AGNICO EAGLE

FILE No: 2AM-MEL1631
Amendment Application

March 22, 2021

Karén Kharatyan, Director of Technical Services
Sergey Kuflevskiy, Technical Advisor
Richard Dwyer, Manager of Licensing

Nunavut Water Board
P.O. Box 119
Iqaluit, NU X0B 1J0

Re: Agnico Eagle Response to Comments by the Interveners on Final Written Statements

Dear Mr. Kharatyan, Mr. Kuflevskiy, and Mr. Dwyer:

Agnico Eagle thanks the Nunavut Water Board, Kivalliq Inuit Association, Crown-Indigenous Relations and Northern Affairs Canada, and Environment and Climate Change Canada for the opportunity to respond to the comments by the interveners on the Final Written Statements, as part of the amendment application for 2AM-MEL1631 for the Meliadine Project.

As requested, please find attached Agnico Eagle's responses which are intended to address the comments and recommendations of the interveners to the Meliadine Project.

Should you have any questions or require further information, please contact the undersigned at your convenience.

Regards,

Jamie Quesnel
Jamie.quesnel@agnicoeagle.com
Director - Permitting & Regulatory Affairs

AGNICO EAGLE

2AM-MEL1631 Water Licence Amendment

Final Written Statement Responses

Submitted to:

Nunavut Water Board

Submitted by:

Agnico Eagle Mines Limited – Meliadine Division

March 22, 2021

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KIVALLIQ INUIT ASSOCIATION (KIVIA)

Interested Party:	**KivIA**	**Rec No.:**	**KIA-New-TC-1**
Re:	**Use of the Waterline to discharge saline wastewater should be prioritized over discharge into Meliadine Lake, in accordance with a revised Adaptive Management Plan.**		

Recommendation Made by Interested Party:
As discussed above, KIA disagrees with Agnico Eagle's response. KIA maintains its request to amend the draft amended licence as above. Agnico Eagle has stated a commitment to minimize discharge into Meliadine Lake. KIA requests that NWB make that stated commitment enforceable under the water licence.

We appreciate Agnico Eagle's agreement to include an annual summary which describes how discharges to Meliadine Lake are minimized on an annual basis.

KIA Conclusion: Unresolved

Agnico Eagle's Response to Recommendation:
Given that the waterline will be discharging to the marine (rather than freshwater) environment there should be no waterline-specific terms and conditions included in the amended 2AM-MEL1631 Water Licence.

However, if the waterline is approved by NIRB after an amended 2AM-MEL1631 is issued, then any related changes to water management on site (including the referenced commitment to minimize discharge to Meliadine Lake should the waterline be approved) will be described in updates to the Water Management Plan appendices. For example, the Groundwater Management Plan and Adaptive Management Plan are appendices to the Water Management Plan and will be submitted to the NWB in accordance with Part B of 2AM-MEL1631 prior to implementation of such changes. Agnico Eagle proposes that any updated management plans (and associated appendices) relevant specifically to the waterline will be submitted to the NWB within 60 days of issuance of an amended Project Certificate approving the waterline.

See also KIA-New-TC-7 for further detail respecting the referenced commitment and supporting rationale.

Interested Party:	**KivIA**	**Rec No.:**	**KIA-New-TC-2**
Re:	**The amended water license should continue to require Agnico Eagle to notify the Board of any changes in operating plans or conditions**		

Recommendation Made by Interested Party:
We appreciate Agnico Eagle's explanation. KIA is content with Agnico Eagle's proposed revision.

KIA Conclusion: Resolved

Agnico Eagle's Response to Recommendation:
Agnico Eagle appreciates the KivIA's comments and also considers this issue resolved.

Interested Party:	KivIA	Rec No.:	KIA-New-TC-3
Re:	**Agnico Eagle should not be permitted to circumvent Board approval and public participation through their proposed "deemed approval" mechanism for updating Plans.**		

Recommendation Made by Interested Party:
KIA does not agree with Agnico Eagle's revised suggestion. Lengthening the proposed "deemed approval" period to 60 days from 45 days does not alleviate KIA's underlying concerns. The possibility of a "deemed approval", regardless of the amount of time required to trigger it, risks undue restrictions on the NWB's discretion, and risks eliminating public participation and consultation on potentially important Plan amendments.

KIA Conclusion: Unresolved

Agnico Eagle's Response to Recommendation:
Agnico Eagle continues to be of the view that a deemed approval for plan amendments is appropriate, but is in agreement with KivIA regarding a 60 day time frame (rather than 45 days as originally proposed). Having a designated timeline for plan reviews will enable all parties, including the public, to plan for participation in the plan approval process in a timely way, and will support having the most up to date plans in place for operations, which supports improvements to environmental management practices.

Interested Party:	**KivIA**	**Rec No.:**	**KIA-New-TC-4**
Re:	**Agnico Eagle should not be entitled to "at any time" submit to the Board a request for change in the amount of security.**		

Recommendation Made by Interested Party:
KIA understands the need for a degree of flexibility. However, granting Agnico Eagle the ability to request a security change "at any time" would give them sole discretion to initiate that process, placing KIA and the NWB at risk of being overburdened with reviews.

KIA Conclusion: Unresolved.

Agnico Eagle's Response to Recommendation:
As has been acknowledged by CIRNAC, Agnico Eagle is entitled to make such requests at any time under the Act. Agnico Eagle continues to be of the view that there are benefits to including the proposed wording in Part C of the licence, which enhances procedural clarity and has been incorporated in previous water licences issued by the NWB (including for example the Whale Tail Type A Water Licence).

Interested Party:	**KivIA**	**Rec No.:**	**KIA-New-TC-5**
Re:	**Agnico Eagle should be required to proactively minimize surface drainage impacts**		

Recommendation Made by Interested Party:
Agnico Eagle's response does not address KIA's comment. KIA maintains its position that the original language – which requires both preventative and corrective action – be maintained.

KIA Conclusion: Unresolved.

Agnico Eagle's Response to Recommendation:
Agnico Eagle does take many proactive measures to proactively minimize and where necessary correct surface drainage impacts. This will not change should the NWB clarify the wording of the referenced clause as requested by Agnico Eagle.

The revised wording enhances clarity, acknowledges practical aspects, and is found in other precedent water licenses issued by the NWB, including the Whale Tail Type A Water Licence.

Interested Party:	**KivIA**	**Rec No.:**	**KIA-New-TC-6**
Re:	**Agnico Eagle's water use for dust suppression should not be exempt from the Water Licence**		

Recommendation Made by Interested Party:
KIA thanks Agnico Eagle for the clarification. KIA is content with Agnico Eagle's proposed amendment, as long as dust suppression is included in the maximum allocation of water overall.

KIA Conclusion: Resolved.

Agnico Eagle's Response to Recommendation:
Agnico Eagle appreciates the KivIA's comments and also considers this issue resolved.

Interested Party:	KivIA	Rec No.:	KIA-New-TC-7
Re:	Clarification of Tiriganiaq-2 Saline Groundwater Management		

Recommendation Made by Interested Party:
We appreciate Agnico Eagle's clarification regarding the overall purpose of the waterlines as well as the groundwater storage volumes provided through Tiriganiaq-2, SP1 and SP4. However, Agnico Eagle has not clarified how excess saline groundwater stored in Tiriganiaq-2 will be handled under the AMP until the waterlines are available and Tiriganiaq-2 is dewatered.

This lack of clarity continues to introduce uncertainty as to how Normal Operating Conditions will be defined under the AMP until Tiriganiaq-2 has been dewatered via the waterlines. KIA understands that not all discharges to Meliadine Lake will be prevented through implementation of the AMP and use of the waterlines, but KIA maintains that minimizing discharges to Meliadine Lake is insufficient to address the concerns of Rankinmiut. Specifically, KIA continues to assert that discharges to Meliadine Lake should be a last resort; the AMP should clearly support that goal.

KIA Conclusion: Unresolved

Agnico Eagle's Response to Recommendation:
The waterline and the AMP are part of the NIRB process; however, a response has been provided to address the comments. Agnico Eagle will continue the discussion on these topics through the NIRB Waterline Application process.

Normal Operating Conditions for management of surface contact water and saline water was first proposed in the Adaptive Management Plan (AMP; submitted February 5, 2021; Agnico Eagle 2021); a summary of the Normal Operating Conditions as stated in the AMP is provided below. It was also stated in the AMP that this plan would be effective once the waterline is approved. To date neither have been approved. As noted in response to KIA-WL-9-1 (Technical Comment Response Package issued November 13, 2020) and re-iterated in response to KIA-NEW-7 (Additional Technical Comment Response Package issued March 8, 2021), it is assumed that the waterline will not be operational until the open-water season, 2023.

Until the waterline is approved, discharge to the marine environment will be done by trucking during the open-water period. Using this method, the current inventory of saline water, and the projected additional inventory until the waterline is operational (if approved), will not be depleted. For this reason, Agnico Eagle has committed to suspending mining operations in Tiriganiaq-2 and using this pit for temporary storage of saline water.

Until the waterline is approved and operational it will not be possible to reduce the discharge of surface contact water to Meliadine Lake because, as discussed in response to KIA-NEW-TC-9 (this response package), storage of water is not a viable option and the annual inventory of surface contact water must be discharged to Meliadine Lake. For greater clarity, the primary purpose of the waterline has always been stated and communicated that it is for saline water management. In addition, as per the approved

Groundwater Management Plan, the long-term strategy has always been to use the waterline for saline water. The AMP becomes the mechanism for execution of the long-term strategy.

Discharge to Meliadine Lake is a fundamental pillar of the mine water management system and a key activity within the approved Water Licence and Project Certificate. Discharge will continue in a manner to remain being protective of the environment, and specifically to maintain the health of Meliadine Lake.

In summary, discharge to Meliadine Lake will continue until the waterline is approved and operational. At that time, when the waterline is operational, discharge to Meliadine Lake will be minimized; however, it should be noted that the monitoring results to date all confirm that Meliadine Lake is healthy and within monitoring benchmarks and predictions as shown in the report card on Meliadine Lake (see the Aquatic Effects Program summary and Figures NEW-TC-7-1 to 7-4 below).

SUPPLEMENTAL INFORMATION

Normal Operating Conditions as Defined in the Adaptive Management Plan
In the AMP, Normal Operating Conditions are defined as:

- Saline water capacity at site is less than 70% (open-water), 0% pre-freeze up, and <15% pre-freshet.
    - The pre-freeze up period starts no earlier than September 15.
    - As noted in response to KIA-WL-New-TC-8 in the supplemental Technical Comments (Technical Comment Response Package issued March 8, 2021), Agnico Eagle accepted the recommendation by the KivIA to modify the pre-freeze up thresholds for saline water storage in the next iteration of the AMP to:
        - Normal as <5%
        - Caution as ≥5%
        - At Risk as ≥10%
- The dual waterline is operational, and the capacity is 6,000 to 12,000 m^3/day of saline water and up to 8,000 m^3/day of surface contact water, for a total capacity of 20,000 m^3/day.
    - The regular operational window for the waterline is open-water conditions from approximately late June to mid-October (or until consistent sub-zero temperatures are observed).
        - As noted in response to KIA-NEW-TC-9 (in this response package), Agnico Eagle has clarified the operational time frame for the waterline to the following:
            - "In consideration of maintenance, repairs, and season, the regular operational window for the waterline is defined as open-water conditions from approximately late June (or until consistent above-zero temperatures are observed) to mid-October (or until consistent sub-zero temperatures are observed)."
            - However, prior to annual use of the waterline, testing will be conducted as per Commitment 1 (NIRB Waterline Technical Meeting).
- Surface contact water capacity at site is less than 81% (open-water), less than 14% pre-freeze up, and less than 22% pre-freshet.

- End-of-pipe concentrations (CP1) for total dissolved solids (TDS) are less than the maximum average concentration as defined in Water Licence 2AM-MEL1631.

Aquatic Effects Monitoring Program

The health of Meliadine Lake will continue to be monitored through the annual comprehensive Aquatic Effects Monitoring Program (AEMP).

The AEMP is an integrated monitoring program designed to assess whether activities at the mine are causing changes in the aquatic environment. The AEMP was designed in consultation with the community, regulators, and other stakeholders. The AEMP incorporates Inuit Qaujimajatuqangit, including Traditional Ecological Knowledge, and western science to assess water quality and the health of Meliadine Lake. Components monitoring under the AEMP include water quality, plankton, sediment quality, benthic invertebrates, and fish.

Water quality results are compared to background concentrations (referred to as the normal range), and guidelines for protection of aquatic life and guidelines for protection of drinking water (referred to as AEMP Benchmarks). Results from the 2020 monitoring in comparison to the normal range and benchmarks are presented in Figure NEW-TC-7-1. As the figure plots illustrate, concentrations of substances in the water from Meliadine Lake (in the near-field area around the diffuser, downstream in the mid-field area, and further downstream in the reference areas of the lake) are a fraction of the AEMP Benchmarks and a fraction of the AEMP low action levels (75% of the AEMP Benchmark) for adaptive management.

The phytoplankton community in the lake is healthy, but the community in the near-field area is naturally different than the community in other areas of Meliadine Lake (Figure NEW-TC-7-2). Results of the 2018 benthic invertebrate study confirmed that the diversity and abundance of the benthic invertebrate community is similar in different areas of the lake and the structure and ecological function of the community is not being affected by the Mine (Figure NEW-TC-7-3). Results of the 2018 fish program confirmed that survival, growth, reproduction, or energy use of fish living at the near-field area were not affected by the Mine (Figure NEW-TC-7-4). Toxicity testing conducted in 2020 confirmed that water in the near-field area is safe for benthic invertebrates and fish.

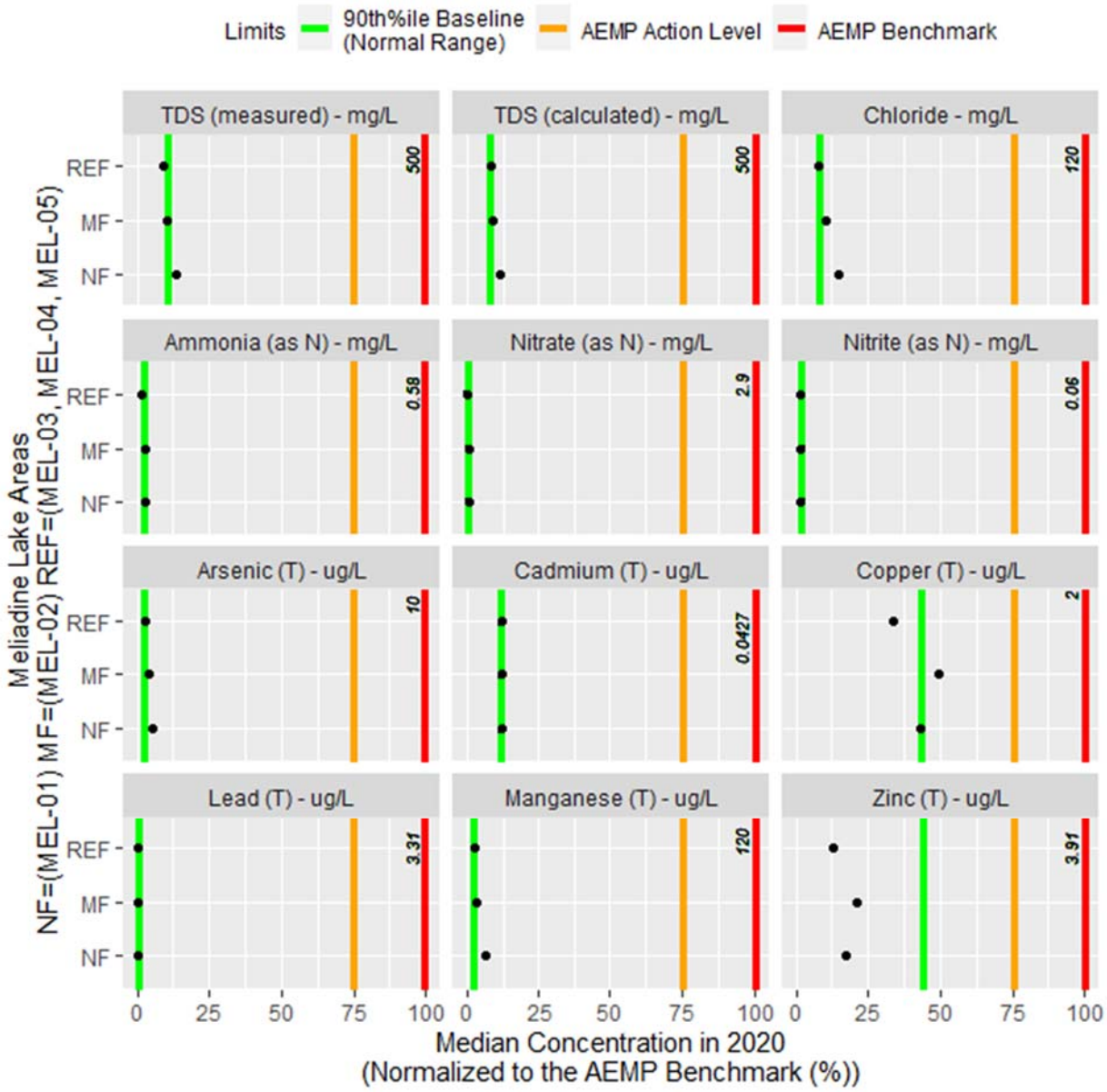

Figure NEW-TC-7-1: Report Card on Health of Meliadine Lake – Water Quality

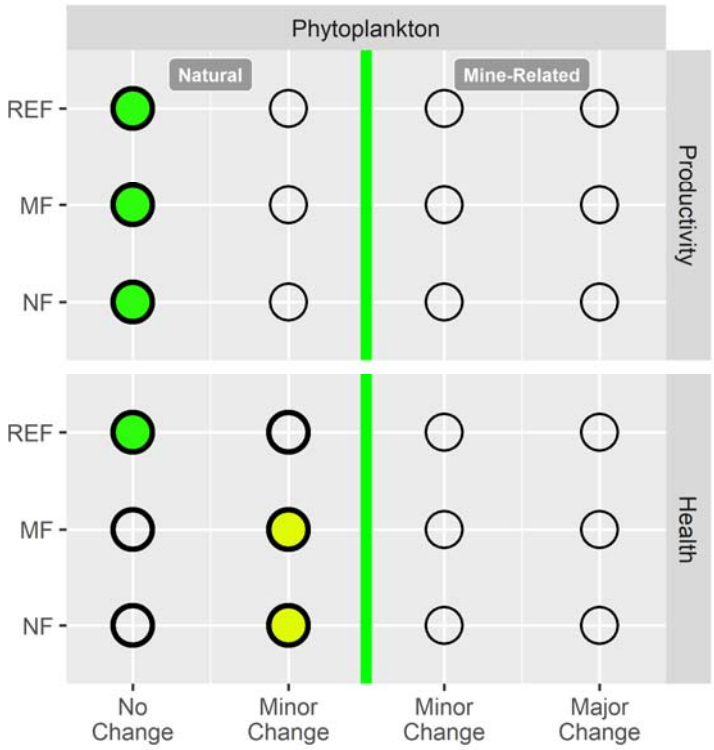

Figure NEW-TC-7-2: Report Card on Health of Meliadine Lake – Phytoplankton

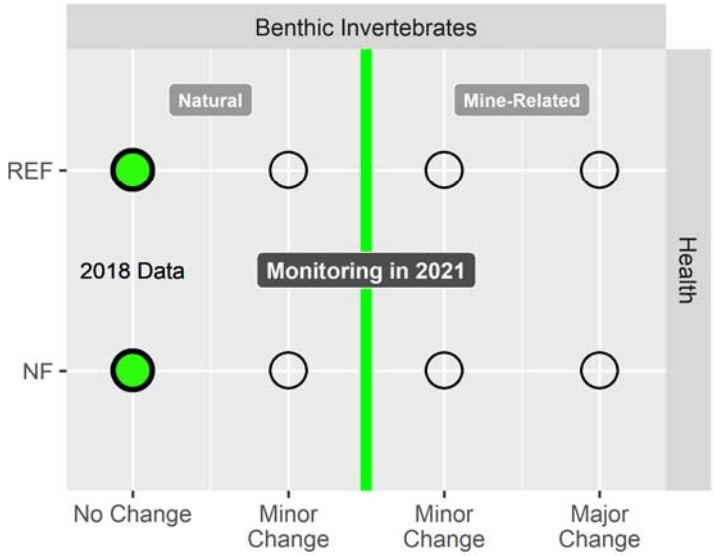

Figure NEW-TC-7-3: Report Card on Health of Meliadine Lake – Benthic Invertebrates

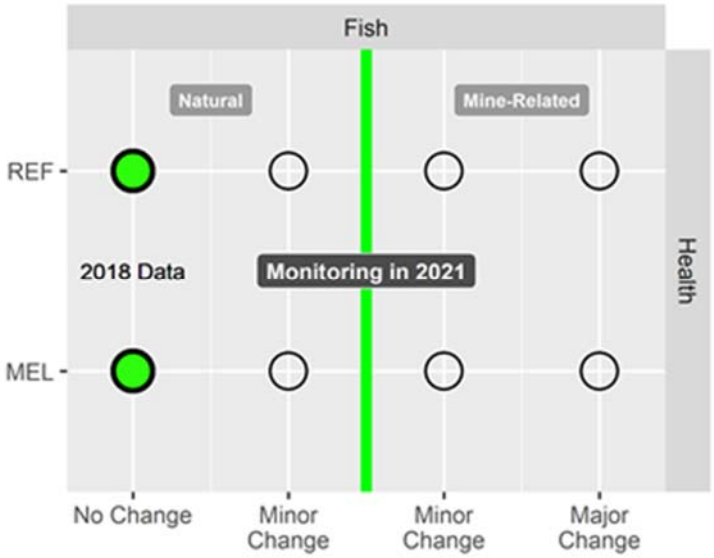

Figure NEW-TC-7-4: Report Card on Health of Meliadine Lake – Fish

Interested Party:	**KivIA**	**Rec No.:**	**KIA-New-TC-8**
Re:	**Saline Groundwater Storage Thresholds**		

Recommendation Made by Interested Party:
We appreciate Agnico Eagle's inclusion of our recommendation into the next iteration of the AMP.

KIA Conclusion: Resolved

Agnico Eagle's Response to Recommendation:
Agnico Eagle appreciates the KivIA's comments and also considers this issue resolved.

Interested Party:	KivIA	Rec No.:	KIA-New-TC-9
Re:	Freshet Management		

Recommendation Made by Interested Party:
We appreciate the clarification that annual operation of the waterline is directly tied to ambient temperatures given the lines will not be heat traced. Based on this understanding, we therefore recommend Agnico Eagle link commencing annual operations of the waterlines in AMP Table 1 Note 1 to temperature as has been done with the conclusion of the annual operation window. We also recommend Agnico Eagle specify within AMP that the diversion of water from CP1 to Melvin Bay will be prioritized ahead of saline water during freshet given the ample additional saline storage capacity provided through the use of Tiriganiaq-2. We suggest incorporation of this specification can be made into Table 2 of the AMP as a Management Activity ahead of the current Caution Response 4: "Prioritize saline water for discharge through the waterline." The Caution Response would be added between the current Caution Response 3 and 4 and read "Prioritize surface contact water for discharge through the waterline.".

KIA Conclusion: Unresolved

Also See KIA-New-TC#10.

Agnico Eagle's Response to Recommendation:
In Table 1, Note 1 of the Adaptive Management Plan (AMP; Agnico Eagle 2021), the operation window of the waterline was defined as follows:

- "In consideration of maintenance, repairs, and season, the regular operational window for the Waterline is open-water conditions from approximately late June to mid October (or until consistent sub-zero temperatures are observed)."

Agnico Eagle agrees with the recommendation by the KivIA to clarify the note regarding the yearly operational window of the waterline to the following:

- "In consideration of maintenance, repairs, and season, the regular operational window for the Waterline is defined as open-water conditions from approximately late June (or until consistent above-zero temperatures are observed) to mid- October (or until consistent sub-zero temperatures are observed)."

With respect to the recommendation pertaining to prioritization of water through the waterline, Agnico Eagle refers back to the primary purpose of the waterline. As stated in the submission currently in front of the NIRB (FEIS Addendum; Agnico Eagle 2020), the primary purpose of the waterline is for discharge of saline water to the marine environment with the intent to reduce the inventory to zero (or near zero) by the end of the open-water season (or the by the end of the yearly operational window of the waterline). As stated within the Decision Tree section of the AMP (Section 2.1.1), "The primary purpose of the waterline is to allow sustainable management of saline water on site". Storage of water within the saline ponds is not a normal operating condition for the following reasons:

- **Risk to permafrost degradation:** As mining within Tiriganiaq Pit 2 is expected to resume later in mine life, geotechnical integrity of the pit walls must be considered. Similarly, as mining of the Tiriganiaq Underground mine will occur underneath Tiriganiaq Pit 2, it is important to also consider the geotechnical integrity of the crown pillar. Diverting more contact to the Tiriganiaq Pit 2 results in significantly more water stored in the pit for a longer time. The deeper water, and additional pit flooding time will result in additional permafrost warming and degradation in the pit walls and base. The permafrost adds to the strength and stability of the rock mass. Thus, in the interest of reducing risk to geotechnical integrity of the pit and crown pillar, and to prevent risks that could injure workers, the primary purpose of the waterline will remain to manage saline water.

- **Risk to increased groundwater inflows:** Holding back water in Tiriganiaq Pit 2 longer than required, and at greater depths increases the site risk to greater than expected groundwater inflows to the underground mine, which could shift the operating condition into a caution or at risk state. The seepage rates will be also increased due the permafrost degradation caused by additional water in the pit. Thus, in the interest of minimizing risk to the saline water management system the waterline's primary purpose will remain saline water management.

To illustrate water management activities and timing around freshet and operation of the waterline, a table highlighting key activities has been prepared (Table KIA-NEW-TC-9-1). This table highlights the following key pieces of information:

- Surface Contact Water Management
    - Key periods of time are pre-freshet to freshet. It is during this period of time that large quantities of runoff need to be managed and discharge in a timeline manner to avoid damage to infrastructure or the environment.
    - Freshet may start anytime between May 15 and June 15.
    - It is necessary to start discharge during the freshet period.
    - The waterline (if it is approved) will not be annually operating until early July.
    - There could be upwards of three to four weeks between the start of the need to discharge surface contact water and the availability of the waterline.
    - Preparations for freeze-up are completed in September.
- Saline Water Management
    - The primary purpose of the waterline is for discharge of saline water to the marine environment.
    - At the Technical Meeting for the Waterline Application (January 11 and 12, 2021), and at the request of the KHTO, Agnico Eagle committed to "testing the line prior to each discharge season" (Commitment 1). This annual testing must be completed before water can be discharged through the waterline; this annual testing is expected to take up to two weeks.
    - The waterline testing will not occur until temperatures are consistently above zero.

- Once the waterline has been tested and confirmed there are no leaks, the seasonal discharge of water through the line can occur. Discharge will continue until consistent sub-zero temperatures are observed.

Considering the timelines of CP1 freshet and the waterline operation, it is likely that discharge to Meliadine Lake will be required prior to the operation of the waterline. However, as has been exemplified through the Water Quality Management and Optimization Plan (WQ-MOP) and concluded by the Water Management Working Group (WMWG), discharge to Meliadine Lake at the requested effluent quality criteria is protective the environment and to the health of Meliadine Lake.

Table New-TC-9-1:Summary of Annual Water Management Activities

Activity	Jan				Feb				Mar				Apr				May				Jun				Jul				Aug				Sep				Oct				Nov				Dec			
	Wk1	Wk2	Wk3	Wk4	Wk1	Wk2	Wk3	Wk4	Wk1	Wk2	Wk3	Wk4	Wk1	Wk2	Wk3	Wk4	Wk1	Wk2	Wk3	Wk4	Wk1	Wk2	Wk3	Wk4	Wk1	Wk2	Wk3	Wk4	Wk1	Wk2	Wk3	Wk4	Wk1	Wk2	Wk3	Wk4	Wk1	Wk2	Wk3	Wk4	Wk1	Wk2	Wk3	Wk4	Wk1	Wk2	Wk3	Wk4
Surface Contact Water Management																																															
Pre-freshet Preparation																																															
Freshet																																															
Window of Discharge to Meliadine Lake																																															
Open-water Meliadine																																															
Pre-freeze-up Preparation																																															
Frozen Conditions																																															
Saline Water Management (if the Waterline is Approved)																																															
Annual Testing of Waterline																																															
Window of Discharge to Melvin Bay (Waterline Operating)																																															
Open-water Melvin Bay																																															
Pre-freeze-up Preparation																																															
Frozen Conditions																																															

Interested Party:	KivIA	Rec No.:	KIA-New-TC-10
Re:	Limits on Freshwater Discharge to Melvin Bay.		

Recommendation Made by Interested Party:
We appreciate Agnico Eagle's stated goal of "reducing water storage on site and developing robust and effective dewatering system (such as the Waterline)… to address uncertainties related to water management". We appreciate prioritizing surface contact water through the waterlines will increase the overall risk of permafrost degradation, and incremental inflows to the underground development; and require a higher discharge rate and future availabilities of the dewatering system which create risk for the overall site water management. However, given Tiriganiaq-2 will be used for saline storage starting in 2021, we suggest the risks are incremental and should not dissuade Agnico Eagle from prioritizing discharges of surface contact water to Melvin Bay, addressing the concerns of Rankinmiut.

KIA Conclusion: Unresolved

Agnico Eagle's Response to Recommendation:
Overall, Agnico Eagle disagrees with the KivIA's comment and overall risk to the operations. The risks to the operation are real and are not incremental; therefore, Agnico Eagle feels this recommendation is creating an additional risk to the operation that could cause long-term issues.

As stated numerous times, storage of water within the saline ponds is not a normal operating condition for the following reasons:

- **Risk to permafrost degradation:** As mining within Tiriganiaq Pit 2 is expected to resume later in mine life, geotechnical integrity of the pit walls must be considered. Similarly, as mining of the Tiriganiaq Underground mine will occur underneath Tiriganiaq Pit 2, it is important to also consider the geotechnical integrity of the crown pillar. Diverting more contact to the Tiriganiaq Pit 2 results in significantly more water stored in the pit for a longer time. The deeper water, and additional pit flooding time will result in additional permafrost warming and degradation in the pit walls and base. The permafrost adds to the strength and stability of the rock mass. Thus, in the interest of reducing risk to geotechnical integrity of the pit and crown pillar, and to prevent risks that could injure workers, the primary purpose of the waterline will remain to manage saline water.

- **Risk to increased groundwater inflows:** Holding back water in Tiriganiaq Pit 2 longer than required, and at greater depths increases the site risk to greater than expected groundwater inflows to the underground mine, which could shift the operating condition into a caution or at risk state. The seepage rates will be also increased due the permafrost degradation caused by additional water in the pit. Thus, in the interest of minimizing risk to the saline water management system the waterline's primary purpose will remain saline water management.

The health of Meliadine Lake will be maintained, refer to KIA-New-TC-7.

Interested Party:	**KivIA**	**Rec No.:**	**KIA-New-TC-11**
Re:	**Rationale for Change to Groundwater Reporting**		

Recommendation Made by Interested Party:
We appreciate Agnico Eagle's clarification and will exercise the option to request this data pending our review of the Meliadine Annual Report each year.

KIA Conclusion: Resolved

Agnico Eagle's Response to Recommendation:
Agnico Eagle appreciates the KivIA's comments and also considers this issue resolved.

Interested Party:	**KivIA**	**Rec No.:**	**KIA-New-TC-12**
Re:	**Reclamation Costs for Tiriganiaq-2 Saline Storage Pond**		

Recommendation Made by Interested Party:
We appreciate the clarifications provided by Agnico Eagle, and will exercise the option to review both the Groundwater Management Plan and Security twelve months after the proposed saline water lines have been in operation, consistent with the Draft Amended Licence, at Part C(9).

KIA Conclusion: Resolved

Agnico Eagle's Response to Recommendation:
Agnico Eagle appreciates the KivIA's comments and also considers this issue resolved.

CROWN-INDIGENOUS RELATIONS AND NORTHERN AFFAIRS CANADA (CIRNAC)

Interested Party:	CIRNAC	Rec No.:	CIRNAC-WL-FWS-1
Re:	Scope of Licence		

Recommendation Made by Interested Party:
CIRNAC submitted a single comment regarding the scope of licence, as summarised in Table 1. It has been resolved. As discussed in topic #2 below, the change of scope does not include a modification to site water management, other than an increase to water use authorization. Specifically, the operation of the waterline to move wastewater from site to Melvin Bay is not included in the scope of the amendment, even though it is currently under review by the Nunavut Impact Review Board (NIRB).

Table 1 Status of comment pertaining to scope of licence

Comment #	Issue	Status
TC2	Works Related to Additional Deposits (Discovery, Pump, Fzone, and WES-NORMEG)	Resolved

Agnico Eagle's Response to Recommendation:
Agnico Eagle appreciates the CIRNAC's comments and also considers this issue resolved.

At the Technical Meeting on November 30, 2020, CIRNAC requested "Agnico Eagle to provide a high-level summary of the projected infrastructure changes: upgrades to the SETP, increased sludge generation, waterline". A response to this was provided on December 18, 2020 in the form of Commitment 14. In this response, Agnico Eagle provided information on water management infrastructure required to support management, treatment, and discharge of water through the waterline. Specifically, the response included the following:

- A diagram illustrating flow movement related to the water treatment strategy (specifically the Effluent Water Treatment Plant and the Saline Effluent Treatment Plant [SETP]).
- A description of existing water management infrastructure.
- A description of new water management infrastructure.
- A description of potential new infrastructure to support upgrades to the SETP.

Based on this, Agnico Eagle also considers Commitment 14 and CIRNAC-WL-FWS-2 resolved.

Interested Party:	CIRNAC	Rec No.:	CIRNAC-WL-FWS-2
Re:	Water Use and Management		

Recommendation Made by Interested Party:
Under this application, AEM is requesting authorization for increased for water use by 423,706 m^3/year, from 318,000 m^3/year to 741,706 m^3/year. They are not proposing to change their water management on site. CIRNAC submitted a single comment regarding water use and management, as summarised in Table 2. It is resolved. Should the concurrent NIRB process result in approval of the waterline to Melvin Bay, changes to water management on site would have to be reflected in the water licence prior to waterline operation. This is discussed further in topics #4, #7 and #11 below.

Table 2 Status of comment pertaining to water use and management

Comment #	Issue	Status
TC6	Surface Contact Water Management and Discharge to Melvin Bay	Resolved

Agnico Eagle's Response to Recommendation:
Agnico Eagle appreciates the CIRNAC's comments and also considers this issue resolved.

Agnico Eagle provided the following information on December 18, 2020 to fulfil Commitment 14 made in response to CIRNA TC 6:

> "Agnico Eagle to provide a high level summary of the projected infrastructure changes; upgrades to the SETP, increased sludge generation, waterline".

With respect to CIRNAC's comment that "*Should the concurrent NIRB process result in approval of the waterline to Melvin Bay, changes to water management on site would have to be reflected in the water licence prior to waterline operation* " Agnico Eagle would like to offer the following clarifying statements.

Given that the waterline will be discharging to the marine (rather than freshwater) environment there should be no waterline-specific terms and conditions included in the amended 2AM-MEL1631 water licence. However if the waterline is approved by NIRB after an amended 2AM-MEL1631 is issued, then any related changes to water management on site will be described in updates to the Water Management Plan appendices. For example, the Groundwater Management Plan and Adaptive Management Plan are appendices to the Water Management Plan and will be submitted to the NWB in accordance with Part B of 2AM-MEL1631 prior to implementation of such changes. Our understanding is that the phrase "reflected in the water licence" in CIRNAC's comment would be more clearly and accurately stated as "reflected in the relevant management plans listed under 2AM-MEL1631."

Agnico Eagle proposes that any updated management plans (and associated appendices) relevant specifically to the waterline will be submitted to the NWB within 60 days of issuance of an amended Project Certificate approving the waterline.

Interested Party:	CIRNAC	Rec No.:	CIRNAC-WL-FWS-3
Re:	Water Balance and Water Quality Model and Predictions		

Recommendation Made by Interested Party:
AEM provided a water balance and two water quality models for TDS loading. The SNC and Golder models for TDS loading were defined as upper and lower bound predictions for wet and dry years, respectively. CIRNAC submitted two comments regarding water balance and water quality model and predictions, as summarised in Table 3. The first has been resolved and we recommend follow-up for the second.

Table 3 Status of comments pertaining to water balance and water quality model and predictions

Comment #	Issue	Status
TC3	Water Balance Clarifications	Resolved
Tech. meeting follow-up	Difference in TDS models	Follow-up recommended

***Difference in TDS models**: Following the technical meeting, CIRNAC submitted further questions on December 4, 2020 on the rationale behind the two different model assumptions and the source of 40% of TDS, defined as "rest of site". AEM specified both models had many of the same assumptions and differences were because the upper bound model was calibrated with 2019 and 2020 data from site and incorporated cryo-concentration.*

Identifying the root cause of elevated TDS on site may have implications on water management systems. Based on the evidence presented to date, it is unclear why the inventory of high TDS water generated by the site has been greater than anticipated. Contrary to statements by AEM, the increase does not appear to be attributable to saline groundwater inflows that were higher than predicted. In addition, we note that approximately 78% (in 2019) and 44% (in 2020) of the TDS inventory (according to Table 3-1 from the SNC 2020 model) is associated with "rest of site", and that there is very limited information describing the nature of those TDS sources and how they are managed on site. Specifically, AEM has not provided details regarding the specific locations of those surface drainage TDS loads, nor have any mitigation measures been proposed to decrease the TDS loading rates from those sources.

CIRNAC recommends adding a condition in an amended water licence for AEM to undertake additional site monitoring and sampling as necessary to provide further information on sources of TDS and management from the "rest of site". Specifically, CIRNAC recommends that AEM present a detailed technical assessment describing the TDS loading rates from surface sources to address this uncertainty. The assessment should identify specific sources of loadings (e.g., saline drainage from ore piles/piles, tailings storage facility (TSF), landfarm, landfill, catchment area around CP1, P-Areas) and quantify the TDS loading rates from each source. In the event that there is insufficient information to characterize these TDS loading sources, AEM should design and implement a monitoring program to collect the missing information. The assessment should also identify potential mitigations that could reduce the TDS loading rates.

Agnico Eagle's Response to Recommendation:

Agnico Eagle is developing a sampling program to be executed in 2021 which will aim to identify TDS loading sources in surface contact water reporting to Containment Pond 1 (CP1). Key areas to be investigated will likely be the ore pad (OP2), Tailings Storage Facility (TSF), Waste Rock Storage Facilities (WRSFs), and disturbed areas within the CP1 catchment (e.g., the Industrial Pad). The results of the sampling program will be communicated within the 2021 Annual Report and will be applied to support future water quality model updates.

Interested Party:	**CIRNAC**	**Rec No.:**	**CIRNAC-WL-FWS-4**
Re:	**Wastewater Management and Treatment**		

Recommendation Made by Interested Party:
Plans for a waterline to move wastewater from site to Melvin Bay are currently under review by the NIRB. The waterline was included in the reclamation cost estimate discussed in this current water licence amendment. CIRNAC submitted a single comment regarding wastewater management and treatment, as summarised in Table 4. It has been resolved.

Table 4 Status of comment pertaining to wastewater management and treatment

Comment #	Issue	Status
IR1	Risk to Fresh Water from Water Pipeline Spill	Resolved

Agnico Eagle's Response to Recommendation:
Agnico Eagle appreciates the CIRNAC's comments and also considers this issue resolved.

Interested Party:	**CIRNAC**	**Rec No.:**	**CIRNAC-WL-FWS-5**
Re:	**Requested Effluent Quality Limits for Total Dissolved Solids (TDS)**		

Recommendation Made by Interested Party:
AEM requested that criteria for Meliadine Lake discharge in Part F, Item 3 of their water licence be raised from 1,400 mg/L to 3,500 and 5,000 mg/L respectively for maximum average and maximum grab sample concentrations and that the edge of the mixing zone (at 100 m radius) be 1,000 mg/L. CIRNAC submitted three comments regarding requested effluent quality limits for TDS, as summarised in Table 5. They have been resolved.

CIRNAC supports the objective of minimizing the discharge of effluents to Meliadine Lake and is of the opinion this can be achieved once the waterline is in place and by applying the proposed Adaptive Management Plan (topic #7 below). Moreover, CIRNAC defers to Environment and Climate Change Canada and the Kivalliq Inuit Association for determining appropriate discharge limits.

Table 5 Status of comment pertaining to requested effluent quality limits for total dissolved solids

Comment #	Issue	Status
IR2	Amendment to Surface Contact Water Discharge Criterion: Total Dissolved Solids	Resolved
TC1	Total Dissolved Solids (TDS) Thresholds	Resolved
TC5	Validation of Proposed Total Dissolved Solids (TDS) Discharge Criteria	Resolved

Agnico Eagle's Response to Recommendation:
Agnico Eagle appreciates the CIRNAC's comments and also considers these issues resolved.

Interested Party:	**CIRNAC**	**Rec No.:**	**CIRNAC-WL-FWS-6**
Re:	**Waste Management**		

Recommendation Made by Interested Party:
This amendment application requests that waste rock and overburden, originally planned for placement in WRSF2, be placed instead within an increased footprint of WRSF3. CIRNAC submitted a single comment regarding waste management, as summarised in Table 6. It has been resolved.

Table 6 Status of comment pertaining to waste management

Comment #	Issue	Status
TC4	WRSF3 Expansion and Updated Waste Management Strategy	Resolved

Agnico Eagle's Response to Recommendation:
Agnico Eagle appreciates the CIRNAC's comments and also considers this issue resolved.

Interested Party:	CIRNAC	Rec No.:	CIRNAC-WL-FWS-7
Re:	Adaptive Management		

Recommendation Made by Interested Party:
In the concurrent NIRB review process, AEM has produced an Adaptive Plan for Water Management at the Meliadine Mine. CIRNAC reviewed and suggested changes to the plan's goals and triggers through the NIRB process. Version 1, dated February 2021, covers both saline and contact water discharge through the proposed waterline between the mine site and Melvin Bay.

CIRNAC supports the use of the adaptive management approach to only discharge compliant contact water into Meliadine Lake as the 8th possible activity of the "caution" management level, while also allowing AEM site water management flexibility. Following the plan, there would be no discharge of contact water into Meliadine Lake under "normal" operating conditions.

CIRNAC recognizes that regardless of the NIRB decision, the Board does not intend to integrate the Adaptive Management Plan for Water Management in the water licence. Should the NIRB approve the waterline to Melvin Bay, site wastewater management will change. At minimum this needs to be reflected in the plans approved under the water licence, and it may require further changes.

Agnico Eagle's Response to Recommendation:
The guiding principles in the Adaptive Management Plan (AMP; Agnico Eagle 2021) submitted to the NIRB and copied to the NWB on February 5, 2021 included:

1. Water discharges to Meliadine Lake will be minimized.
2. Water will be discharged to Meliadine Lake only if there is insufficient residual capacity in the waterline system and stored surface contact water volumes are outside of normal operating levels set in place in consideration of D-CP1 design.
3. Agnico Eagle will proactively assess the feasibility of all potential adaptive management actions.
4. Design criteria of infrastructure will be respected at all times.
5. Operate treatment plants at stable rates to reduce risk of process upset.
6. Discharge rates throughout the year will be modulated based on the water balance.

The AMP does not state that there will be no discharges to Meliadine Lake under Normal Operating Conditions (copied from the AMP in response to KIA-NEW-TC-7), but rather that discharges to Meliadine Lake will be minimized. This will be achieved through use of the waterline as long as there is capacity in the waterline. A copy of Table 2 from the AMP is included below which provides the adaptive management response to maintain normal operating conditions.

Table 2. Adaptive Management Response to Maintain Normal Operating Conditions

Adaptive Management Level	Management Activity / Response / Action (Listed in Order of Priority Action)	Water Management Scope			
		1) Saline Water	2) Waterline	3) Surface Contact Water	4) Surface Contact Water Quality
Normal	1. Regular monitoring, inspections, maintenance.	√	√	√	√
	2. Confirm if saline water quantity is within forecast.	√	-	-	-
	3. Confirm if contact water quantity is within forecast.	-	-	√	-
	4. Maintain saline and contact water discharge through waterline as required, unless waterline is not available.	√	√	√	-
	5. If waterline is unavailable, but water capacity in CP1 is within normal, consider recirculating back to CP1.	-	-	√	-
Caution	1. Increased monitoring (e.g., priority analysis to confirm TDS in CP1; increase frequency of sampling in CP1), inspections, maintenance as required.	√	√	√	√
	2. Evaluate saline water quantity forecast.	√	-	-	-
	3. Evaluate contact water quantity forecast.	-	-	√	-
	4. Prioritize saline water for discharge through the waterline.	√	√	√	-
	5. If outside normal waterline operational window, evaluate starting discharge of water to Melvin Bay earlier and below the ice.	√	√	√	-
	6. Evaluate temporary discharge of higher flow rate (of both saline and surface contact water) to Melvin Bay.	-	√	-	-
	7. Utilize remaining capacity of waterline (if available) to maximize discharge of surface contact water to waterline.	-	√	√	-
	8. After maximizing discharge of surface contact water to waterline (if available), evaluate CP1 water quality and operate discharge to Meliadine Lake within Water License criteria at rate required to reduce water levels in CP1 to normal.[1]	-	-	√	√
At Risk	1. Increased monitoring, inspections, maintenance as required	√	√	√	√
	2. Evaluate saline water quantity forecast	√	-	-	-
	3. Evaluate contact water quantity forecast	-	-	√	-
	4. Prioritize saline water for discharge through the waterline	√	√	-	-
	5. If outside normal waterline operational window, evaluate starting discharge of water to Melvin Bay earlier and below the ice.	√	√	√	-
	6. Evaluate temporary discharge of higher flow rate (of both saline and surface contact water) to Melvin Bay.	√	√	√	-
	7. Evaluate option to extend discharge window to Melvin Bay	-	√	-	-
	8. Utilize remaining capacity of waterline to maximize discharge of surface contactwater to waterline	-	√	√	-

Adaptive Management Level	Management Activity / Response / Action (Listed in Order of Priority Action)	Water Management Scope			
		1) Saline Water	2) Waterline	3) Surface Contact Water	4) Surface Contact Water Quality
	9. After maximizing discharge of surface contact water to waterline (if available), evaluate CP1 water quality and operate discharge to Meliadine Lake within Water License criteria at rate required to reduce water levels in CP1 to normal.	-	√	√	√
	10. If CP1 water quality greater than TDS MAC (in three consecutive weekly end-of-pipe samples), stop discharge to Meliadine Lake.	-	-	-	√
	11. Evaluate possibility of temporary storage of surface contact water in open pits and/or saline ponds.	√	-	√	-
	12. If CP1 quantities are still at risk, evaluate requirement for emergency discharge to Meliadine Lake	-	-	√	√

√ = management activity applies to this aspect of water management; - = management activity does not apply to this aspect of water management

1. Discharge to Meliadine Lake under the “Caution” Level may be required. One example is if CP1 needs to be drawn down in preparation for freeze-up and winterization of the waterline has already begun or is completed.

As stated in the submission currently in front of the NIRB (FEIS Addendum; Agnico Eagle 2020), the primary purpose of the waterline is for discharge of saline water to the marine environment with the intent to reduce the inventory to zero (or near zero) by the end of the open-water season (or the by the end of the yearly operational window of the waterline).

At anytime, only compliant water would be discharged to Meliadine Lake; however, if the waterline is approved, Agnico Eagle has committed to using the waterline to move surface contact water to the marine environment as long as the guiding principles of the AMP are followed.

Please see response to CIRNAC-WL-FWS-2 regarding submission of management plans.

References

Agnico Eagle (Agnico Eagle Mines Limited). 2021. Adaptive Management Plan for Water Management, Meliadine Gold Mine. V1. Submitted to the Nunavut Impact Review Board. February 2021.

Agnico Eagle. 2020. Environmental Assessment of Treated Groundwater Effluent Discharge into Marine Environment, Rankin Inlet. Meliadine Gold Mine – Final Environmental Impact Statement Addendum. August 2020.

Interested Party:	**CIRNAC**	**Rec No.:**	**CIRNAC-WL-FWS-8**
Re:	**Closure and Reclamation Planning**		

Recommendation Made by Interested Party:
AEM updated their Interim Closure and Reclamation Plan (ICRP), and CIRNAC noted some elements to reflect the proposed site changes and the proposed water lines were lacking in the updated plan. With inclusion of these details, we would consider the ICRP appropriate for the project at this time.

Agnico Eagle's Response to Recommendation:
Agnico Eagle appreciates the CIRNAC's comments and also considers this issue resolved.

Interested Party:	**CIRNAC**	**Rec No.:**	**CIRNAC-WL-FWS-9**
Re:	**Security**		

Recommendation Made by Interested Party:
AEM produced a revised reclamation security cost estimate to reflect changes to the ICRP. CIRNAC worked with the Kivalliq Inuit Association and AEM and has reached a final agreement on the security amount: $69,687,246. The supporting RECLAIM model estimate is included as Annex A.

CIRNAC submitted a single comment regarding security, as summarised in Table 7. It has been resolved.

Table 7 Status of comment pertaining to security

Comment #	Issue	Status
TC7	Reclamation Security Estimate Update	Resolved

Agnico Eagle's Response to Recommendation:
Agnico Eagle appreciates the CIRNAC's comments and also considers this issue resolved.

Interested Party:	**CIRNAC**	**Rec No.:**	**CIRNAC-WL-FWS-10**
Re:	**Water User Compensation**		

Recommendation Made by Interested Party:
CIRNAC does not have any comments on this topic

Agnico Eagle's Response to Recommendation:
Agnico Eagle acknowledges that CIRNAC does not have any comments on water use compensation.

Interested Party:	CIRNAC	Rec No.:	CIRNAC-WL-FWS-11
Re:	Revisions to Management Plans		

Recommendation Made by Interested Party:
Existing management plans require revision to reflect proposed changes. With the changes discussed for this water licence amendment, CIRNAC would be looking to review revised versions of:

- *Water Management Plan*
- *Waste Management Plan*
- *Interim Closure and Reclamation Plan*

Should the NIRB approve the waterline to Melvin Bay, we would be looking to review revised versions of the following plans prior to waterline operation:

- *Water Management Plan with further revisions*
- *Spill Contingency Plan*
- *Groundwater Management Plan*

CIRNAC will also review construction designs and drawings for the new infrastructure proposed, including water crossings of a potential waterline.

Agnico Eagle's Response to Recommendation:
Agnico Eagle agrees that the Water Management Plan, Waste Management Plan, and Interim Closure and Reclamation Plan would be updated if required, based on the proposed project changes as part of the Water Licence Amendment Application, and submitted to the NWB 60 days following the Water Licence Amendment approval.

Refer to CIRNAC-WL-FWS-2 in response to the management plans related to the waterline.

In addition to the minor updates needed to the Water Management Plan, Waste Management Plan, and Interim Closure and Reclamation Plan; Agnico Eagle committed through the Water Licence Amendment review process to include the following in future management plan updates.

Plan	Commitment No.	Commitment	Timeline
Water Management Plan Appendix - Water Quality and Flow Monitoring Plan	ECCC-WL-IR-6	Agnico Eagle will update the Water Quality and Flow Monitoring Plan following the decommissioning of the P-Area.	Decommissioning of the P-Area
Water Management Plan Appendix - Freshet Management Plan	KIA-WL-IR-10	Agnico Eagle will update the Freshet Management Plan prior to the 2021 freshet to reflect the decommissioning of the P-Area	Prior to 2021 freshet

Plan	Commitment No.	Commitment	Timeline
Interim Closure and Reclamation Plan	9	Future versions, of the Meliadine Interim Closure and Reclamation Plan (ICRP), post approval of the Water Licence Amendment, will include additional details on the closure and post-closure soil and water quality monitoring programs, as information becomes available from operational data and from future versions of applicable management plans. Applicable management plans for Meliadine to be used to define contaminated soil management and water quality monitoring program include: • Water Quality and Flow Monitoring Plan • Water Management Plan • Spill Contingency Plan • Landfarm Management Plan • Itivia Oil Handling Facility Management Plan • Oil Pollution Emergency Plan for Meliadine Mine Fuel Farm in Rankin Inlet.	Starting in 2022 for all future ICRPs which is post-approval of the Water Licence Amendment

Interested Party:	**CIRNAC**	**Rec No.:**	**CIRNAC-WL-FWS-12**
Re:	**Draft Water Licence Framework Comments**		

Recommendation Made by Interested Party:

CIRNAC has reviewed the draft water licence provided by AEM on December 18, 2020. Our comments are compiled in the table below. We noted that the page numbers in the document provided were not always linear. The page numbers in the table refer to those indicated on the pages, so there is some repetition.

Agnico Eagle's Response to Recommendation:

Agnico Eagle utilized CIRNAC's table and added responses in a new column to the table.

Part	Item	Page	Comment	Agnico Eagle Response
A	1 a.	2	*Disposal of Waste Rock in two WRSFs* CIRNAC recommends changing number of WRSFs from three to two because WRSF#2 is no longer used for waste rock under this amendment.	Agnico Eagle will make this change in its next proposed revision of the Water Licence, which will be submitted to NWB prior to the start of the public hearing: "Disposal of Waste Rock and Overburden within ~~three~~ Waste Rock Storage Facilities (WRSF);"
A	1 a.	3	*Controlled and regulated discharge of Effluent from the Water Treatment Plant, Control Pond No. 1 (CP1) to Meliadine Lake* Depending on outcome of discussions on NIRB review, CIRNAC recommends modifying this item to include eliminating discharge to Meliadine Lake under normal operating conditions and discharging to Melvin Bay via the waterline.	The option to discharge to Meliadine Lake must be maintained. Agnico Eagle's commitment is to minimize discharge to Meliadine Lake but it has not committed to eliminate discharge, nor would this be appropriate for the reasons set out in response to KIA-New-TC-1
B	9	4	Proposed change from *The Licensee shall notify the Board of any changes in in operating plans or conditions …* to *The Licensee shall notify the Board of any changes in Project phases …* Project phases are not synonymous with operating plans or conditions and would likely not include changes in conditions. Informing the Board of upcoming changes can help plan timing of inspections and CIRNAC recommends the condition be kept.	"Project phase" is included in other licenses and Agnico Eagle is of the view the Board should follow its own precedent on this item.
B	10	4	Proposed change to insert *Plans submitted may be undertaken without subsequent written Board approval and direction after a 45 day period has elapsed following submissions by the Proponent with no action on the part of theBoard* CIRNAC does not agree with "deemed approval". If a timeline for plan approval is considered, it should include clauses found for approval of modifications (Part G, Item 1) and not be less than 60 days.	Agnico Eagle continues to be of the view that a deemed approval for plan amendments is appropriate, but is in agreement with CIRNAC re a 60 day time frame for approval.

Part	Item	Page	Comment	Agnico Eagle Response
B	12	5	Proposed changes to instruct the Board what to do with changes to plans. The purpose of the proposed changes is not clear since amendments to the licence and modifications have already been defined. CIRNAC recommends keeping the original wording.	Per original comments, these changes are consistent with wording of other licenses (notably Whale Tail)
B	12	5	CIRNAC has not checked approval status of these plans. Revisions to plans may be necessary depending on outcome of NIRB review of waterline.	Agnico Eagle has checked approval status and believes the proposed list is an accurate reflection of current approved plans. As set out in Agnico Eagle's response to CIRNAC-WL-FWS-2 it is acknowledged that revisions to certain plans will be required should NIRB approve the waterline.
B	13	5/6	Item needs to include a list of plans, which will be dependent on how waterline operations are integrated into the water licence. CIRNAC recommends including plans listed under topic #11.	Licence does not need to list plans, relevant plans will be updated should waterline be approved, per response to CIRNAC-WL-FWS-11
B	16	7	Proposed change *All signs must be in English and Inuktitut ~~and French~~ and shall be …* The rationale for the proposed change is not evident.	The working languages at site are English and Inuktitut. The change is to simplify signage.
B	19, 20	7	Proposed additions *The Licensee is encouraged to adopt an Adaptive Management approach to the management of uncertainty regarding potential for effects associated with the Undertaking, including identifying mitigation, monitoring or management actions to be taken when specified thresholds and triggers identified in an Adaptive Management Plan are exceeded.* *Prior to the Licensee undertaking the mitigation, monitoring or management actions specified in an Adaptive Management Plan, the Licensee shall ensure that, reflecting the scale and scope of the actions proposed, all applicable regulatory requirements have been met, including, without limitation, applicable land use planning and impact assessment requirements under the* Nunavut Agreement *and the* Nunavut Planning and Project Assessment Act, *and completion of any Modification or Amendment processes required under the Act, the Regulations and/orthis Licence.* It is not clear if the adaptive management approach is exclusively for water management or for other issues as well. The second paragraph re-iterates the law, which may not be necessary.	Agnico Eagle confirms that the adaptive management referred to in the Licence relates to water and waste management which are the topics regulated in this Licence Agnico Eagle will remove the highlighted text in its next proposed revision of the Water Licence, which will be submitted to NWB prior to the start of the public hearing.
B	21	7	Proposed addition *Unless otherwise stated, references in the Licence to any specific legislation, policy, guideline or other regulatory requirement are deemed to refer to the regulatory requirement as may be amended or as may be expressly replaced by successor legislation, policy, guidelines or other regulatory requirements after the Licence is approved by the Minister.* CIRNAC does not find this adds value.	This is standard language in other licenses issued by NWB and is intended to acknowledge that legislation, policy etc. that is specifically referenced in the Water Licence may be superseded from time to time by later versions or replacement legislation.

Part	Item	Page	Comment	Agnico Eagle Response
C	1	7	*The Licensee shall, within thirty (30) days following the approval of this Licence by the Minister, furnish and maintain security with the Minister in the amount of ~~$24,777,500~~ **34,843,623.** As set out in the* Meliadine Security Management Agreement*, ~~February 8, 2016 Version~~, the amount secured under this Part constitutes 50% of the total global security amount of ~~$49,555,000~~ **69,687,246** that is required to reclaim the Undertaking and reflects that the other 50% of the global security amount will be held outside the Licence by the Kivalliq Inuit Association, in accordance with the terms and conditions of the* Meliadine Security Management Agreement. Parties have agreed to the amount of security, though a new security management agreement has not been signed yet.	Noted. Agnico Eagle confirms security has been agreed. Agnico Eagle's understanding is CIRNAC is preparing the SMA for signature by CIRNAC, KivIA and Agnico Eagle.
C	6	9	Proposed addition *…, a release, in whole or in part, of reclamation security held under this Part by the Minister pursuant to Part C, Item 11 and Section 76(5) of the Act.* Since this is already in the Act, CIRNAC does not believe it needs to be added to the water licence.	To ensure clarity on this point, Agnico Eagle is of the view the wording will add value and notes it is included in other licenses such as the Whale Tail Licence
C	9	9	Proposed addition *In addition to the process for amending security under Part C, Item 8, the Licensee may, at any time, submit an application to the Board for a change to the amount of security outlined in Part C, Item 1. The submission shall include supporting evidence to justify the amendment. The Licensee's request to amend security will be processed by the Board as an amendment to the terms and conditions of the Licence. For greater clarity, such amendments may not require a Public Hearing.* Since this is already contemplated in the Act, CIRNAC does not believe it needs to be added to the water licence.	To ensure clarity on this point, Agnico Eagle is of the view the wording will add value and notes it is included in other licenses such as the Whale Tail Licence.
D	1, 2g	10, 11	Proposed addition to D1 *with a detailed report in Part D, Item 2 and stamped and signed by an Engineer, for the following:* Proposed removal of D2g *Be signed and sealed by the appropriately qualified Engineer.* AEM proposes moving the requirement for an Engineer to sign and stamp construction design and drawings from D2 to D1. CIRNAC does not see how this improves clarity, and recommends keeping the adjective qualified.	The definition of "Engineer" included in the Water Licence incorporates the concept of qualification.
D	1	11	CIRNAC notes the following elements are not in the list and recommends adding them: • Ditching and pumping piping systems for site underground and contact water management • Drainage plans for roads, laydown areas etc.	Agnico Eagle does not agree these elements would be listed. Underground facilities are not normally listed in the Water Licence, and in any event these are items that normally do not require engineer sign off and that is why they are not listed.
D	20	13	Proposed replacement of *The Licensee shall conduct all activities in a manner so as to minimize impacts on Surface Drainage and immediately undertake any corrective measures required in the event of any impacts on Surface Drainage.* With *The Licensee shall undertake appropriate corrective measures to mitigate impacts on surface drainage resulting from the Licensee's Operations.* The proposed replacement reduces the obligation to minimize impact. CIRNAC recommends keeping the original wording, which is	Agnico Eagle disagrees. The revised wording acknowledges practical aspects and is found in other precedent water licenses issued by the NWB, including the Whale Tail Water Licence.

Part	Item	Page	Comment	Agnico Eagle Response
			based on conducting normal operations to minimize surface impacts and corrective action after that.	
E	3	12	Proposed removal of *The total authorized volume of Waters for all purposes referred to in Part E, Items 1 and 2 shall be inclusive of the amounts required for dust suppression.* CIRNAC does not agree the proposed removal. Authorized water use volumes need to include all water used including that for dust suppression.	Agnico Eagle addressed this concern in response to KIA-New-TC-6. It is noted that the overall volumes permitted under the Water Licence would include volumes for dust suppression.
E	5	13	Proposed addition *…, for use in the mill, drilling, and for dust suppression.* Reclaimed Water would have to meet discharge criteria prior to use for dust suppression.	Agnico Eagle disagrees with CIRNACs proposed wording and proposes the following: Reclaim contact water utilized for dust suppression in areas that may report outside of the existing mine and waste catchment system will meet discharge criteria.
E	11	13	Proposed replacement of *The Licensee shall update the Water Management Plan for submission to the Board for review, within sixty* *(60) days of issuance of this Licence.* With *…, when significant content changes are required.* Depending on the outcome of discussions on the operations of the waterline, an update to the Water Management Plan may be necessary. Significant content changes have not been defined and should be defined if the term is used.	As set out in Agnico Eagle's response to CIRNAC-WL-FWS-2 it is acknowledged that revisions to certain plans will be required should NIRB approve the waterline
E	13	13	Proposed replacement of *The Licensee shall submit a revised Water Management Plan on an annual basis to the Board for review, following the commencement of Operations.* With *The Licensee shall review the Water Management Plan on an annual basis and provide a summary of changes, if any, in the annual report. A revised Water Management Plan shall be submitted to the Board for review, when significant content changes are required* CIRNAC agrees that if following an annual review, no revisions to the Water Management Plan are deemed necessary, the Licensee need not submit the Plan again. However, should revisions be necessary, a summary of changes in the annual report would not be sufficient for CIRNAC Inspectors. They require an updated version of theplan.	Confirmed that if changes or revisions to the plans are necessary, a summary of changes and updated plan would be produced.
E	14	13, 14	Given the problems that have occurred on site, the short mine life, the complexity of system and uncertainty of predictions, the need for adaptive management, and stakeholders desire to minimize release to Meliadine Lake, CIRNAC recommends building on the updated requirement for the Water Balance and Water Quality Models to make it an annual requirement, as suggested below this paragraph. Moreover, it should not be limited to only regulated parameters. *An updated Water Balance and Water Quality Forecast will be provided at a minimum of every year.* To improve model results, CIRNAC recommends that Licensee present a detailed technical assessment to identify specific sources of loadings and quantify loadings from each source. The licensee should design and implement a monitoring program to collect any information missing for the assessment.	Agnico Eagle will produce an updated Water Balance and Water Quality Forecast annually through the Annual Report.

Part	Item	Page	Comment	Agnico Eagle Response
E	16	15	Proposed addition *The Licensee shall update the Groundwater Management Plan for submission to the Board for review, when significant content changes are required.* Same comment as E11, depending on the outcome of discussions on the operations of the waterline, an update to the Groundwater Management Plan may be necessary. Significant content changes have not been defined and should be defined if the term is used.	As above.
E	18	15	Proposed modification *The Licensee shall not breach dikes until the water quality in the pit re-flooded area has been shown to be less than or equal to the CCME Water Quality Guidelines for the Protection of Aquatic Life, appropriate site specific water quality objectives, or the pit lake predictions (Agnico Eagle 2014, FEIS, Table 7.4-22). If water quality parameters are above CCME Guidelines and/or FEIS predictions, a site specific risk assessment must be conducted in order to identify Site Specific Water Quality Objectives (SSWQO's) for the site that that are protective of the aquatic environment. Where they are required, Site Specific Water Quality Objectives shall be incorporated in the approved Final Reclamation and ClosurePlan.* CIRNAC does not agree with the proposed modification, specifically the addition of FEIS pit lake predictions as an acceptable gauge of water quality for breaching dykes.	This approach is consistent with the Whale Tail Type A Water Licence. It is appropriate to rely on FEIS predictions in considering criteria for breaching of dykes.
E	20	15	Proposed change for timeline for giving notice of phase change in mine development from ninety days to thirty days. CIRNAC recommends the original 90 days be kept, since 30 days is not sufficient warning for CIRNAC Inspectors if they need to plan site inspections.	Agnico Eagle will revert to the original 90 day notice, but notes that notification requirements should be consistent with applicable polices.
F	3	17	Proposed changes to effluent quality discharge criteria are still under discussion, in particular the maximum TDS concentration of any grab sample.	Noted.
F	4	17	Proposed removal of reference to acute lethality test. CIRNAC recommends specifying how acute lethality is to be tested.	This is specified by the reference in the definition of acute lethality included in the Water Licence which cross references to MDMER approved tests.
F	12	18	Proposed replacement of *The Licensee shall update the Water Management Plan for submission to the Board for review, within sixty (60) days of issuance of this Licence.* With *…, when significant content changes are required.* Same comment as E11, significant content changes have not been defined and should be defined if the term is used.	See response to E11 above.
F	20	19, 20	Proposed replacement of *e. The solids fractions of all mill tailings (except for filtered cyanide leach residue placed in the underground as mine backfill) shall be deposited and permanently contained within the TSF;* *f. The Licensee shall place all filtered cyanide leach residuein the TSF;* With *e. The solids fractions of all mill tailings (except for mill tailings that will be used for paste backfill in the*	For clarity, mill tailings and filtered cyanide leach residue are different terms for the same material coming out of the mill. The tailings going to the paste backfill plant and to the TSF are the same material. Agnico Eagle provides the following revised wording for Item F 20, part e):

Part	Item	Page	Comment	Agnico Eagle Response
			underground) shall be deposited and permanently contained within the TSF; It is no longer clear where the filtered cyanide leach residue will be disposed. CIRNAC recommends keeping this information in the condition as well as including a new sub-condition to re-evaluate management and operations if tailings are different than expected (e.g. PAG instead of non-PAG). Furthermore, specifying significant issues such as long term stability, dusting and surface runoff might help bring clarity.	e) The portion of the mill tailings that are not used by the paste backfill plant shall be deposited and permanently contained within the TSF
I	3	23	Proposed removal *The Licensee shall implement the Aquatic Effects Monitoring Program (AEMP) Design Plan, dated April 2015, as approved by the Board under Part B, Item 12. The Licensee shall update the AEMP Design Plan for submission to the Board for review, within sixty (60) days of issuance of this Licence. The updates are to take into account commitments made with respect to submissions received during the technical review of the Application, as well as final submissions and issues raised during the Public Hearing Process, where applicable.* CIRNAC recommends the implementation of the Aquatic Effects Monitoring Plan remain a condition of the water licence.	Agnico Eagle is required to implement this plan as per Part B, Agnico Eagle suggested removal of the reference at Part H to reduce redundancy in the licence. However, Agnico Eagle agrees to in this section in order to emphasize the importance of this plan.
I	5	23	Proposed removal *The Licensee shall implement the Plan entitled "Monitoring Plan for the Phase 1 All- Weather Access Road between Rankin Inlet and the Meliadine site" dated January 2012, that was previously approved by the Board within the issuance of the 2BW- MEL1215 original Licence related to AWAR construction/operation.* CIRNAC recommends the implementation of the Monitoring Plan for the Phase 1 All Weather Access Road between Rankin Inlet and the Meliadine site remain a condition of the water licence during operations.	Agnico Eagle is required to implement this plan as per Part B, Agnico Eagle suggested removal of the reference at Part H to reduce redundancy in the Water Licence. However, Agnico Eagle agrees to leave the condition in this section in order to emphasize the importance of this plan.
I	4	20	Proposed change *The signs must be in English and Inuktitut ~~and French~~.* The rationale for the proposed change is not evident.	See comment re signage in relation to Part B above.
J	9	24	Proposed removal *The Licensee shall notify the Board in writing, at least sixty (60) days prior to any intent to achieve Recognized Closed Mine status.* CIRNAC recommends keeping the condition to notify the Board of intent to achieve Recognized Closed Mine status.	This notification requirement seems redundant in light of the notice required at Part E, Item 20.
Schedule A		26	Proposed change to replace *Acutely Lethal Effluent* with *Acutely Lethal* CIRNAC recommends keeping the original wording since acutely lethal does not refer to an effluent but is something with respect to an effluent.	This change was suggested because the definition of "Acutely Lethal Effluent" was removed from MDMER. [Repealed, SOR/2018-99, s. 2] The definition of acutely lethal under the MDMER is as follows and is crossed reference in the definition in the Licence *acutely lethal*, in respect of an effluent, means that the effluent at 100% concentration kills • *more than 50% of the rainbow trout subjected to it for a period*

Part	Item	Page	Comment	Agnico Eagle Response
				of 96 hours, when tested in accordance with the acute lethality test set out in section 14.1; or • *(b) more than 50% of the threespine stickleback subjected to it for a period of 96 hours, when tested in accordance with the acute lethality test set out in section 14.2*
Schedule A		28	Proposed replacement of "***By-pass Road***" *means an approximately 5 km road and associated water crossings around the Hamlet of Rankin Inlet' Itivia Laydown Area to the AWAR as described in the Application document entitled "Roads Management Plan" dated April 2015;* With *"**By-pass Road**" means access, service, and haul roads and associated water crossings as described in the Roads Management Plan;* CIRNAC recommends keeping the original definition since it is more descriptive and the proposed replacement includes more infrastructure.	Agnico Eagle agrees and will revert back to the original language.
Schedule A		28	Proposed removal of reference to drawings in definition of collection pond. CIRNAC recommends keeping references to drawings in the definition, but do not have an issue with including both collection and containment ponds in the term to be defined.	References to specific drawings have potential to be out of date and confusing, for example if a modification to that facility proceeds.
Schedule A		28	Proposed replacement of *"**Collection Pond No.1 or Control Pond No.1 (CP1)**" means a final site-wide contact water collection pond. Water collected in CP1 will be reused by the process plant and the excess water will be treated by the WTP prior to discharge to the outside environment via the diffuser into Meliadine Lake as inthe Application document entitled "Water Management Plan" dated April 2015 ;* With ***Collection Pond No.1 or Control Pond No.1 or Containment Pond No. 1 (CP1)**" means a contact water collection pond as described in the Water Management Plan;* CIRNAC acknowledges this definition would need to be updated depending on the outcome of discussions on the operation of the waterline. To our understanding CP1 is still the final site-wide contact water collection pond and it would be helpful to keep this definition in the water licence.	Revised wording by Agnico Eagle would reduce need for any future revisions to definition.
Schedule A		30	Proposed replacement of *"**Engineered Structure(s)**" means any facility, which was designed and approved by a Professional Engineer registered with the Association of Professional Engineers, Geologists and Geophysicists of Nunavut;* With *"**Engineered Structure(s)**" means any facility, which was designed and approved by a Engineer;* Engineered structures in Nunavut need to be designed and approved by an Engineer registered with the Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists (NAPEG). CIRNAC recommends altering the original definition to refer to the correct association.	These concepts are reflected in the definition of "Engineer", don't need them in definition of "Engineered Structure".

Part	Item	Page	Comment	Agnico Eagle Response
Schedule A		30	Proposed removal of reference to drawings in definition of fresh water intake. CIRNAC recommends keeping references to drawings in the definition.	As noted above in relation to comment 28, References to specific drawings have potential to be out of date and confusing, for example if a modification to that facility proceeds.
Schedule A		30	Proposed replacement of *"**Fuel Storage and Containment Facilities**" means the facilities designed for the bulk storage of fuel at the Meliadine Site and Itivia Site Fuel Storage and Containment Facilities as described in the "Type A Water Licence Main Application Document" dated April 2015;* With *"**Fuel Storage and Containment Facilities**" means the facilities designed for the bulk storage of fuel as described in the Hazardous Materials Management Plan;* CIRNAC agrees with the change to refer to the Hazardous Materials Management Plan, but recommends keeping the description *Meliadine Site and Itivia Site Fuel Storage and Containment Facilities*.	Agnico Eagle disagrees and maintains its original proposed wording.
Schedule A		30	CIRNAC recommends referring to the Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists (NAPEG) instead of the Association of Professional Engineers , Geologist and Geophysicists of Nunavut.	Agreed.
Schedule A		30	Proposed replacement of *"**Greywater**" means the component of effluent produced from domestic use (i.e. washing, bathing, food preparation and laundering), excluding sewage;* With *"**Greywater**" means the component produced from domestic use (i.e. washing, bathing, food preparation and laundering);* CIRNAC recommends keeping the original definition since it is more descriptive.	Agnico Eagle agrees and will revert back to the original language.
Schedule A		31	Proposed removal of reference to drawings in definition of landfill. CIRNAC recommends keeping references to drawings in the definition.	As noted above in relation to comment 28, references to specific drawings have potential to be out of date and confusing, for example if a modification to that facility proceeds.
Schedule A		31	Proposed removal of reference to drawings in definition of landfarm. CIRNAC recommends keeping references to drawings in the definition.	As noted above in relation to comment 28, references to specific drawings have potential to be out of date and confusing, for example if a modification to that facility proceeds.
Schedule A		33	Proposed removal of reference to drawings in definition of ore stockpile. CIRNAC recommends keeping references to drawings in the definition.	As noted above in relation to comment 28, references to specific drawings have potential to be out of date and confusing, for example if a modification to that facility proceeds.
Schedule A		34	Proposed removal *"**Recognized Closed Mine**" means a recognized closed mine as defined by section (1) of the Metal Mining Effluent Regulations (SOR/2002-222 dated June 6, 2002 and amended on March 2, 2012, and as may be further amended from time to time);* CIRNAC recommends keeping this definition since we recommended keeping item J9.	The definition of "Recognized Closed Mine" has been removed from MDMER.

Part	Item	Page	Comment	Agnico Eagle Response
Schedule A		34	Proposed removal ***"Reference Method EPS 1/RM/13"*** *means* *Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout (Reference Method EPS 1/RM/13), July 1990, published by the Department of the Environment, as amended in December 2000, and as may be further amended from time to time;* CIRNAC recommends keeping this definition since we recommended keeping item F4.	This is incorporated in proposed definition of "Acutely Lethal" which is based on definition in MDMER.
Schedule A		35	Proposed replacement of *"**Soil Quality Remediation Objectives (SQROs)**" means the numerical concentration established as target value for soil quality remediation for contaminated sites as determined with guidance provided by* the Canadian Council of Ministers of the Environment (CCME) Canada- Wide Standards for Petroleum Hydrocarbons (PHC) in Soil *(January 2008, and as may be further amended from time to time) and/or* Government of Nunavut, Environmental Guideline for Contaminated Site Remediation (March 2009). With *"**Site Specific Water Quality Objectives (SSWQO)**" means a numerical concentration established as a target value which has been established for specified waters;* Proposed change replaces objective for soil with objective for water, which is confusing. CIRNAC recommends using a definition that prescribes how the objective should be determined.	In addition to the Soil Quality Remediation Objectives (SQRO), Agnico Eagle will add the proposed definition for Site Specific Water Quality Objective (SSWQO).
Schedule A		35	Proposed removal of *by means of Engineered Structures* when describing collection of waters for surface drainage. CIRNAC does not see the rationale for removal.	The rationale is that not all water collection is an "engineered structure".
Schedule A		35	Proposed removal of reference to drawings in definition of tailings storage facility. CIRNAC recommends keeping references to drawings in the definition.	As noted above in relation to comment 28, references to specific drawings have potential to be out of date and confusing, for example if a modification to that facility proceeds.
Schedule A		35	Proposed replacement of ***"Tiriganiaq Open Pit 1 and 2"*** with ***"Open Pits"*** could lead to confusion, since access roads to additional deposits are being considered in this amendment. CIRNAC recommends keeping the original wording.	Agnico Eagle agrees and will revert back to the original language.
Schedule A		35	Proposed removal of reference to drawings in definition of underground mine. CIRNAC recommends keeping the word *mine* in the term to be defined and keeping references to drawings in the definition.	As noted above in relation to comment 28, references to specific drawings have potential to be out of date and confusing, for example if a modification to that facility proceeds.
Schedule A		37	Proposed removal of reference to drawings in definition of waste rock storage facility. CIRNAC recommends keeping references to drawings in the definition.	As noted above in relation to comment 28, references to specific drawings have potential to be out of date and confusing, for example if a modification to that facility proceeds.

Part	Item	Page	Comment	Agnico Eagle Response
Schedule A		37	Proposed removal of reference to drawings in definition of water treatment plant. CIRNAC recommends keeping references to drawings in the definition.	As noted above in relation to comment 28, references to specific drawings have potential to be out of date and confusing, for example if a modification to that facility proceeds.
Sched D	1a	41	Proposed replacement of *Professional Engineer* with *Engineer*. CIRNAC recommends the adjective be kept and that design and construction drawings be stamped and signed by an Professional Engineer registered with NAPEG.	This is a redundant change given the definition of "engineer".

ENVIRONMENT AND CLIMATE CHANGE CANADA (ECCC)

Interested Party:	ECCC	Rec No.:	ECCC-WL-FWS-1
Re:	Treatment Sludge Disposal		

Recommendation Made by Interested Party:
ECCC requested the Proponent provide timelines for their development of alternative options for sludge disposal and requested that analytical results for sludge characterization be provided. AEM responded on Nov. 13, 2020 that evaluation of sludge disposal alternatives is still ongoing. also committed that the sludge would not be deposited in CP1 in 2021. AEM indicated that the primary sludge treatment disposal option would be the use of a saline pond for storage, while they continue to evaluate alternative storage solutions. A chemical characterization of a sludge sample was also provided.

ECCC recommends that options for sludge disposal be identified and incorporated into the Water Management Plan for 2022 disposal.

Agnico Eagle's Response to Recommendation:
Agnico Eagle will provide identification of the primary sludge disposal option for 2022 disposal in the Water Management Plan, as well as discussion of alternative options which may be explored in future years. This discussion will be provided in the Water Management Plan that will be submitted 60 days following approval of the 2AM-MEL1631 Water Licence Amendment.

Agnico Eagle would also like to confirm that sludge will not be deposited in CP1 in 2021, and that sludge will be deposited within the saline ponds in 2021.

Interested Party:	**ECCC**	**Rec No.:**	**ECCC-WL-FWS-2**
Re:	**Water Balance**		

Recommendation Made by Interested Party:
AEM has provided clarification regarding the fate of additional freshwater volumes, for which they are applying. ECCC has no further comments concerning the water balance.

Agnico Eagle's Response to Recommendation:
Agnico Eagle appreciates ECCC's comments and also considers this issue resolved.

Interested Party:	**ECCC**	**Rec No.:**	**ECCC-WL-FWS-3**
Re:	**Total Dissolved Solids (TDS) Effluent Quality Criteria (EQC)**		

Recommendation Made by Interested Party:
ECCC recommends that:

- *The use of a lower TDS Maximum Grab Concentration limit would be more protective of the receiving environment and in line with observed and evaluated concentrations;*
- *If the proposed TDS EQC of 5000 mg/L (calculated) Maximum Grab Concentration is granted, that ongoing review of sublethal toxicity testing conducted under the Environmental Effects Monitoring Program and/or other routine monitoring be done, along with monitoring of receiving environment conditions. This monitoring can be used as an indicator of the need to revisit the proposed EQC;*
- *Changes (increases) in the chloride proportion in effluent be monitored, and if there are any changes in the composition, the need for site-specific water quality objectives be evaluated for chloride.*

Agnico Eagle's Response to Recommendation:
Part a
In Golder's technical memorandum dated December 8, 2020, titled, "Meliadine Lake Effluent – Summary of Rationale for Effluent Quality Criterion – Maximum Grab Concentration" (Golder 2020a), the rationale for the suitability of 5,000 mg/L TDS (calculated) was provided, which was based on:

- regulatory interpretation—specifically with respect to the use of acute lethality of Rainbow Trout and *Daphnia magna* as a basis for evaluating compliance with the *Fisheries Act* under applicable effluent regulations, specifically the current and anticipated provisions of the Metal and Diamond Mines Effluent Regulations (MDMER).
- compilations of technical derivations—including literature reviews of chloride and TDS toxicity, as summarized in the WQ-MOP Rev2 (Golder 2020b).
- historical toxicity testing of pit water and full-strength effluent, none of which have indicated acute toxicity as defined under the MDMER.
- validation results from numerous toxicity tests conducted in 2020—including monitoring throughout the discharges to Meliadine Lake from June to October 2020 (as summarized in Rev4a of the WQ-MOP (Golder 2021).

This rationale provided Agnico Eagle with the confidence that concentrations in the discharge up to the maximum grab concentration will not result in acute toxicity as defined under regulatory compliance (Water Licence 2AM-MEL1631).

A summary of the acute toxicity data set for Meliadine mine throughout the period of discharge via MEL-14 in 2020 included results of testing with *Daphnia magna* and Rainbow Trout (*Oncorhynchus mykiss*). Specifically, the testing included:

- Twelve rounds of acute toxicity tests conducted since September 2019 on samples containing more than 2,400 mg/L TDS (calculated)—none exhibited acute toxicity. Moreover, the number of mortalities observed across these tests was very low for both trout and daphnids, with 100% survival to both species in nearly all tests (i.e., no marginal results).
- Seven rounds of acute toxicity tests were conducted with TDS concentrations above 4,000 mg/L TDS (calculated), providing repeated confirmation of lack of acute toxicity at elevated TDS.
- The maximum concentrations tested included concentrations of 4,925 and 4,946 mg/L calculated TDS (both with 2,500 mg/L chloride), both collected in March 2020 prior to freshet. Neither of these samples elicited acute mortality in either trout or daphnid tests, validating the proposed MGC of 5,000 mg/L.

The results of these tests showed that the discharge consistently did not result in acute toxicity at the point of release and did not result in unacceptable chronic toxicity at the edge of the mixing zone. Further, the results provided Agnico Eagle with confidence that calculated TDS concentrations up to the proposed MGC of 5,000 mg/L will not result in acute toxicity as defined under the applicable regulations.

With respect to the following comment included in ECCC's FWS, "the deposit of a deleterious substance to water frequented by fish constitutes a violation of the *Fisheries Act* except where federal regulations under subsection 36(5) of the Act apply", Agnico Eagle confirms that the effluent will be discharged in compliance with the MDMER and would not be a "deleterious substance".

Further, Agnico Eagle acknowledges that the MDMER has been recently amended to include a *Daphnia magna* mortality component within an updated definition of "acutely lethal" which comes into force on 1 June 2021. The inclusion of *D. magna* as a defined test endpoint for acute toxicity to crustaceans in MDMER indicates a clear preference by the Department of Fisheries and Oceans for this test relative to other protocols.

Agnico Eagle believes that *Daphnia magna* provides a better representation of the zooplankton community in Meliadine Lake, relative to *C. dubia*. The evidence for this conclusion comes from two sources:

- The selection of indicator zooplankton species was discussed in the development of the field validation monitoring design for Meliadine Lake, as part of the approval process for the emergency amendment. The recommendation of the Water Management Working Group was that *D. magna* was preferred to *C. dubia* for inclusion of the suite of sublethal testing protocols, primarily based on site relevance. This recommendation was agreed to by Agnico Eagle and subsequently approved by the NWB.
- The Aquatic Effects Monitoring Program (Golder 2018) indicates that organisms of the genus *Daphnia* have been documented in high numbers in multiple sampling years, whereas organisms of the genus *Ceriodaphnia* were not present. Specifically, the cladocerans *Daphnia* spp., often as *Daphnia longiremis*, were identified as being one of the dominant zooplankton groups in most areas in all sampling years (2015–2017).
- As discussed by Chapman (2014) the results from multiple rounds of testing with *C. dubia* in a northern lake (Snap Lake, with mine-influenced water quality composition similar to Meliadine lake) were highly variable (potentially confounded by laboratory artifacts).

Agnico Eagle understands that the positions regarding applicability of *C. dubia* mortality apply mainly to the selection of the TDS Maximum Grab Concentration (MGC). For both the chronic TDS site-specific water quality objective (SSWQO) and the TDS Maximum Average Concentration (MAC), inclusion of *C. dubia* toxicity data continue to support the defensibility of those limits. Moreover, although the test results for *Ceriodaphnia* in the discharge samples provides an additional level of confidence in the recommendation of the MAC, the results of the chronic test protocol are not pertinent to the regulatory acceptability of MGC.

Notwithstanding the above, Agnico Eagle acknowledges ECCC's recommendation that the use of a lower TDS MGC limit would provide for a higher level of protection of the initial mixing zone in Meliadine Lake. To provide an additional margin of safety (i.e., 10%), Agnico Eagle therefore proposes a revised maximum grab concentration of 4,500 mg/L TDS (calculated). The aquatic health of the receiving environment will be unaffected by the selection of the MGC (4,500 mg/L) because the rapid dilution and assimilation of effluent, even under worst-case conditions, will result in measured conditions that are below the chronic TDS SSWQO and substantially below the MAC and MGC.

Part b

Agnico Eagle agrees to continue to collect sublethal toxicity testing data for the discharge at end of pipe (i.e., MEL-14) during discharge. These tests would be conducted for monitoring purposes only for characterization of the effluent quality, and would not be a compliance test under the Water Licence as it is not a legal test for acute lethality under the MDMER. Standard acute lethality tests with species as required under the MDMER will continue to be tested and interpreted for regulatory compliance with both the MDMER and the Water Licence. The chronic testing organisms will follow the test battery agreed to for the validation testing in 2020 under the emergency amendment and will include a pelagic crustacean (*D. magna*), an epibenthic Invertebrate (*Hyalella azteca*), a macrophyte (*Lemna minor*), and a larval fish (*Pimephales promelas* [Fathead Minnow]). This testing would be conducted in parallel with other monitoring required on site and in Meliadine Lake as per the Water Licence, including the Environmental Effects Monitoring Program and Aquatic Effects Monitoring Program.

Part c

As recommended by ECCC, Agnico Eagle will monitor effluent composition (proportion of major ions) and evaluate the need for site-specific water quality objectives for chloride. A similar commitment was made within the Adaptive Management Plan in its response to KivIA concerns (KIA-WL-TC-1 in the 2020 Water Licence Amendment Technical Comment responses [Agnico Eagle 2020b]), specifically their stated concern regarding potential for chloride toxicity associated with the MAC and MGC effluent quality criteria for TDS.

The evaluation of need for site-specific water quality objectives for chloride will based on monitoring data for the treated discharge and/or at the edge of the mixing zone. Chloride is one of the water quality parameters that Agnico Eagle regularly collects in the receiving environment at the edge of mixing zone [MEL-13]), as well as at the mid-field [MEL02] and reference locations [MEL-03, MEL-04, and MEL-05]). As part of this commitment, Agnico Eagle will continue to monitor and evaluate chloride concentrations in the discharge and mixing zone, and an SSWQO for chloride will be developed if concentrations in the mixing zone are either: (1) greater than 75% of the generic CCME chloride guideline; or (2) if the

composition of chloride to TDS (calculated) in the discharge reaches 60% or greater. The SSWQO derivation, if required, will follow the CCME (2007) derivation procedures.

References:

Agnico Eagle (Agnico Eagle Mines Limited). 2020a. NWB file: 201201 2AM-MEL1631 AEM Response to ECCC E-mail Follow-up TDS MGSC of 5000 mg per L. Fwd. Diamond Mine Legal info-IMLE. Email dated 1 December 2020.

Agnico Eagle. 2020b. 2AM-MEL1631 Water Licence Amendment Technical Comment Responses. Submitted to Nunavut Water Board. November 13, 2020

CCME (Canadian Council of Ministers of the Environment). 2007. A Protocol for the Derivation of Water Quality Guidelines for Protection of Aquatic Life 2007. In: Canadian Environmental Quality Guidelines, 1999, Canadian Council of Ministers of the Environment 1999, Winnipeg, MB.

Chapman PM. 2014. Snap Lake Mine: Additional toxicity testing to determine site-specific water quality objective for total dissolved solids in Snap Lake. Technical Memorandum. Submitted to De Beers Canada Inc. and Mackenzie Valley Land and Water Board. Yellowknife, NWT.

Golder (Golder Associates Ltd.). 2018. Aquatic Effects Monitoring Program—2017 Annual Report. Agnico Eagle Mines Limited - Meliadine Gold Project. Submitted to Agnico Eagle Mines Limited, Rankin Inlet, NU by Golder Associates Ltd., Edmonton, AB. 1787610_671_RPT_Rev0. 26 March 2018.

Golder. 2020a. Meliadine Lake Effluent – Summary of Rationale for Effluent Quality Criterion – Maximum Grab Concentration. Submitted to Agnico Eagle Mines Limited. December 8, 2020. Ref No. 20144940-814-TM-Rev0.

Golder. 2020b. Water Quality Management and Optimization Plan Implementation Plan for Total Dissolved Solids. Submitted to: Agnico Eagle Mining Limited Meliadine Mine Operations. 19132390-751-RPT-Rev2. 21 August 2020.

Golder. 2021. Water Quality Management and Optimization Plan Progress Update Rev4a. Phase 3: Meliadine Mine Effluent Discharge Benchmarks for Total Dissolved Solids. Submitted to: Agnico Eagle Mining Limited Meliadine Mine Operations. 19132390-751-RPT-Rev4a. 8 March 2021.

Interested Party:	ECCC	Rec No.:	ECCC-WL-FWS-4
Re:	Comments on Draft Water Licence		

Recommendation Made by Interested Party:

ECCC has reviewed the Draft Water Licence submitted by AEM, and in general finds the proposed changes provide clarity and update the terms and conditions. The following comments are provided for the Board's consideration.

- *Part B.10. Deemed approval of plans – It is not clear what constitutes "no action" by the Board. Plans are typically circulated for review, and longer than 45 days may be required for larger or complex items. For clarity, approval of plans should be explicit; ECCC recommends retaining the original clause.*
- *Part E. 14 AEM proposes to include limitations to the water quality model updates, such that only regulated parameters will be reviewed, and of those, only parameters which are within 10% of the MAC discharge limit. ECCC suggests that this is too narrow of a parameter list, and that non-regulated parameters such as chloride and nitrate should be modeled. The purpose of doing updated modeling is to confirm/examine earlier predictions and to identify trends which might warrant management response. Further, the threshold of 10% is not defined; i.e. is this on the basis of a single occurrence, or averaged on a monthly or annual basis? ECCC recommends further discussion of the best approach to refining and focusing modeling efforts.*
- *Part E. 18. ECCC notes that the referenced pit lake water quality predictions (Table 7.4-22 of the 2014 FEIS) do not specify Total Metals, and suggests that this be clarified.*
- *Part F.4; Schedule A: Scope, Definitions, and Enforcement. AEM proposes to remove the wording identifying standard test methods, leaving just the statement that effluent shall be demonstrated to be non-Acutely Lethal. For clarity and consistency, ECCC recommends that this section include a reference to the tests to be used, either explicitly or by reference to acute toxicity tests prescribed under the MDMER for Rainbow Trout (Oncorhynchus mykiss) and Daphnia magna.*
- *Part I.2. The requirements for the Aquatic Effects Monitoring Program (AEMP) along with associated text have been removed and should be retained. ECCC acknowledges that the terms of Part B.12 and 14 require implementation of the approved Plans, including the AEMP, and that Part I.1 references the overarching Environmental Management and Protection Plan. However, ECCC notes that the most recently approved version of the Environmental Management and Protection Plan (Jan. 2019) includes references (p. 27) to the text proposed for deletion in Part I.2 and suggests the licence sections should be retained for Part I.2.*

Agnico Eagle's Response to Recommendation:
See comments below.

Reference	Agnico Eagle Response
• *Part B.10. Deemed approval of plans – It is not clear what constitutes "no action" by the Board. Plans are typically circulated for review, and longer than 45 days may be required for larger or complex items. For clarity, approval of plans should be explicit; ECCC recommends retaining the original clause.*	Please see response to KIA-TC-3 and CIRNAC-WL-FWS-12 above.
• *Part E. 14 AEM proposes to include limitations to the water quality model updates, such that only regulated parameters will be reviewed, and of those, only parameters which are within 10% of the MAC discharge limit. ECCC suggests that this is too narrow of a parameter list, and that non-regulated parameters such as chloride and nitrate should be modeled. The purpose of doing updated modeling is to confirm/examine earlier predictions and to identify trends which might warrant management response. Further, the threshold of 10% is not defined; i.e. is this on the basis of a single occurrence, or averaged on a monthly or annual basis? ECCC recommends further discussion of the best approach to refining and focusing modeling efforts.*	Agnico Eagle is planning to meet with ECCC during the week of March 22 and will advise the NWB of any updates on this item prior to the public hearing.
• *Part E. 18. ECCC notes that the referenced pit lake water quality predictions (Table 7.4-22 of the 2014 FEIS) do not specify Total Metals, and suggests that this be clarified.*	Agnico Eagle will provide total metals and dissolved metals in future predictions.
• *Part F.4; Schedule A: Scope, Definitions, and Enforcement. AEM proposes to remove the wording identifying standard test methods, leaving just the statement that effluent shall be demonstrated to be non-Acutely Lethal. For clarity and consistency, ECCC recommends that this section include a reference to the tests to be used, either explicitly or by reference to acute toxicity tests prescribed under the MDMER for Rainbow Trout (Oncorhynchus mykiss) and Daphnia magna.*	The change was intended to cross reference to the MDMER, which by reference includes the specific tests approved by the Government of Canada from time to time to determine acute lethality for effluent.
• *Part I.2. The requirements for the Aquatic Effects Monitoring Program (AEMP) along with associated text have been removed and should be retained. ECCC acknowledges that the terms of Part B.12 and 14 require implementation of the approved Plans, including the AEMP, and that Part I.1 references the overarching Environmental Management and Protection Plan. However, ECCC notes that the most recently approved version of the Environmental Management and Protection Plan (Jan. 2019) includes references (p. 27) to the text proposed for deletion in Part I.2 and suggests the licence sections should be retained for Part I.2.*	The intent was to reduce redundancy in the Water Licence, not to remove requirements. In any event, Agnico Eagle will retain the licence sections as requested in the next draft Water Licence circulated to the NWB prior to the public hearing.