

May 4, 2020

Tara Arko
Director of Technical Services
Nunavut Impact Review Board
PO Box 1360
Cambridge Bay, NU X0B 0C0

Re: Clarification on Agnico Eagle Mines Limited's Waterline Proposal for the Meliadine Gold Mine Project

Dear Ms. Arko,

Agnico Eagle Mines Limited (**Agnico Eagle**) is writing in response to the Nunavut Impact Review Board (**NIRB**) letter of April 14, 2020 (the **NIRB Letter**). We are writing to clarify several items and to provide a preliminary response to the questions posed in the NIRB Letter.

Agnico Eagle will review the related submissions and will confirm to NIRB if we will be responding to these comments. This is based on the understanding that all submissions will be submitted by May 8th, 2020.

1. General Comments on NIRB Letter

We are concerned that the NIRB's summary of the "Saline Effluent Discharge to Marine Environment" Proposal (the **Waterline Proposal**) included in the NIRB Letter is missing some key context, which we have endeavored to provide in this letter.

It should be emphasized that the Waterline Proposal is separate from the 2020 Saline Discharge Strategy (trucking water in 2020) and should continue to be processed separately. Both are important initiatives. The 2020 Saline Discharge Strategy is an initiative utilizing existing infrastructure and equipment to appropriately manage water at the Meliadine Mine in the near term as described in section 3.4.2 Medium-Term Management Strategy of the Meliadine Groundwater Management Plan (April 2020, v. 5). As for the separate Waterline Proposal (as described in section 3.4.4 Long-Term Management Strategy of the Meliadine Groundwater Management Plan (April 2020, v. 5)), construction of certain components may commence by August 2020, but no infrastructure is planned to be used for conveyance or discharge of water prior to May 2021.

All parties should be made aware of Agnico Eagle's key correspondence to date to NIRB on the Waterline Proposal:

"Saline Effluent Discharge to Marine Environment" Proposal Correspondence:¹

- NIRB Application for Screening #125515;
- Meliadine Mine - Final Environmental Impact Statement Addendum (April 2020);
- April 3, 2020 Agnico Eagle Letter to NIRB – NIRB Screening of Agnico Eagle's "Saline Effluent Discharge to the Marine Environment" Project Proposal; [attached]

¹ This is not a complete list of relevant materials. All Agnico Eagle and other file correspondence is available on the NIRB public registry.

2. Waterline Proposal

a. Summary of Rationale for Waterline Proposal

On April 7, 2020, Agnico Eagle filed the “Meliadine Gold Mine – Final Environmental Impact Statement Addendum, Environmental Assessment of Treated Groundwater Effluent Discharge into Marine Environment, Rankin Inlet” (April 2020) (the **2020 FEIS Addendum**) with NIRB. The 2020 FEIS Addendum was based on data and expert opinion. Available Inuit Qaujimajatuqangit and community information was also incorporated. What follows highlights information from the 2020 FEIS Addendum, as relevant to the topics highlighted in the NIRB Letter. Agnico Eagle encourages all parties to review the 2020 FEIS Addendum for further detailed information and rationale on these topics.

Agnico Eagle is proposing certain water management adaptive strategies for the purpose of accommodating the saline groundwater inflows that will be encountered during underground mining activities. Groundwater will be stored underground and collected in surface ponds at the Mine site, separate from other water. As currently, the groundwater will be treated at the Mine site so that it is safe to discharge into the ocean. Agnico Eagle proposes the following changes to the current saline effluent management and discharge components:

- convey water from the mine site to Melvin Bay using waterlines (two 16 inch diameter pipes) along the existing right-of-way of the existing AWAR and bypass roads, rather than the current trucking method along the AWAR and bypass roads;
- replace and update current discharge line and engineered diffuser installed from Itivia into Melvin Bay for marine discharge using horizontal directional drilling method to reduce impacts of tides and ice on pipe and reduce visual impact. This is the same technique used by the Hamlet of Rankin Inlet for the community’s wastewater discharge and was recommended for the waterline application by the community; and,
- discharge flow rate for the treated groundwater will be in the range of 6,000 to 12,000 m³per day.

Discharge of groundwater treated at the Mine to Melvin Bay will occur every year when there is no ice on Melvin Bay (summer months from May to October), while there is mining at the Meliadine Mine until the Mine closes in 2032.

The proposed waterline falls within the scope of the approved project as conveying saline water with piping infrastructure was presented in the 2014 FEIS submission (volume SD 2-1, section 5.10).

b. Transportation on AWAR (via Waterline)

The NIRB Letter does not mention one of the key factors in Agnico Eagle’s decision to pursue the waterline at this time. The waterline is a significant environmental enhancement which will help reduce noise, overall greenhouse gas emissions and potential dust emissions resulting from the saline transport activity. All surface activities along the AWAR will continue to take place in compliance with Kivalliq Inuit Association Lease KVRW11FO2.

It is important to note that the waterline would run along the existing AWAR and bypass corridor and within the boundaries of the lease with the KIA. It would not require any territorial or federal approvals.

With respect to the use of the word “pipeline” in the NIRB Letter, since the word “pipeline” is generally associated with conveyance of fuel, we request the NIRB to refer to the **“waterline”** going forward so that there is no misunderstanding in the community as to what is being proposed. Only water will be conveyed by the waterline.

In January 2020 preliminary consultation meetings were held with key stakeholders to collect general feedback on the modification. Public meetings were held at Hamlet Rankin on March 11, 2020, at the Rankin Inlet Community Hall to discuss the proposed changes. Feedback from consultation efforts in January and March 2020 showed that the community concerns were addressed by clarifying Agnico Eagle's Project Description and resulting in the implementation of additional mitigation measures. Design changes were made in response to the community feedback received, including but not limited to the following:

- routing the waterlines in the area of Apache Pass on the East side of the rock outcrop, somewhat like the routing of the 12-inch water pipe for the Hamlet;
- installing a fiber optic leak detection system to monitor the waterlines for leaks;
- implementing an emergency spill line number for the public to report any spills from the waterline;
- installing two smaller waterlines instead of one larger waterline;
- engaging the KHTO to support with monitoring efforts along the AWAR;
- constructing snowmobile and ATV crossings along the length of the waterline in areas to be identified by local users to allow for safe crossing of the waterline; and,
- implementing reflective markers along the length of the waterline to notify users of the location and crossings of the waterline.

Requirements to report spills will continue to be followed. In addition, the Spill Contingency Plan (April 2020, v.9) will be followed in case of a spill of treated groundwater effluent along the AWAR and bypass road. Sessions will be organized with the local population and Elders to identify potential crossings to be constructed along the AWAR and bypass road to allow safe crossing of the waterline for traditional activities.

The waterlines will be installed outside of sensitive times of year for caribou and caribou mitigations in the TEMMP will be adhered to. Following feedback from community engagement session, Agnico Eagle will continue to actively engage the Rankin Inlet KHTO with monitoring along the AWAR. Agnico Eagle will continue to monitor the AWAR per the Road Management Plan (April 2020, v.9) and TEMMP (Golder 2015). Through discussion with the community members and the KHTO additional mitigation measures that will be considered are as follows:

- If required, install crossing structures at known caribou movement corridors and high-value habitats or regularly at a pre-determined interval distance if the locations of corridors or high-value habitats are not known. Inuit elders and the KHTO would be consulted on the locations of caribou movement corridors and high-value habitats.
- If required, crossing structures will be composed of fine-grain material, with a size and shape to be determined based on site characteristics and road geometry and height. The locations of crossing structures would be informed by the surrounding landscape features that may block or funnel caribou access in consultation with the KHTO.

Agnico Eagle is committed to adhering to all plans relevant to the waterline component, including the above noted Groundwater Management Plan, Spill Contingency Plan, Roads Management Plan and Erosion and Sediment Control Plan.

c. Discharge of Saline Water to Marine Environment

Overall, the discharge to the marine environment will operate as per the requirements as noted below:

- water will continue to be discharged in a controlled manner to Melvin Bay through a diffuser to minimize impact on the marine environment;
- methods of water treatment will not change - if required, water will continue to be treated using the current approved methods at site prior to transportation to Melvin Bay;
- water will be discharged during open water season from May to October, identified in consultation with the KHTO;
- conveyance and discharge will be required to comply with all applicable plans (including, in particular the Roads Management Plan (April 2020, v. 9), the Groundwater Management Plan (April 2020, v. 5) and the Ocean Discharge Monitoring Plan (April 2020, v. 3);
- activities in the marine environment will be required to comply with the lease issued by CIRNAC under the *Territorial Lands Act*; and,
- any waters discharged to the marine environment will meet the mandatory federal legal requirements for end-of-pipe discharge criteria and toxicity testing set by the *Metal and Diamond Mining Effluent Regulations (MDMER)* (see below for a detailed summary) as well as the Canadian Surface Water Quality Guidelines (Canadian Council of Ministers of the Environment Guidelines for the Protection of Aquatic Life [CCME 2003]), at the edge of the 100 m mixing zone for the discharge into Melvin Bay.

To quantify the behaviour of the discharged treated groundwater effluent into Melvin Bay, Tetra Tech conducted a modelling assessment to determine the physical dimensions of the outflow to comply with the applicable regulatory standards and guidelines within the mixing zone. The model results are provided in the 2020 FEIS Addendum. With the proposed system, the plume will not reach the water surface: there will be at least 7.9-m and 12.4-m (depending on tides) between the maximum plume height and the water surface. Most importantly, the effluent plume meets the effluent discharge criteria through diffusion well within the 100-m distance for the ambient and discharge conditions test. Specifically, effluent can be effectively diffused to reach the target dilution factor of 11:1 within a horizontal distance of a few metres under all tested conditions.

With respect to the planned directional drilling, this directional drilling technique is the same technique used by the Hamlet of Rankin Inlet for the communities' wastewater discharge.

NIRB does not set criteria for discharges to the marine environment. As part of its Reconsideration Report the NIRB recognized that discharges to the marine environment are a highly regulated activity under the MDMER which is under the jurisdiction of Environment and Climate Change Canada (ECCC):²

"The Board also recognizes that the recently revised Metal and Diamond Mining Effluent Regulations, SOR/2002-222 (MDMER) are applicable to the proposed activities and provide standardized operational requirements for any project considering this type of water discharge and treated groundwater disposal. The Board considers the monitoring required under the MDMER to be sufficient to ensure water quality and potential for effects on marine water quality is effectively monitored. The MDMER requirements will also require the implementation of

² Under the Nunavut Agreement and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, the Nunavut Water Board does not regulate discharges to the marine environment.

management plans and associated adaptive management strategies through the life of the Project should changes in effluent quality or the marine environment be detected as a result of monitoring.” [emphasis added]

The MDMER require detailed recording of volumes discharged to the environment, in accordance with section 19:

19 (1) The owner or operator of a mine shall record, in cubic metres, the total monthly volume of effluent deposited from each final discharge point for each month during which there was a deposit.

(2) The total monthly volume of effluent deposited shall be either

(a) determined on the basis of the average of the flow rates, expressed in cubic metres per day, measured and calculated as follows:

(i) by measuring the flow rate at the same time as samples are collected under section 12,

(ii) by calculating the average monthly flow rate by adding the flow rate measurements taken during the month and dividing the total by the number of times the flow rate was measured, and

(iii) by multiplying the average monthly flow rate by the number of days during the month that effluent was deposited; or

(b) determined by using a monitoring system that provides a continuous measure of the volume of effluent deposited.

(3) The owner or operator shall

(a) measure the flow rate or volume of effluent deposited by using a monitoring system that is accurate to within 15% of measured flow rate or volume; and

(b) maintain and calibrate the monitoring system at least once in each year and record the results, as well as the date on which and the manner in which the requirement to maintain and calibrate has been met.

As part of Agnico Eagle’s quarterly effluent monitoring report, in accordance with section 21 of the MDMER, Agnico Eagle will report the total volume of effluent deposited during each month of the reporting quarter. MDMER does not include a limitation on overall volumes to be discharged and establishes a complex and detailed monitoring system designed to be protective of the marine environment.

All discharges will be required to meet the deleterious substance discharge limits set out at Schedule 4 of the MDMER, as well as toxicity testing set out in the MDMER. Agnico Eagle confirms that it will continue to operate in full compliance with the MDMER throughout the 2020 discharge period as well as the Ocean Discharge Monitoring Plan.

d. Summary regarding Waterline Proposal

In summary, as set out in the 2020 FEIS Addendum, the effects of the modification will not be significant, and the Waterline Proposal will have a number of positive environmental benefits:

- Once the waterline is operational, there will be less truck traffic on the AWAR. This means there will be less dust, noise and greenhouse gases. It also means less truck traffic that could interact with caribou and other wildlife.
- Impacts from the ocean discharge are expected to be minimal. Agnico Eagle plans to continue monitoring the water and the animals to confirm that it is safe to discharge.

- The waterlines will be built close to the road within the existing right of way to minimize the overall project footprint.
- The effluent that will be transported by the waterlines is treated groundwater that is like ocean water. Even if the waterline or diffuser had a leak it would still be safe, and Agnico Eagle would promptly fix any leaks in the waterline and stop the spill. Mitigations identified in the Spill Contingency Plan and environmental design features will be in place to limit the number and size of spills that result from Agnico Eagle's activities, including monitoring the waterline for leaks.
- People will still be able to snowmobile on Melvin Bay as they do now and they will still be able to access the land along the AWAR as they do now.

e. Whether the proposed modification constitutes a significant modification to the original project as previously assessed and subsequently modified and approved by the NIRB

As previously submitted to NIRB on April 3, 2020, Agnico Eagle has considered the Waterline Proposal in relation to s. 90 of NuPPAA in accordance with the NIRB guidance (see Appendix A).

Agnico Eagle's conclusion is that the Waterline Proposal is not a significant modification to the Meliadine Mine. Impacts along the AWAR to wildlife were previously assessed and activities associated with waterlines are less than those for roads. There are no effects from the modification beyond those predicted in the original FEIS and the 2018 FEIS Addendum. Given that the modification remains smaller in scale than what was assessed in the 2014 FEIS and consistent with much of the activities assessed in the 2018 FEIS Addendum, many of the predicted effects will remain unchanged as a result of the proposed changes. Mitigation measures described in the original FEIS and 2018 FEIS Addendum will continue to be applied as appropriate.

f. Whether the proposed modification is consistent with the terms and conditions of the existing Project Certificate No. 06 or are changes to the Project Certificate necessary to reflect the modification

The "Re" line of the NIRB Letter refers to the "Saline Effluent Discharge to Marine Environment Amendment for the Meliadine Gold Project". For clarity, Agnico Eagle has not applied for an amendment to Project Certificate No. 06 and is of the view that no amendment is required.

Agnico Eagle does not believe that a reconsideration of Project Certificate No. 06 is necessary, given that Amendment No. 1 was approved by the Minister relatively recently (February 2019) and includes stringent conditions that are directly relevant to the proposed activities. The inclusion of Terms and Conditions 25 and 128-131 (in addition to the other 126 Terms and Conditions) are robust and adequate to address the changes proposed. While it was not identified as the preferred alternative until recently, the option of using a waterline for conveyance rather than trucking is one that has been identified as an alternative at Meliadine since 2014.

Based on annual reporting and current compliance, there are no indications that the terms and conditions are not achieving their intended purpose or are having effects that are significantly different from those anticipated at the time Project Certificate No. 06 was issued and modified. The circumstances relating to the project are not significantly different from those anticipated in February 2019 - the proposed modification is associated with adaptive management strategies for the existing operations and are not associated with any expansion in mining activity. And, there are no technological developments or new information that provides a more efficient method of achieving the intended purpose of the terms and conditions.

As Agnico Eagle stated in its previous correspondence to NIRB of April 3, 2020, should the NIRB determine that the Waterline Proposal requires further assessment, Agnico Eagle is of the view such assessment should proceed by way of NIRB screening. The NIRB screening process allows for public participation and is an established assessment process under the Nunavut Agreement and *Nunavut Planning and Project Assessment Act*. As an example, the AWAR and many large bulk sampling mining projects have previously proceeded by way of NIRB screening. There are no stand-alone projects equivalent to the Waterline Proposal that have previously proceeded by way of NIRB review.

3. Conclusion

The Waterline Proposal is a key initiative that is of vital importance to the Meliadine Mine that must be considered in a timely way.

Agnico Eagle's analysis is that the Waterline Proposal is not a "significant modification". As noted above, the waterline will be placed along the existing AWAR and bypass road. The directional drilling to modify and enhance the discharge infrastructure at Itivia is considered to be a routine activity similar to the wastewater discharge by the hamlet of Rankin Inlet for the communities. It should also be noted, as with the 2020 Discharge Strategy, the discharge will comply with all discharge and monitoring criteria set by the MDMER. While Agnico Eagle is of the view that the proposal is not a "significant modification" under NuPPAA, we recognize that it is possible that the NIRB may disagree. Should NIRB determine that additional assessment steps are necessary, Agnico Eagle emphasizes that the nature of the Waterline Proposal is properly suited to a "NIRB screening" rather than "NIRB review" assessment process.

Thank you for your consideration of these comments.

Regards,



Jamie Quesnel

Jamie.Quesnel@agnicoeagle.com

Regional Manager - Permitting & Regulatory Affairs

Appendix A
Summary of Self-Assessment Per NIRB Guidance
for Waterline Proposal
(Previously Submitted to NIRB as part of Letter Sent April 3, 2020)

Table C-1: NuPPAA Section 90 Factors

NuPPAA Section 90 Factors	Results of Agnico Eagle Self-Assessment
(a) the size of the geographic area, including the size of wildlife habitats, likely to be affected by the impacts	<p>The geographic area for the land activities is within the Project footprint assessed in the Final Environmental Impact Statement (FEIS; Agnico Eagle 2014), including wildlife habitats. Baseline data was collected in Melvin Bay as part of the assessment and Melvin Bay was considered an area that could be potentially impacted from shipping and spills.</p> <p>The proposed changes are expected to result in negligible to minor changes to terrestrial valued components. The modification is expected to result in detectable changes to water quality in Melvin Bay, but non-significant given the requirements of Environment and Climate and Change Canada and the Department of Fisheries and Oceans, and Agnico Eagle's commitment to treatment.</p>
(b) the ecosystemic sensitivity of that area	<p>There is no change to the terrestrial footprint, which was previously assessed as part of the FEIS (Agnico Eagle 2014). Melvin Bay was assessed as part of the assessment for shipping and spills. The local study area at Itivia Harbour and Melvin Bay does not support critical habitat for aquatic, bird and wildlife species, and as such, no areas of sensitivity are expected to be impacted by the Project.</p>
(c) the historical, cultural and archaeological significance of that area	<p>The proposed changes will result in a negligible change in impacts to an area of historical, cultural, or archaeological significance. The waterline is to be located along the AWAR and bypass road and so is within the Project footprint included in previous project proposals and assessed in the FEIS (Agnico Eagle 2014).</p>
(d) the size of the human and the animal populations likely to be affected by the impacts	<p>The proposed changes are not expected to result in changes to impacts on human and animal populations.</p>
(e) the nature, magnitude and complexity of the impacts	<p>The nature, magnitude, and complexity of the impacts are within those assessed in the FEIS for terrestrial activities and does not change the nature, magnitude, and complexity of terrestrial impacts. Marine impacts were assessed for shipping and impacts from spills, the nature, magnitude and complexity of these impacts do not change. In 2018, marine impacts were assessed for a discharge pipe and diffuser into Melvin Bay and the magnitude and complexity of these impacts do not change.</p>
(f) the probability of the impacts occurring	<p>The probability of the impacts occurring are within those assessed in the FEIS and proposed changes do not change the probability of these impacts. Marine impacts were assessed for shipping and impacts from spills, the probability of these impacts do not change. In 2018, marine impacts were assessed for a discharge pipe and diffuser into Melvin Bay and the probability of these impacts do not change.</p>
(g) the frequency and duration of the impacts	<p>The frequency and duration of the impacts are within those assessed in the FEIS for terrestrial activities and the modification does not change the frequency and duration of these impacts. Marine impacts were assessed for shipping and impacts from spills, frequency, and duration of these impact do not change. In 2018, marine impacts were assessed for a discharge pipe</p>

NuPPAA Section 90 Factors	Results of Agnico Eagle Self-Assessment
	and diffuser into Melvin Bay and the frequency and duration of these impacts do not change.
(h) the reversibility or irreversibility of the impacts	The reversibility or irreversibility of the impacts are within those assessed in the FEIS for terrestrial activities and proposed changes do not change the nature, reversibility or irreversibility of these impacts. Marine impacts were assessed for shipping and impacts from spills, the reversibility or irreversibility of these impacts do not change. In 2018, marine impacts were assessed for a discharge pipe and diffuser into Melvin Bay and the reversibility or irreversibility of these impacts do not change.
(i) the cumulative impacts that could result from the impacts of the project combined with those of any other project that has been carried out, is being carried out or is likely to be carried out	Cumulative effects were considered as part of the overall assessment for the Project in the FEIS (Agnico Eagle 2014). The assessment developed in the FEIS does not change for the current assessment for the proposed Project changes, as the proposed changes are within the previously assessed LSA and RSA for the Project. Cumulative effects are only completed for primary pathways. No pathways were identified as primary for this Project. Therefore, a cumulative effects assessment was not completed.
(j) any other factor that the Board considers relevant to the assessment of the significance of impacts	None identified to date.