responses. This work includes reviewing proponent characterization of environmental effects and proposed mitigation measures. We provide advice to decision-makers regarding a proponent’s characterization of environmental effects, the efficacy of their proposed mitigation activities, and may suggest additional mitigation measures. Any comments received from ECCC in this context does not relieve the proponent of its obligations to respect all applicable federal legislation.

The following comments are provided:

1. Closure criteria - stability

References:

Interim Closure and Reclamation Plan for the Meadowbank Complex, Version 1 (Agnico Eagle, December 2025)

-Table 4.3-1. Site Wide Closure Objectives and Criteria for Meadowbank Complex

Appendix 6-J. Final Closure Design for the North Cell and South Cell Tailings Storage Facility, Version 1 (Agnico Eagle, December 2025)



-Table 1. Closure Objectives and Criteria for Tailings Storage Facility of the Meadowbank Complex

Appendix 6-A. Meadowbank Complex – Closure and Post-Closure Monitoring Plan, Version 1 (Agnico Eagle, November 2025)

Comment:

There are numerous water quality-related closure objectives included in the Interim Closure and Reclamation Plan, including: SW7, OP3, UG3, WRSF1, BL6, TQ3, and TSF2. All of these closure objectives include the same criteria: “*water quality meets modelled predictions and relevant criteria, and is protective of human and ecological health*”. Although these criteria are intended to demonstrate the closure principle of chemical stability, the criteria only state that water quality “meets” criteria and predictions, but do not indicate how “stability” will be demonstrated. For example, a single monitoring sample may technically meet criteria and match model predictions, but this does not indicate stability over time in the scale of closure.

The Closure and Post-Closure Monitoring Plan also makes numerous references to chemical stability, and states that chemical stability will be monitored for water quality-related closure objectives. However, this plan also does not provide a description of how stability will be assessed.

Stability is an essential component of mine closure, as this demonstrates that conditions have equalized after mining activities have concluded. Demonstrated stability increases certainty that environmental conditions may be reasonably expected to remain the same into the future and that risks to aquatic life are minimized. Descriptions of how water quality stability will be assessed would increase clarity to all parties for when a closure objective has been achieved. This information may be considered for inclusion alongside the closure criteria, or within the monitoring plan.

ECCC Recommendation:

ECCC recommends the Proponent:

1. describe how stability in water quality monitoring will be assessed to determine whether closure objectives have been achieved; and
2. discuss whether stability criteria should be included as part of the closure criteria or in the monitoring plan, and update the documents accordingly.

2. Water quality – tailings cover configurations

Reference:

Appendix 6-J. Final Closure Design for the North Cell and South Cell Tailings Storage Facility, Version 1 (Agnico Eagle, December 2025)

-Appendix 6J-B. Evidence-Based Selection for Tailings Storage Facility Cover Configuration, Version A (Agnico Eagle, October 2025)

-Section 2.2.1. Chemical Loading Analysis

Comment:

Section 2.2 of Appendix 6J-B states, "...the water quality with no cover is expected to be below the WLC [water licence criteria] for most parameters" and goes on to provide arsenic and total dissolved solids (TDS) as examples of where the predictions remain below the water licence criteria. The wording "most parameters" would imply that some parameters may exceed water licence criteria in the no cover scenario, however these were not discussed. It is unclear if this is an error, or if there are parameters that are expected to exceed criteria.

ECCC Recommendation:

ECCC recommends the Proponent clarify which parameters may exceed water licence criteria in the no cover scenario.

3. Water quality results for post-flushing period tailings storage facility runoff

Reference:

Appendix 6-J. Final Closure Design for the North Cell and South Cell Tailings Storage Facility, Version 1 (Agnico Eagle, December 2025)

-Appendix 6J-B. Evidence-Based Selection for Tailings Storage Facility Cover Configuration, Version A (Agnico Eagle, October 2025)

-Table 2.2-2. Water Quality Results for Post Flushing Period TSF Runoff

Comment:

Table 2.2-2 summarizes water quality results for the post-flushing period of tailings storage facility (TSF) runoff. This table includes both SSP2-4.5 and SSP5-8.5 climate scenarios with 0 m, 1 m, and 2 m cover. It is noted that the predicted concentrations of total cyanide (maximum) in the SSP2-4.5 scenario are higher with 1 m cover than with 0 m or 2 m cover. In the SSP5-8.5 scenario, the concentration of total cyanide (maximum) is highest with 2 m cover. These are unexpected results, since it is expected that concentrations in runoff would be lower with increased depth of cover. Similarly, but to a lesser extent, the concentrations of aluminum in runoff are higher with a cover than without cover.

ECCC Recommendation:

ECCC recommends the Proponent provide interpretation and discussion of the results presented in Table 2.2-2 for total cyanide and aluminum.

4. Monitoring timelines

References:

Appendix A. Meadowbank Complex – Closure and Post-Closure Monitoring Plan, Version 1 (Agnico Eagle, November 2025)

-Table 2.3-1. Conceptual Closure and Post-Closure Monitoring Schedule

-Table 4.2-5. Meadowbank Mine Monitoring details

-Table 4.2-8. Whale Tail Mine Monitoring Details

-Section 4.4.1. Reduction in Water Quality/Quantity Monitoring Frequency

Comment:

Table 2.3-1 provides a conceptual closure and post-closure monitoring schedule, and Tables 4.2-5 and 4.2-8 provide a summary of all surveillance network program (SNP) stations with their proposed decommissioning dates. In addition, the plan provides an outline of conditions where monitoring frequency may be reduced (Section 4.4.1).

While the decommissioning dates provided may be used as a guide for reductions in monitoring efforts, all reductions in monitoring should be based on results and demonstrated stable or decreasing water quality concentrations that do not pose a risk to aquatic life. Actual realized monitoring results may indicate that monitoring can be reduced according to planned timelines, but it is possible that results may indicate that monitoring must continue longer than outlined in the plan.

ECCC Recommendation:

ECCC recommends the Proponent clarify that the timelines and dates provided in Tables 2.3-1, 4.2-5 and 4.2-8 are guides, but that any reductions in monitoring efforts will be based on monitoring results that support achievement of closure objectives.

5. Removal of water monitoring parameters

References:

Appendix A. Meadowbank Complex – Closure and Post-Closure Monitoring Plan, Version 1 (Agnico Eagle, November 2025)

- Section 4.4.1. Reduction in Water Quality/Quantity Monitoring Frequency
- Section 4.4.1.1. Removal of a Monitoring Parameter

Comment:

The Closure and Post-Closure Monitoring Plan identifies situations where removal of a water monitoring parameter may occur. This includes the following:

- *If a parameter result is consistently less than the analytical detection limit (using an appropriate detection limit) at a particular monitoring station, with “consistently” defined as a three-year period, then the parameter may be removed from general monitoring.*
- *Following approval of a Licence, if a monitoring and/or management plan has been approved by the Board, and the plan has predefined triggers for the removal or reduction of a parameter, the monitoring/management plan triggers apply.*

ECCC agrees that removal of a parameter from monitoring is reasonable if the parameter is a non-detect based on appropriate detection limits. However, it is unclear what the Proponent means by defining “consistently” as a three-year period. This may be interpreted as either being assessed over a three-year period, or that the parameter must be below detection for a three-year period.

In addition, the plan includes monitoring reductions in situations where plans have predefined triggers for removal and reduction of a parameter when the triggers apply. This conflicts with Section 4.4.1 which states that, “*In all cases, reduction of monitoring frequency, removal of a monitoring parameter, or removal of a monitoring station will be submitted to NWB [Nunavut Water Board].*” It is unclear whether the NWB will approve all reductions in monitoring on a case-by-case basis, or whether the Proponent intends to propose pre-defined triggers to be included in a future management plan update.

ECCC Recommendation:

ECCC recommends the Proponent:

1. provide additional information on the three-year assessment period for non-detects; and
2. clarify the process for approval of monitoring reductions and whether it is the Proponent’s intention to transition removal of water monitoring to pre-defined triggers in management plans.

6. Reduction in frequency of water monitoring at a station

References:

Appendix A. Meadowbank Complex – Closure and Post-Closure Monitoring Plan, Version 1 (Agnico Eagle, November 2025)

- Section 4.4.1. Reduction in Water Quality/Quantity Monitoring Frequency
- Section 4.4.1.2. Reduction in Frequency of Water Monitoring at a Station

Comment:

Section 4.4.1.2 outlines three conditions which could result in reduced monitoring frequency at an individual station: if water quality is within predictions, if water quality is consistently below guidelines, and if data in the most recent five-year period show no increasing or decreasing trend. As presented in the plan, it is unclear whether the Proponent is proposing that all three conditions be met prior to reductions in sampling frequency, or if only a single condition would need to be met to reduce sampling frequency.

In addition, it is unclear why the third condition includes both increasing and decreasing trends. While it is understood that an increasing trend would mean there is uncertainty that would warrant additional monitoring, a decreasing trend, if also below guidelines and predictions, would suggest that mine-related impacts are decreasing over time and that the risk to the aquatic environment is reduced.

ECCC Recommendation:

ECCC recommends the Proponent discuss:

1. whether the conditions presented in Section 4.4.1.2 are considered individually or holistically to determine whether a reduction of water monitoring frequency may be appropriate; and
2. why the absence of both an increasing and decreasing trend would be required over five years to reduce monitoring frequency.

7. Closed mine status

Reference:

Appendix A. Meadowbank Complex – Closure and Post-Closure Monitoring Plan, Version 1 (Agnico Eagle, November 2025)

-Section 4.5.4.1. MDMER [*Metal and Diamond Mining Effluent Regulations*] Closed Mine Status

Comment:

The Closure and Post-Closure Monitoring Plan states that since “...*the Meadowbank Complex may achieve ‘closed mine status’ under the MDMER during Closure, it is not expected that Post-Closure monitoring will be required. Should the Meadowbank Complex not achieve ‘closed mine status’ then CREMP [Core Receiving Environment Monitoring Program] monitoring will occur at reduced intervals.*”

ECCC notes that required monitoring under the MDMER and the Water Licence are not necessarily tied together. Even if the Proponent receives closed mine status under the MDMER, the Water Board may still require monitoring under the water licence.

If closed mine status is achieved during closure, please note that any effluent discharged to any water or place referred to in subsection 36(3) of the *Fisheries Act* from the recognized closed mine is subject to the pollution prevention provisions of the *Fisheries Act*, including subsection 36(3) which states:

“Subject to subsection (4), no person shall deposit or permit the deposit of a deleterious substance of any type in water frequented by fish or in any place under any conditions where the deleterious substance or any other deleterious substance that results from the deposit of the deleterious substance may enter any such water.”

ECCC Recommendation:

N/A – Comment for information

8. Meadowbank Tailings Storage Facility

Reference:

Interim Closure and Reclamation Plan for the Meadowbank Complex, Version 1 (Agnico Eagle, December 2025)

-Section 1.6. Purpose and Scope of the Interim Closure and Reclamation Plan

Comment:

In Section 1.6 the Proponent states, “*At this time, Agnico Eagle is not prepared to file a FCRP [Final Closure and Reclamation Plan] for permanent closure of all facilities at the Meadowbank Complex. However, Agnico Eagle has developed a preferred final closure plan for a major*

facility, the Meadowbank TSF [Tailings Storage Facility] (also known as the North Cell and South Cell TSF). To execute on this plan as part of progressive reclamation, Agnico Eagle requires certainty that the NWB [Nunavut Water Board] has approved the closure strategy for the TSF to allow for execution of closure construction of the TSF in 2026.”

The statement refers to a preferred final closure plan for the Meadowbank TSF, to be incorporated as part of progressive reclamation, ahead of the FCRP for the entire site. It is unclear if mine activities during the period up until final closure and reclamation of all facilities will be impacted by closure of the TSF, and vice versa. It is also unclear to what extent the TSF will be considered as part of the site-wide FCRP.

ECCC Recommendation:

ECCC recommends the Proponent clarify whether the closure plan for the Meadowbank TSF will be revisited as part of the FCRP for all facilities, given that the TSF would still be within the mine site footprint.

9. Encapsulation of tailings by permafrost

Reference:

Interim Closure and Reclamation Plan for the Meadowbank Complex, Version 1 (Agnico Eagle, December 2025)

-Section 2.5.5.1. Meadowbank Mine – Meadowbank Complex Tailings Storage Facility

Comment:

In Section 2.5.5.1 the Proponent states, “Due to the arid climate and permafrost environment, tailings in the TSF [Tailings Storage Facility] are disposed in a manner promoting freeze back. Given the duration that water at site is ice covered, subaqueous disposal is preferred. It is anticipated that the tailings will eventually become encapsulated by permafrost; thus, limiting oxygen diffusion and water infiltration into the tailings, contact water from the tailings, and ARD/ML [acid rock drainage/metal leaching] generation.”

It is unclear if there are any contingency plans in case permafrost is impacted by climate change, and tailings encapsulation by permafrost does not occur as anticipated.

ECCC Recommendation:

ECCC recommends the Proponent clarify whether there are contingency plans for tailings and seepage management in case the anticipated encapsulation of the tailings by permafrost does not occur as planned.

10. Closure activities for quarries

References:

Interim Closure and Reclamation Plan for the Meadowbank Complex, Version 1 (Agnico Eagle, December 2025)

- Section 6.12. Quarries and Borrow Sites
- Section 6.12.3. Closure Activities

Comment:

In Section 6.12 the Proponent states, "*Closure activities for the quarries and borrow sites are expected to be the same at Meadowbank Mine and Whale Tail Mine... Where minimal or seasonal ponding is observed the floor will be regraded to promote adequate drainage. In some cases, quarries may have a flooded floor (entirely or some significant sections). Water within these quarries will be left as-is in closure and post-closure. Thus, Agnico Eagle proposes to leave the water pond as-is. Considering that draining large quantities of water in low laying areas would require extensive work to create draining channels, this option is proposed as it is considered less disturbing to the environment while continuing to ensure proper water quality.*"

It is unclear how the ponded water in the quarries will be managed if there is overflow during periods of high precipitation.

ECCC Recommendation:

ECCC recommends the Proponent explain how they would manage any overflow of ponded water from the quarry during periods of high precipitation.

11. Disposal of surplus fuel

References:

Interim Closure and Reclamation Plan for the Meadowbank Complex, Version 1 (Agnico Eagle, December 2025)

- Section 6.8.3.2. Equipment Removal
- Section 8.3.5.1. Meadowbank Mine Site

Comment:

In Section 6.8.3.2 the Proponent states, "*Fuel not used during closure and reclamation activities will be sold, returned to suppliers, or burned onsite.*" In Section 8.3.5.1, the Proponent indicates that waste oil will be burned progressively for energy during operations. It is unclear if surplus fuel will be disposed of in the same manner as waste oil.

ECCC Recommendation:

ECCC recommends the Proponent clarify whether surplus fuel not sold or returned to suppliers during closure and reclamation activities will be disposed of in the same manner as waste oil (i.e., burned progressively for energy).

12. Disposal of contaminated soil

Reference:

Interim Closure and Reclamation Plan for the Meadowbank Complex, Version 1 (Agnico Eagle, December 2025)

-Section 6.9.3.5. Landfarms and Contaminated Soil

Comment:

The Proponent states in Section 6.9.3.5 that contaminated soils generated during Project activities would be placed in the Whale Tail underground during progressive closure and at closure, or at an alternative location currently under investigation. While the placement of contaminated soil in the Whale Tail underground will be done in continuous permafrost, this method of disposing of contaminated soils could pose a long-term environmental risk due to a malfunction of the permafrost barrier. Reliance on permafrost as a sole containment mechanism introduces uncertainty as climate conditions accelerate permafrost thaw.

Landfarming is commonly used as an initial remediation approach due to its relatively low cost and simple equipment requirements. However, in Arctic environments the effectiveness of this approach is constrained by short thaw seasons, limited aerobic microbial activity, and logistical challenges.

ECCC Recommendation:

ECCC recommends that, where landfarming does not achieve applicable soil quality objectives, the Proponent consider alternative or complementary remediation methods rather than disposing of contaminated soils in the Whale Tail underground. The following remediation options may be appropriate for the project soil conditions and should be evaluated based on site-specific characteristics:

1. **Biopiles (engineered bioremediation cells):** Excavated contaminated soils arranged in engineered piles with controlled aeration, nutrient addition, and moisture management to enhance biodegradation.
2. **Nutrient biostimulation and bioaugmentation:** Enhancement of indigenous microbial activity through nutrient amendments and/or the introduction of cold-adapted hydrocarbon-degrading microbial consortia.

3. **Soil vapor extraction (SVE) and air sparging:** SVE applies a vacuum to remove volatile and semi-volatile hydrocarbons from unsaturated soils, while air sparging injects air into saturated zones to volatilize contaminants for subsequent capture via SVE.
4. **Low-temperature thermal desorption (LTTD) or in-situ thermal enhancement:** Application of heat, either ex situ or in situ, to volatilize or desorb hydrocarbons for capture and treatment.
5. **Soil amendments (e.g., biochar or compost):** Addition of amendments to improve soil physical properties and microbial habitat, potentially enhancing degradation processes, including within frozen or partially frozen soil environments.

Key references:

- McCarthy, K., Walker, L., Vigoren, L., & Bartel, J. (2004). *Remediation of spilled petroleum hydrocarbons by in situ landfarming at an Arctic site*. Cold Regions Science and Technology, 39(2–3), 31–39. DOI:10.1016/j.coldregions.2004.05.001
- Yang, S. Z., Jin, H. J., Wei, Z., He, R. X., Ji, Y. J., Li, X. M. & Yu, S. P. 2009. *Bioremediation of oil spills in cold environments: A review*. Pedosphere. 19(3): 371–381.
- Filler, D. M., Lindstrom, J. E., Braddock, J. F., Johnson, R. A., & Nickalaski, R. (2001). *Integral biopile components for successful bioremediation in the Arctic*. Cold Regions Science and Technology, 32(2–3), 143–156. [https://doi.org/10.1016/S0165-232X\(01\)00020-9](https://doi.org/10.1016/S0165-232X(01)00020-9)
- Soloway, D. A., Nahir, M., Billowits, M. E., & Whyte, L. G. (2001). *In-situ bioremediation of diesel-contaminated soil in Canada's Arctic territory: A case study at the Whitehorse International Airport, Yukon Territory*. Polar Record, 37(202), 267–272. <https://doi.org/10.1017/S0032247400027303>
- McNicoll, D. M., & Baweja, A. S. (1995). *Bioremediation of petroleum-contaminated soils: An innovative, environmentally friendly technology* (Catalogue No. En40-491/1995). Environment Canada.
- Bykova, M. V., Alekseenko, A. V., Pashkevich, M. A., & Drebenstedt, C. (2021). *Thermal desorption treatment of petroleum hydrocarbon-contaminated soils of tundra, taiga, and forest steppe landscapes*. Environmental Geochemistry and Health, 43(6), 2331–2346. <https://doi.org/10.1007/s10653-020-00802-0>

If you need more information, please contact Erik Allen at Erik.Allen@ec.gc.ca.

Sincerely,

Erik Allen
Senior Environmental Assessment Officer

cc: Eva Walker, Head, Environmental Assessment North (NT and NU)