

April 30, 2020

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

**Re: Further Clarification on Agnico Eagle Mines Limited's "2020 Saline Discharge Strategy"**

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 with respect to the 2020 Saline Discharge Strategy.

Agnico Eagle will review submissions from interested parties and will confirm to NIRB if we will be responding to these comments.

### **1. General Comments**

We are concerned that the NIRB's summary of the "2020 Saline Discharge Strategy" (the **2020 Saline Discharge Strategy**) is missing some key context, which we have endeavored to provide in this letter.

It should be emphasized that the 2020 Saline Discharge Strategy and Waterline Proposal are separate 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 2020 Discharge Strategy:

#### "2020 Saline Discharge Strategy" Key Correspondence:<sup>1</sup>

- January 30, 2020 (date posted to NIRB Registry) – Roads Management Plan, December 2019, v. 8;
- January 30, 2020 Agnico Eagle Email to NIRB – 11MN034 Meliadine Gold Mine Roads

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

Management Submission;

- March 18, 2020 Agnico Eagle Letter to NIRB – Meliadine Mine Saline Water Management Update – Mid Term Strategy 2020;
- March 31, 2020 Agnico Eagle Letter to NIRB – NIRB Request for Clarification on Scope of the Meliadine Gold Mine Project in Relation to Agnico Eagle Mines Limit’s “Meliadine Mine Saline Water Management Mid Term Strategy 2020 Update.”

## **2. 2020 Saline Discharge Strategy**

As recommended by NIRB in the “Reconsideration Report and Recommendations, Saline Effluent Discharge to Marine Environment Proposal (October 2018)”, (the **Reconsideration Report**), Agnico Eagle has applied key principles of adaptive management in its development of the 2020 Saline Discharge Strategy.

The 2020 Saline Discharge Strategy is not associated with any expansion or increase to the mining rate at Meliadine Mine, or any modifications to existing equipment or facilities. The 2020 Discharge Strategy is required because the Meliadine Mine is encountering higher volumes of groundwater during mining and managing more water at site than originally anticipated, including increased precipitation events in 2019 that does add volume to the surface saline ponds. There are adaptive management methods that are readily available that can proceed in compliance with all applicable regulatory and Inuit landowner requirements, do not trigger any amendments to any existing approvals, and can proceed in compliance with all applicable management plans and existing Project Certificate No. 06 terms and conditions.

The 2020 Saline Discharge Strategy involves increased volume to be discharged to Melvin Bay/Hudson Bay at Itivia using existing infrastructure and equipment, and all waters will continue to be conveyed by trucks along the all-weather access road (**AWAR**) and the bypass road.

The key components of saline water management at the Meliadine Mine, trucking of water along the road and discharge of saline water to the marine environment, do not change under the 2020 Saline Discharge Strategy. A detailed comparison of the components and activities to be undertaken during the 2020 Saline Discharge Strategy was provided to NIRB on March 31, 2020, and is re-attached to this letter at Appendix A for the convenience of reviewers.

For the reasons that follow, Agnico Eagle is of the view that the 2020 Saline Discharge Strategy should be considered to be within the scope of previous assessments. In this section, Agnico Eagle also clarifies some items included in the NIRB Letter.

### ***i. Transportation on AWAR (via Truck)***

Agnico Eagle wishes to correct the number of one way and round trips that will be associated with the 2020 Saline Discharge Strategy. Agnico Eagle has purchased 5 additional trucks to enable movement of additional volumes while minimizing the incremental truck trips for 2020.

- In the 2018 FEIS Addendum, it was originally forecasted that to discharge 800 m<sup>3</sup>/ day (12 hour discharge period), 16 round trips to transport saline water would be required, at an estimated 50 m<sup>3</sup> per truck;
- During the 2019 discharge season, slightly higher numbers were required as the trucks held less

water than originally planned, which required 22 round trips, at an estimated 38 m<sup>3</sup> per truck; and

- During 2020, to transport up to 1600 m<sup>3</sup> per 24 hour period, up to 44 round trips will be required.

Agnico Eagle's plans to increase the trucking volumes for the 2020 open water discharge season were outlined in the Roads Management Plan (December 2019, v. 8) which was provided to NWB on January 7, 2020 and NIRB on January 9, 2020. The Roads Management Plan (December 2019, v. 8) was approved by the NWB on February 24, 2020 under the terms of 2AM-MEL1631 (the **Water Licence**). Only limited comments were received on the plan from NIRB, NWB and interveners. Agnico Eagle do not expect any additional impacts to the Project with the proposed temporary increase of the overall number of vehicle trips for the summer 2020 as current mitigations related to dust management, caribou migration and spill management will continue to apply.

With the application of existing mitigations as outlined in the approved Roads Management Plan (December 2019, v. 8), overall dust generated on the AWAR and bypass road during 2020 is predicted to remain within the thresholds set in the environmental assessment and meet applicable standards.

During 2020 Meliadine division will apply dust suppression on the entire length of the AWAR and will continue to monitor using the expanded dustfall monitoring implemented at site in 2019. This will allow Agnico Eagle to continue to validate that dustfall rates will decline with distance from the road at rates predicted in the FEIS.

The existing Spill Contingency Plan will continue to ensure that spills associated with this and other site activities are prevented.

Mitigations outlined in the approved Terrestrial Environment Monitoring and Management Plan (**TEMMP**) such as speed limits, giving priority to caribou crossing the road at all times and road closures triggered in collaboration with the KIA and KHTO will continue to ensure caribou protection along the AWAR.

## ***ii. Discharge of Saline Water to Marine Environment via Existing Infrastructure***

We wish to clarify an important point regarding current and planned discharge rates at Melvin Bay:

- During 2019, in accordance with the diffuser design criteria, 800 m<sup>3</sup> of saline water was discharged at Itivia over one 12-hour period each day.
- In designing the 2020 Discharge Strategy, Agnico Eagle proposes to continue to discharge 800 m<sup>3</sup> per 12 hour period.
- In order to bring the total volumes of saline water discharged up to the necessary 1600 m<sup>3</sup> per day during the 2020 discharge season, Agnico Eagle will discharge at an 800 m<sup>3</sup> rate for two consecutive 12 hour periods each day.

Together with the diffuser design report filed with NIRB in February 2019, Agnico Eagle filed a technical memorandum prepared by Golder Associates Ltd. (February 1, 2019) which presented a modelling assessment of groundwater discharge to the marine environment via the diffuser. The modelling was based on simulation conditions for an equivalent 1,600 m<sup>3</sup> per day flow rate. The Golder memorandum concludes:

1. Dilution of the treated groundwater effluent plume is achieved within 5m of the diffuser under the assumed conditions for the ambient and discharge condition tested under assumed and increased temperatures.

2. After initial mixing, the plume migrates along the seabed under gravity and achieves further dilution and mixing with ambient water; concentrations within the 100m regulatory mixing zone will thus meet discharge criteria per regulatory requirements and/or background concentrations for non-regulated parameters per the modelled conditions.

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 *Metals and Diamond Mining Effluent Regulation (MDMER)* which is under the jurisdiction of Environment and Climate Change Canada (ECCC):<sup>2</sup>

“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 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

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<sup>2</sup> 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.

(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.

### ***iii. Summary re 2020 Saline Discharge Strategy***

To summarize:

- The key components of the 2020 Saline Discharge Strategy – transportation by truck and discharge by existing marine infrastructure at Itivia – were previously assessed as part of the approved Meliadine Mine project.
- No amendments to Project Certificate No. 06 are required to proceed. Agnico Eagle will continue to follow the terms and conditions relevant to this activity, including in particular those amended or implemented following the NIRB's 2018 reconsideration (in particular, Term and Conditions 25, 128 -131).
- The discharge of saline water at Itivia will continue to meet all legal requirements which regulate discharge to the marine environment, including MDMER discharge and monitoring requirements.
- The 2020 Saline Discharge Strategy does not require any modifications to existing infrastructure in order to proceed. No new or modified permits, licenses or other approvals are triggered by the 2020 Saline Discharge Strategy. Agnico Eagle will continue to comply with the KIA agreements, Water Licence, and the Lease issued by CIRNAC under the *Territorial Lands Act*.
- The existing mitigation and monitoring plans are stringent and protective. With the NWB-approved Roads Management Plan in place, the overall dust generated on the AWAR and bypass road during 2020 will remain well within the thresholds and applicable standards, and existing TEMMP and related processes established under Project Certificate No. 06 will ensure that caribou and other wildlife will continue to be protected.

- The existing marine infrastructure will continue to be operated by Agnico Eagle in accordance with the approved design specifications, which are based on an 800 m<sup>3</sup> per 12 hour period discharge rate.

### Conclusion

For all of these reasons, Agnico Eagle does not consider the interim activity planned under the 2020 Saline Discharge Strategy to be a change in scope of the approved project (the Meliadine Mine).

Agnico Eagle does not consider the 2020 Saline Discharge Strategy to be a “significant modification” to the Meliadine Mine.

Based on the outcome of the NuPPAA s. 90 factors self-assessment presented in Appendix B (first submitted to the NIRB on March 31, 2020), Agnico Eagle considers that the nature, magnitude, complexity, probability, frequency and duration of the impacts for the 2020 Saline Discharge Strategy are manifestly insignificant as compared to the approved Project activities. The potential environmental effects have been adequately assessed as part of the previous environmental assessments, and appropriate and robust mitigation and monitoring is already in place. 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; therefore, further assessment is inappropriate and not consistent with NIRB guidance on significant modifications.

In view of all of the above, we request that NIRB confirm our understanding that Agnico Eagle can proceed with the 2020 Saline Discharge Strategy without delay and without any further NIRB process or amendment to the Project Certificate.

Thank you for your consideration of these comments.

Regards,



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## **Appendix A**

### **2020 Saline Discharge Strategy Scope compared to Approved Project (Previously Submitted to NIRB as part of Letter Sent March 31, 2020)**

**Table A-1: Scope Comparison 2020 Saline Discharge Strategy Scope compared to Approved Project**

<b><i>Component or Activity</i></b>	<b><i>Current Operations under the Approved Project</i></b>	<b><i>2020 Saline Discharge Strategy</i></b>
Mine Site operation	Assessed by NIRB in 2014 as part of original Meliadine Gold Project FEIS	No change.
Plant site and accommodation buildings	Assessed by NIRB in 2014 as part of original Meliadine Gold Project FEIS	No change.
Ore stockpiles	Assessed by NIRB in 2014 as part of original Meliadine Gold Project FEIS	No change.
Temporary overburden stockpile	Assessed by NIRB in 2014 as part of original Meliadine Gold Project FEIS	No change.
Tailings storage facility	Assessed by NIRB in 2014 as part of original Meliadine Gold Project FEIS	No change.
Waste rock storage facilities	Assessed by NIRB in 2014 as part of original Meliadine Gold Project FEIS	No change.
Water management systems including containment ponds, water diversion channels and retention dikes/berms	Assessed by NIRB in 2014 as part of original Meliadine Gold Project FEIS	No change.
Water Treatment Plant	Assessed by NIRB in 2014 as part of original Meliadine Gold Project FEIS	No change.  If required, water will continue to be treated using the current approved methods for ammonia and Total Suspended Solids at site prior to transportation to Melvin Bay, to ensure it meets criteria for discharge into the marine environment.
Itivia Port Site and Tank Farm Operation	Assessed by NIRB in 2014 as part of original Meliadine Gold Project FEIS	No change.
Transportation of materials to site via the bypass road and the AWAR	Assessed by NIRB in 2014 as part of original Meliadine Gold Project FEIS  Assessed by NIRB as part of exception of Phase 1 of the AWAR under 12.10.2 of the Nunavut Agreement.	No change.  All traffic on the AWAR will continue to be monitored in accordance with existing requirements.
Proposed discharge of saline	Assessed by NIRB in 2018 as part of	No significant change.



<b><i>Component or Activity</i></b>	<b><i>Current Operations under the Approved Project</i></b>	<b><i>2020 Saline Discharge Strategy</i></b>
effluent from the underground to the marine environment at Melvin Bay by Rankin Inlet	Saline Effluent Discharge Proposal FEIS Addendum.	See March 31, 2020 letter from Agnico Eagle to NIRB as well as Section 2 of this letter for discussion of discharge.
Transportation of saline effluent from mine site to Itivia Harbour via the bypass road and the AWAR	Assessed by NIRB in 2018 as part of Saline Effluent Discharge Proposal FEIS Addendum.	No significant change.  See March 31, 2020 letter from Agnico Eagle to NIRB as well as Section 2 of this letter for discussion of transportation.
Construction of a new unheated storage tank adjacent to the existing fuel tank farm at the Itivia site for storage of treated groundwater until release	Assessed by NIRB in 2018 as part of Saline Effluent Discharge Proposal FEIS Addendum.	No change.  All discharges will occur using existing facilities with no modifications to location or equipment.  Existing saline water storage tank and diffuser infrastructure at the Itivia Fuel Storage Facility in Rankin Inlet will continue to be used during 2020.
Discharge of mine water to marine during open water season only	Assessed by NIRB in 2018 as part of Saline Effluent Discharge Proposal FEIS Addendum.	No change.  Water will continue to be discharged during the open water season.
Discharge via marine pipeline with diffuser	Assessed by NIRB in 2018 as part of Saline Effluent Discharge Proposal FEIS Addendum.	No significant change.  See March 31 letter from Agnico Eagle as well as Section 2 of this letter for discussion of discharge.
Placement of the pipeline on the seabed below the water at the diffuser end.	Assessed by NIRB in 2018 as part of Saline Effluent Discharge Proposal FEIS Addendum.	No change.

**Appendix B**  
**Summary of Self-Assessment Per NIRB Guidance**  
**for 2020 Saline Discharge Strategy**  
**(Previously Submitted to NIRB as part of Letter Sent March 31, 2020)**

**Table B-1: Agnico Eagle NuPPAA Section 90 Self-Assessment**

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 and marine activities is within the Project footprint assessed in the Final Environmental Impact Statement (FEIS; Agnico Eagle 2014) as well as addendum (Agnico Eagle 2018), including wildlife habitats. Baseline data was collected in Melvin Bay as part of the assessment and Melvin Bay was considered. All activities will continue to take place in the existing project footprint.</p> <p>The changes are not predicted to result in any changes to terrestrial valued components or to result in detectable changes to water quality in Melvin Bay, given the planned volumes and timing (i.e. discharge at 1600 m<sup>3</sup> per 24 hour day), regulatory requirements under the Fisheries Act and MDMER, 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 2014/2018). Melvin Bay was assessed as part of the assessment for shipping and spills.</p> <p>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.</p>
(c) the historical, cultural and archaeological significance of that area	<p>The proposed changes will result in no change in impacts to an area of historical, cultural, or archaeological significance as no change to infrastructure is required or proposed.</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 and diffuser into Melvin Bay and the frequency and duration of these impacts do</p>

NuPPAA Section 90 Factors	Results of Agnico Eagle Self-Assessment
	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	The proposed changes will not result in change to the cumulative impacts, given Agnico Eagle's commitment to continue to operate in a manner that will be below the impact thresholds in the previous assessments.
(j) any other factor that the Board considers relevant to the assessment of the significance of impacts	None identified to date.