Nunavut Impact Review Board

Reconsideration Report and Recommendations

Saline Effluent Discharge to Marine Environment Proposal

Agnico Eagle Mines Limited
Meliadine Gold Mine Project
Project Certificate No. 006, NIRB File No. 11MN034

October
2018

INSIDE COVER PAGE

The Nunavut Impact Review Board's Primary Objectives under the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada,* Article 12, Section 12.2.5:

> In carrying out its functions, the primary objectives of NIRB shall be at all times to protect and promote the existing and future well-being of the residents and communities of the Nunavut Settlement Area, and to protect the ecosystemic integrity of the Nunavut Settlement Area. NIRB shall take into account the well-being of residents of Canada outside the Nunavut Settlement Area.

The Nunavut Impact Review Board's Primary Objectives under the *Nunavut Planning and Project Assessment Act,* S.C. 2013, c. 14, s. 23 states:

> 23(1) The Board must exercise its powers and perform its duties and functions in accordance with the following primary objectives:
> (a) to protect and promote the existing and future well-being of the residents and communities of the designated area; and
> (b) to protect the ecosystemic integrity of the designated area.
>
> 23(2) In exercising its powers or performing its duties and functions in accordance with the objective set out in paragraph (1)(a), the Board must take into account the well-being of residents of Canada outside the designated area.

Contact Information:
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SIGNATURE PAGE

Photo 1: Board Members from left to right: Guy Alikut, Henry Ohokannoak, Allen Maghagak, Elizabeth Copland, Philip (Omingmakyok) Kadlun, and Madeline Qumuatuq

THIS REPORT IS SUBMITTED TO THE HONOURABLE DOMINIC LEBLANC, P.C. MINISTER OF INTERGOVERNMENTAL AFFAIRS, NORTHERN AFFAIRS AND INTERNAL TRADE BY THE NUNAVUT IMPACT REVIEW BOARD ON THIS 31ST DAY OF OCTOBER 2018.

Elizabeth Copland
Chairperson

Phillip (Omingmakyok) Kadlun
Board Member

Guy Alikut
Board Member

Henry Ohokannoak
Board Member

Allen Maghagak
Board Member

Madeleine Qumuatuq
Board Member

COVER LETTER

NIRB File No.: 11MN034

October 31, 2018

The Honourable Dominic LeBlanc, P.C.
Minister of Intergovernmental Affairs, Northern Affairs and Internal Trade
Government of Canada
House of Commons
Ottawa, ON K1A 0A6

Sent via email and courier: dominic.leblanc@parl.gc.ca;

Re: Reconsideration Report and Recommendations of the Nunavut Impact Review Board Regarding the "Saline Effluent Discharge to the Marine Environment" Proposed Modification to the Meliadine Gold Mine Project by Agnico Eagle Mines Limited

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Dear Honourable Dominic LeBlanc:

As set out in the Nunavut Impact Review Board's (NIRB or Board) Notice of Reconsideration sent to the relevant Minister on April 6, 2018 in support of the Board's reconsideration of the terms and conditions of existing Project Certificate No. 006 under Article 12, Section 12.8.2 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (*Nunavut Agreement*) and s. 112 *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (*NuPPAA*), the NIRB has undertaken an assessment of the "Saline Effluent Discharge to the Marine Environment" proposed modification by Agnico Eagle Mines Limited (Agnico Eagle) to the existing Meliadine Gold Mine located near Rankin Inlet, Nunavut. As required by Article 12, Section 12.8.3 of the *Nunavut Agreement* and s. 112(5) of the *NuPPAA*, the NIRB is providing this Reconsideration Report and Recommendations to the Minister for your consideration.

The enclosed Reconsideration Report and Recommendations summarizes the NIRB's assessment of the potential ecosystemic and socio-economic effects of the Saline Effluent Discharge to the Marine Environment modification proposal (the Saline Effluent Discharge Proposal or Modification Proposal) and concludes that the Modification Proposal should be allowed to

proceed. Having concluded that the Modification Proposal should be allowed to proceed, the NIRB has also provided recommended revisions and additions to the Terms and Conditions of existing Project Certificate No. 006 for the Project and revisions to the Monitoring Program for Project Certificate No. 006 consistent with the objectives set out in Article 12, Section 12.2.5 of the *Nunavut Agreement* and s. 23 of the *NuPPAA*.

Please contact the Board's Executive Director, Ryan Barry directly at (867) 983-4608 or rbarry@nirb.ca if you have questions or require clarification regarding this matter.

Sincerely,

Elizabeth Copland
Chairperson
Nunavut Impact Review Board

cc: The Honourable Jonathan Wilkinson P.C., Minister of Fisheries and Oceans and the Canadian Coast Guard
The Honourable Catherine McKenna P.C., Minister of Environment and Climate Change,
The Honourable Marc Garneau, P.C. Minister of Transport
The Honourable Hunter Tootoo, MP for Nunavut
The Honourable Joe Savikataaq, Premier of Nunavut
Aluki Kotierk, President, Nunavut Tunngavik Incorporated
David Ningeongan, President, Kivalliq Inuit Association
Lootie Toomasie, Chairperson, Nunavut Water Board
Jamie Quesnel, Agnico Eagle Mines Ltd.
Ryan Vanengen, Agnico Eagle Mines Ltd.
Meliadine Distribution List

EXECUTIVE SUMMARY

The Nunavut Impact Review Board (NIRB or Board) has issued a Reconsideration Report and Recommendations to present the findings of the Board's assessment of Agnico Eagle Mines Ltd.'s (Agnico Eagle) "Saline Effluent Discharge to Marine Environment Proposal". The Saline Effluent Discharge Proposal proposes modifications to the previously-approved Meliadine Gold Mine Project (NIRB File No. 11MN034), located near Rankin Inlet, Nunavut. The scope of the proposed activities include the trucking, temporary storage, and discharge of treated saline groundwater from the underground mine at the Meliadine Gold Mine to Melvin Bay at Itivia Harbour during the open water season. Agnico Eagle proposes to use this method of saline water disposal in addition to the previously-approved practice of treating the groundwater coming from the underground workings and discharging this water to Meliadine Lake through a collection pond.

The NIRB received the Saline Effluent Discharge Proposal in January 2018 from the Nunavut Planning Commission (the Commission), along with confirmation that the proposed activities conformed with the Keewatin Regional Land Use Plan. The Commission's referral also indicted that the Saline Effluent Discharge Proposal represented a significant modification to the approved Meliadine Gold Mine Project due to the change in location of the discharge of the saline effluent into the marine environment and the revised method of treatment of the water.

Following the NIRB's solicitation and receipt of comments from the public, interested parties, and regulatory authorities in respect of the Saline Effluent Discharge Proposal, the NIRB determined that the proposed changes warranted reconsideration of the terms and conditions in the existing Meliadine Gold Mine Project Certificate No. 006 in accordance with Article 12, Section 12.8.2 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada* (*Nunavut Agreement*) and s. 112 of the *Nunavut Planning and Project Assessment Act* (*NuPPAA*).

Throughout the reconsideration process the Board provided numerous opportunities to participants from federal, territorial, and local governments: Nunavut Tunngavik Inc., the Kivalliq Inuit Association, Kangiqliniq Hunters and Trappers Organization, and the Public to share their perspectives about the Saline Effluent Discharge Proposal, to ask questions, and to highlight their concerns about the potential ecosystemic and socio-economic effects (both positive and negative) of the proposed works and activities. These opportunities included an in-person Community Information Session held on September 11, 2018 and an in-person Public Hearing held on September 12-13, 2018 in Rankin Inlet.

Throughout this process, the Board heard concerns expressed about the potential for effects (including cumulative effects) on the marine ecosystem resulting from the discharge of saline groundwater from the Itivia site, and in particular effects on marine mammals, fish, and invertebrates, and effects on ice formation in the area, with the potential to restrict the use of the area by community members for transportation and harvesting. In addition, the Board noted

concerns expressed about the potential for increased dust along the road associated with the additional 16 round trips per day for the water trucks hauling the saline groundwater from the mine to the tanks at the Itivia site during the open water season. The Board also heard concerns about the potential for the tides and ice conditions at the Itivia site to result in shifting, cracking, or other damage to the pipeline and associated armouring.

As set out in detail within the Board's Report, having reviewed and considered the technical issues, concerns and all information provided to the Board throughout the reconsideration process for the Saline Effluent Discharge Proposal, the NIRB has concluded that if conducted in accordance with the Board's recommendations, this proposed amendment to the Meliadine Gold Mine Project may proceed to the licensing and permitting regulatory phase with the following required changes and additions to the existing Terms and Conditions of Project Certificate No. 006 and Project Monitoring:

- Updates to the existing saline and groundwater management planning and project monitoring requirements to reflect the Saline Effluent Discharge Proposal;
- The addition of terms and conditions requiring Agnico Eagle to submit detailed designs to the NIRB and to conduct hazard and operability assessments of the saline effluent disposal system (tank, pipeline, and marine diffuser) at the Itivia site at least six (6) months prior to operation;
- Additional terms and conditions applicable to planning for the removal of the subsea pipeline and diffuser when the saline effluent disposal system is no longer in use;
- The addition of a term and condition requiring Agnico Eagle to develop a program, in consultation with the Kangiqliniq Hunters and Trappers Organization and the community of Rankin Inlet: to identify the season of operation for the saline effluent disposal system; for monitoring the temperature of effluent going into the subsea pipeline; monitoring the ice thickness on Melvin Bay in the vicinity of the discharge; and developing and implementing communication and safety protocols applicable to effects on travel by community members through Itivia and Melvin Bay that could arise; and
- Updates to the existing marine ecosystem and marine mammal monitoring programs including the Ocean Discharge Monitoring Plan and Appendix D of the Shipping Management Plan to reflect the potential for effects associated with the addition of this volume of saline groundwater effluent being released into the marine environment.

In closing, the Board is grateful to all who shared their experiences, expertise, and perspectives to assist us in completing a thorough and timely assessment of the Modification Proposal. The NIRB recognizes and appreciates the positive, collaborative, and respectful contributions of all who continue to work together to ensure that the Meliadine Gold Mine Project delivers lasting economic benefits to the Kivalliq Region while minimizing the potential for adverse socio-economic and ecosystemic effects.

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ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ (NIRB ᐅᕝᕙᓘᓐᓃᑦ ᑲᑎᒪᔩᑦ) ᑐᓂᓯᔪᑦ ᐃᓱᒪᒃᓴᖅᓯᐅᕈᑎᒃᓴᒧᑦ ᐅᓂᑉᑳᒥᒃ ᐊᒻᒪᓗ ᐃᒪᓐᓈᖅᑑᑎᓂᒃ ᑕᑯᒃᓴᐅᑎᓪᓗᒋᑦ ᖃᐅᔨᓴᖏᑦ ᑲᑎᒪᔩᑦ ᖃᐅᔨᓴᐃᓂᖕᒐᓂᖅᑲᖅᑎᑦᑐᒥᑦ ᐊᒡᓃᑯ ᐃᒍ ᐅᔭᖅᑕᕆᐊᓕᕆᔨᒃᑯᑦ (ᐊᒡᓃᒃᑯᑦ) “ᑕᕆᐅᓕᒃ ᑯᕕᑎᑕᐅᔪᒪᔪᖅ ᑕᕆᐅᖅᒧᑦ ᑐᒃᓯᕋᐅᑎᖕᒐᑦ-ᓂᒃ”. ᑕᕆᐅᓕᒃ ᑯᕕᑎᑕᐅᔪᒪᔪᖅ ᑕᕆᐅᖅᒧᑦ ᑐᒃᓯᕋᐅᑎ ᐋᖅᑭᒋᐊᖅᓯᔪᒪᔪᖅ ᓈᒻᒪᒋᔭᐅᖅᑲᐅᑕᐅᓚᐅᖅᑐᒥᒃ ᑕᓯᖅᔪᐊᖅᒥᑦ ᒎᑐᒥᒃ ᐱᓕᕆᐊᖅᒧᑦ (ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᑦᑕ ᑎᑎᖅᑲᖅᑯᑎᖓ ᓈᓴᐅᑎᓕᒃ: 11MN034), ᖃᓂᑕᖕᒐᓃᑦᑐᖅ ᑲᖏᖅᖠᓂᖅ, ᓄᓇᕗᑦ. ᖃᓄᐃᓕᐅᕈᑕᐅᔪᒪᔪᒥᑦ ᐃᓚᐅᔪᑦ ᓄᓇᒃᑰᕈᑎᒃᑯᑦ ᐊᒡᓴᖅᑐᐃᓂᖅ, ᑐᖅᑯᖅᓯᓯᒪᓚᐅᐱᓪᓚᒃᓗᒍ, ᐊᒻᒪᓗ ᑯᕕᑦᑎᓪᓗᒍ ᐱᓕᕆᐊᖑᓯᒪᔪᖅ ᑕᕆᐅᓕᒃ ᓄᓇᒥᑦ ᐃᒪᖅ ᓄᓇᐅᑉ ᐃᓗᐊᓂᑦ ᐱᔭᐅᔪᖅ ᐅᔭᖅᑕᕆᐊᖅᒥᑦ ᑕᓯᖅᔪᐊᖅᒥᑦ ᐃᑎᕕᐊᓂᑦ ᑕᕆᐅᖅᒧᑦ ᐊᐅᔭᐅᑎᓪᓗᒍ. ᐊᒡᓃᒃᑯᑦ ᐊᑐᕈᒪᔭᖕᒐᑦ ᑯᕕᑦᑎᓂᖅ ᑕᕆᐅᓕᒃ ᐃᒪᖅ ᐃᓚᒋᓗᒍ ᓈᒻᒪᒋᔭᐅᓯᒪᓂᒃᑐᒧᑦ ᐱᓕᕆᐊᕆᓗᒍ ᓄᓇᒥᑦ ᐃᒪᖅ ᓄᓇᐅᑉ ᐃᓗᐊᓂᖕᒑᖅᑐᖅ ᑯᕕᑎᑦᑐᒍᓗ ᐃᒪᖅ ᑕᓯᖅᔪᐊᖅᒧᑦ ᑲᑎᖅᓱᐃᓂᖅ ᑕᓯᖅᔭᒃᑯᑦ.

ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᐱᓚᐅᖅᑕᖕᒐᑦ ᑕᕆᐅᓕᒃ ᑯᕕᑎᑕᐅᔪᒪᔪᖅ ᑕᕆᐅᖅᒧᑦ ᑐᒃᓯᕋᐅᑎ ᔭᓄᐊᕆ 2018-ᒥᑦ ᓄᓇᕗᒻᒥ ᐸᕐᓇᐃᔨᒃᑯᓐᓂᑦ (ᐸᕐᓇᐃᔨᒃᑯᑦ), ᐃᓚᐅᑉᓗᓂ ᓇᓗᓇᐃᖅᓯᓂᖅ ᖃᓄᐃᓕᐅᕈᑕᐅᔪᒪᔪᑦ ᒪᓕᖕᓂᖕᒋᑦ ᑭᖑᓪᓕᖅᒥᑦ ᓄᓇᒥᒃ ᐊᑐᖅᓂᖅᒧᑦ ᐸᕐᓇᐅᑎᒥᑦ. ᐸᕐᓇᐃᔨᒃᑯᑦ ᑐᓂᐅᑎᕆᔭᖕᒐᑦ ᐅᖅᑲᖅᓯᒪᕆᐸᓗᓂ ᑕᕆᐅᓕᒃ ᑯᕕᑎᑕᐅᔪᒪᔪᖅ ᑕᕆᐅᖅᒧᑦ ᑐᒃᓯᕋᐅᑎ ᐊᖏᔪᒥᒃ ᐋᖅᑭᒋᐊᖅᓯᓂᖅᑲᕈᒪᖕᒪᑦ ᓈᒻᒪᒋᔭᐅᓯᒪᓂᒃᑐᒥᒃ ᒎᑐᒧᑦ ᐅᔭᖅᑕᕆᐊᖅᒥᑦ ᐱᓕᕆᐊᖅᒧᑦ ᐊᓯᐊᙳᕐᓂᖅᓴᓄᑦ ᐃᓂᐅᔪᖅ ᑯᕕᑦᑎᕝᕕᐅᓂᐊᖅᑐᒧᑦ ᑕᕆᐅᓕᒃ ᑕᕆᐅᖅᒧᑦ ᐊᒻᒪᓗ ᐋᖅᑭᒋᐊᖅᓯᒪᔪᖅ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᖅ ᐱᓕᕆᐊᕆᓂᖅᒧᑦ ᐃᒪᖅ.

ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᐱᒋᐊᖅᓯᒪᔭᖕᒐᑦ ᐊᒻᒪᓗ ᐱᓯᒪᔭᖕᒐᑦ ᐅᖅᑲᐅᓯᕆᔭᐅᔪᑦ ᐃᓄᖕᓂᒃ, ᐃᓚᐅᖅᑲᑕᐅᓂᖅᑲᕈᒪᔪᓂᒃ, ᐊᒻᒪᓗ ᒪᓕᒐᓕᕆᓂᖅᒧᑦ ᐱᔪᓐᓇᖅᑎᑦᑎᔨᓂᒃ ᐱᔾᔪᑎᒋᐸᓗᒍ ᑕᕆᐅᓕᒃ ᑯᕕᑎᑕᐅᔪᒪᔪᖅ ᑕᕆᐅᖅᒧᑦ ᑐᒃᓯᕋᐅᑎ, ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᖃᐅᔨᓚᐅᖅᑐᑦ ᐊᓯᐊᙳᖅᑕᐅᔪᒪᔪᑦ ᐃᓱᒪᒃᓴᖅᓯᐅᕈᑎᓕᐅᒃᑲᓐᓂᕆᐊᖅᑲᖅᓯᓂᖏᓐᓄᑦ ᑐᑭᐅᔪᑦ ᐊᒻᒪᓗ ᖃᓄᐃᖕᒐᔭᕆᐊᖅᑲᖅᓂᐅᔪᑦ ᑕᐃᒪᐅᔪᒥᑦ ᑕᓯᖅᔪᐊᖅᒥᑦ ᒎᑐᒧᑦ ᐅᔭᖅᑕᕆᐊᖅ ᐱᓕᕆᐊᖅᒧᑦ ᓇᓗᓇᐃᒃᑯᑕᖅᒥᑦ ᓈᓴᐅᑎᓕᒃ 006-ᒥᑦ ᒪᓕᒃᓗᒍ ᑎᑎᖅᑲᖅ 12, ᐃᓚᒋᔭᐅᔪᖅ 12.8.2 *ᐊᖏᖅᑲᑎᒌᒍᑎᖕᒐᑦ ᐃᓄᐃᑦ ᓄᓇᑖᖅᓂᖕᒐᓄᑦ ᐃᓂᐅᔪᒧᑦ ᐊᒻᒪᓗ ᐅᐱᓐᓇᖅᑐᖅᔪᐊᖅ ᐊᖕᒐᔪᖅᑳᖅ ᑯᐃᓐ ᐱᔪᓐᓇᐅᑎᖕᒐᓄᑦ ᑲᓇᑕᐅᑉ (ᓄᓇᕗᒻᒧᑦ ᐊᖏᖅᑲᑎᒌᒍᑎ)* ᐊᒻᒪᓗ ᐃᓚᒋᔭᐅᔪᖅ 112 *ᓄᓇᕗᒻᒥ ᐸᕐᓇᐃᓂᖅ ᐊᒻᒪᓗ ᐱᓕᕆᐊᖅᒥᒃ ᖃᐅᔨᓴᐃᓂᖅ* (*NuPPAA*).

ᐃᓱᒪᒃᓴᖅᓯᐅᕈᑎᒋᓯᐅᓂᓕᒫᒥᑦ ᑲᑎᒪᔩᑦ ᑐᓂᓯᓚᐅᖅᑐᑦ ᖃᐸᓯᑲᓪᓚᖕᓂᒃ ᐱᕙᖅᑲᖅᑎᑦᑎᓂᐅᔪᓂᒃ ᐃᓚᐅᖅᑕᐅᔪᓄᑦ ᑲᓇᑕᒥᑦ, ᐅᑭᐅᖅᑕᖅᑐᒥᑦ ᐊᕙᒃᑐᖅᓯᒪᔪᒥᑦ, ᐊᒻᒪᓗ ᓄᓇᓕᖕᒥᑦ ᒐᕙᒪᐅᔪᓂᑦ: ᓄᓇᕗᑦ ᑐᙵᕕᒃᑯᑦ, ᑭᕙᓪᓕᕐᒥᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᒃᑯᑦ, [illegible] (ᑕᒪᐃᓐᓂᒃ ᐱᐅᔪᓂᒃ ᐊᒻᒪᓗ ᐱᐅᖏᑦᑐᓂᒃ) [illegible] ᐃᓚᐅᓚᐅᖅᑐᑦ ᓇᒻᒥᓂᖅ ᓄᓇᓕᖕᒥᑦ ᑐᑭᓯᐅᒪᔾᔭᖅᑎᑕᐃᓂᖅᒥᑦ ᓯᑎᐱᕆ 11, 2018-ᒥᑦ ᐊᒻᒪᓗ ᓇᒻᒥᓂᖅ ᐃᓄᓗᒃᑖᓂᒃ ᑐᓴᑎᑦᑎᑎᑦᑐᒥᑦ ᓯᑎᐱᕆ 12-13, 2018-ᒥᑦ ᑲᖏᖅᖠᓂᕐᒥᑦ.

ᐱᕙᓪᓕᐊᓂᑐᒃᑖᒥᑦ, ᑲᑎᒪᔩᑦ ᑐᓴᓚᐅᖅᑐᑦ ᐃᓕᑐᑕᐅᔪᓂᒃ ᖃᓄᐃᓕᖅᑎᑦᑎᓂᐅᑐᐃᓐᓇᐊᓕᑦ ᒥᒃᓵᓄᑦ (ᐃᓚᐅᑉᓗᑎᒃ ᑲᑎᑉᐸᓪᓚᐊᔪᑦ ᖃᓄᐃᓕᖅᑎᑦᑎᓃᑦ) ᐃᒪᕐᒥᑦ ᐆᒪᖅᑲᖅᑎᖅᑮᒃᑐᓄᑦ ᐱᔪᑦ ᑯᕕᑎᑕᐅᔪᒥᑦ ᑕᕆᐅᕐᒥᑦ ᓄᓇᒥᑦ ᐃᒪᕐᒥᑦ ᐃᑎᕕᐊᓂᑦ, ᐊᒻᒪᓗ ᖃᓄᐃᓕᖅᑎᑦᑎᓂᐅᔪᑦ ᐃᒪᕐᒥᐅᑕᓄᑦ ᓂᕐᔪᑎᓄᑦ, ᐃᖃᓗᖕᓄᑦ ᐊᒻᒪᓗ ᑭᙳᖅᓴᓗᖕᓄᑦ, [illegible] ᓯᑯᕙᓪᓚᐊᓂᕐᒧᑦ ᖃᓂᑕᕐᓕᓂᑦ, ᐊᑐᖅᑕᐅᑦᑕᐃᓕᔭᐅᔪᕐᓇᖅᓗᓂ ᐃᓂᐅᔪᖅ ᓄᓇᓕᖕᒥᐅᓄᑦ ᐃᖅᑭᖅᓴᔭᕐᓂᕐᒧᑦ ᐊᒻᒪᓗ ᓂᕿᖅᓴᖅᑭᓐᓄᑦ ᒪᖃᐃᓐᓂᕐᒧᑦ. ᐃᓚᖅᑲᖅᖢᓂ, ᑲᑎᒪᔩᑦ ᖃᐅᔨᓚᐅᖅᑐᑦ ᐃᓕᑐᑕᐅᔪᓂᒃ ᐳᔪᖅᑖᖅᑕᖅᓂᖅᓴᐅᔪᖅᓇᖅᓂᖅᓗᓄᑦ ᐊᐸᕐᑯᑎᒥᑦ 16-ᖏᖅᑕᖅᑐᑎᒃ

ᐅᑎᖅᑕᕐᓂᐊᖅᑎᓪᓗᒋᑦ ᐅᑉᓗᑕᒫᒃᑯᑦ ᐃᒥᖅᑕᐅᑏᑦ ᓄᓇᒃᑰᕈᑏᑦ ᐅᓯᔦᑦ ᑕᕆᐅᓕᖕᒥᑦ ᐃᒪᕐᒥᒃ ᐅᔭᖅᑕᕆᐊᕐᒥᙶᖅᑐᑦ ᐃᒪᖃᐅᓯᕝᕕᖕᓄᙵᐅᔾᔨᔦᑦ ᐃᑎᕕᐊᓄᑦ ᐊᐅᔭᐅᑎᓪᓗᒍ. ᑲᑎᒪᔩᑦ ᑐᓵᓚᐅᕐᒥᔦᑦ ᐱᔾᔦᑎᖃᖅᑐᒥᒃ ᐅᓕᓐᓂᕐᒥᒃ ᐊᒻᒪᓗ ᓱᑰᑉ ᖃᓄᐃᓐᓂᖏᓐᓂᒃ ᐃᑎᕕᐊᓂᑦ ᐊᓯᐊᙳᖅᓯᓂᐊᕐᓂᖓᓄᑦ, ᐅᕝᕙᓘᓐᓃᑦ ᐊᓯᖏᑦ ᓱᕋᒡᓗᑎᒃ ᓱᑉᓗᓕᖕᒥᑦ ᐱᔦᓂᒃ ᐃᓚᒋᔭᐅᔦᓄᓪᓗ ᐱᓕᕆᐊᖑᔦᓄᑦ.

ᑎᑎᕋᖅᓯᒪᔪᖅ ᓇᓗᓇᐃᔭᖅᓯᒪᔪᖅ ᑲᑎᒪᔩᑦ ᐅᓂᑉᑳᖓᓂᑦ, ᕿᒥᕐᕈᔭᐅᖅᑳᖅᑎᓪᓗᒍ ᐊᒻᒪᓗ ᐃᓱᒪᒃᓴᖅᓯᐅᕆᔭᐅᑉᓗᑎᒃ ᐱᓕᕆᐊᕆᔭᐅᓂᐊᖅᑐᑦ, ᐃᓱᒫᓘᑏᑦ ᐊᒻᒪᓗ ᑐᑭᓯᐅᒪᔾᔪᑎᓗᒃᑖᑦ ᐱᔭᐅᔪᑦ ᑲᑎᒪᔩᓄᑦ ᐃᓱᒪᒃᓴᖅᓯᐅᕆᓂᓗᒃᑖᒥᑦ ᑕᕆᐅᓕᒃ ᑯᕕᑎᑕᐅᔪᒪᔪᖅ ᑕᕆᐅᕐᒧᑦ ᑐᒃᓯᕋᐅᑎᐅᑉ ᒥᒃᓵᓄᑦ, ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᐋᖅᑭᒃᓯᒪᓕᐅᖅᑐᑦ ᐱᓕᕆᐊᖑᒃᐸᑦ ᒪᓕᒡᓗᒋᑦ ᑲᑎᒪᔩᑦ ᐃᒪᓐᓈᖅᑑᑎᖏᑦ, ᑐᒃᓯᕋᐅᑕᐅᔪᖅ ᐋᖅᑭᒋᐊᖅᓯᒪᓂᕐᒧᑦ ᑕᓯᕐᔪᐊᕐᒥᑦ ᒎᓗᒧᑦ ᐱᓕᕆᐊᕐᒧᑦ ᓚᐃᓴᓐᓯᓕᕆᔨᓄᐊᖅᑕᐅᔪᓐᓇᖅᑐᖅ ᐊᒻᒪᓗ ᐳᒥᑦ-ᓕᕆᓂᕐᒧᑦ ᒪᓕᒐᓕᕆᓂᕐᒧᐊᖅᑕᐅᓗᓂ ᐃᓚᐅᓗᑎᒃ ᐊᓯᐊᙳᕐᓂᐅᔪᑦ ᐊᒻᒪᓗ ᐃᓚᓯᓂᐅᔪᑦ ᑕᐃᒪᐅᔪᒥᑦ ᑐᑭᐅᔪᑦ ᐊᒻᒪᓗ ᖃᓄᐃᖓᔭᕆᐊᖃᕐᓂᐅᔪᓄᑦ ᐱᓕᕆᐊᕐᒧᑦ ᓇᓗᓇᐃᒃᑯᑎ ᓈᓴᐅᑎ 006-ᒥᑦ ᐊᒻᒪᓗ ᐱᓕᕆᐊᕐᒥᒃ ᖃᐅᔨᒋᐊᖃᑦᑕᕐᓂᕐᒧᑦ:

- ᐅᑉᓗᒥᒎᓕᖅᑐᐃᓃᑦ ᑕᐃᒪᐅᔪᒥᑦ ᑕᕆᐅᓕᒃ ᐊᒻᒪᓗ ᓄᓇᒥᑦ ᐃᒪᕐᒥᒃ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᐸᕐᓇᐅᑎ ᐊᒻᒪᓗ ᐱᓕᕆᐊᕐᒥᒃ ᖃᐅᔨᒋᐊᖃᑦᑕᕐᓂᕐᒧᑦ ᐱᔭᕆᐊᓖᑦ ᐊᔾᔨᒋᓂᐊᕐᓗᒍ ᑕᕆᐅᓕᒃ ᑯᕕᑎᑕᐅᔪᒪᔪᖅ ᑕᕆᐅᕐᒧᑦ ᑐᒃᓯᕋᐅᑎ;
- ᐃᓚᓕᐅᑎᓂᐅᔪᖅ ᑐᑭᐅᔪᓄᑦ ᐊᒻᒪᓗ ᖃᓄᐃᖓᔭᕆᐊᖃᕐᓂᐅᔪᓄᑦ ᐊᒡᓃᑯᒃᑯᓐᓂᑦ ᐊᕙᑎᓕᕆᔨᒃᑯᓐᓄᑦ ᑐᓂᓯᑎᑦᑎᔭᕆᐊᖃᖅᑐᖅ ᓇᓗᓇᐃᔭᖅᓯᒪᔪᓂᒃ ᐋᖅᑭᐅᒪᔪᓂᒃ ᐊᒻᒪᓗ ᖃᐅᔨᓴᐃᓗᑎᒃ ᐅᓗᕆᐊᓇᖅᑐᖃᕋᔭᕐᓂᖓᓄᑦ ᐊᒻᒪᓗ ᐊᐅᓚᔨᓐᓇᖃᕋᔭᕐᓂᖓᓄᑦ ᑕᕆᐅᓕᖕᒥᑦ ᑯᕕᑦᑎᓂᐅᓂᐊᖅᑐᒥᒃ (ᐃᒪᖃᐅᓯᕝᕕᒃ, ᓱᑉᓗᓕᒃ, ᐊᒻᒪᓗ ᐃᒪᕐᒥᑦ ᓯᐊᒻᒪᒃᑎᑦᑎᔾᔪᑎ) ᐃᑎᕕᐊᓂᑦ ᑕᖅᑮᑦ ᐊᕐᕕᓂᓖᑦ (6) ᓯᕗᓂᐊᒍᑦ ᐊᐅᓖᖅᑎᑦᑎᓂᐅᑉ;
- ᐃᓚᓕᐅᑎᔭᐅᒃᑲᓐᓂᖅᑐᑦ ᑐᑭᐅᔪᓄᑦ ᐊᒻᒪᓗ ᖃᓄᐃᖓᔭᕆᐊᖃᕐᓂᐅᔪᓄᑦ ᐸᕐᓇᐃᓂᕐᒧᑦ ᐲᖅᑕᐅᓂᐊᕐᓂᖓᓄᑦ ᑕᕆᐅᒦᑦᑐᖅ ᓱᑉᓗᓕᒃ ᐊᒻᒪᓗ ᓯᐊᒻᒪᒃᑎᑦᑎᔾᔪᑎ ᑕᕆᐅᓕᖕᒥᒃ ᐃᒪᕐᒥᒃ ᐋᖅᑭᐅᒪᔪᖅ ᐊᑐᖅᑕᐅᔪᓐᓃᖅᐸᑦ;
- ᐃᓚᓕᐅᑎᔭᐅᒃᑲᓐᓂᖅᑐᑦ ᑐᑭᐅᔪᑦ ᐊᒻᒪᓗ ᖃᓄᐃᖓᔭᕆᐊᖃᕐᓂᐅᔪᑦ ᐱᔭᕆᐊᖃᖅᑎᑦᑎᔪᑦ ᐊᒡᓃᑯᒃᑯᓐᓂᑦ ᑑᕌᖓᔪᓕᐅᕐᓗᑎᒃ, ᐅᖃᖃᑎᒋᓗᒋᑦ ᑲᖏᖅᖠᓂᕐᒥᑦ ᐆᒪᔪᓕᕆᐊᓛᒃᑯᑦ ᐊᒻᒪᓗ ᑲᖏᖅᖠᓂᕐᒥᑦ ᓄᓇᓕᖕᒥᐅᑕᐃᑦ: ᖃᐅᔨᓂᐊᕐᓗᑎᒃ ᖃᖓᒃᑯᑦ ᐅᑭᐅᑉ ᐃᓗᐊᓂ ᐊᐅᓛᕐᓂᕆᓂᐊᖅᑕᖓᓐᓂᒃ ᑯᕕᑦᑎᓂᕐᒧᑦ ᑕᕆᐅᓕᖕᒥᑦ ᐃᒪᕐᒥᒃ ᐋᖅᑭᐅᒪᔪᒥᒃ; ᖃᐅᔨᒋᐊᖃᑦᑕᕐᓂᕐᒧᑦ ᐆᓇᕐᓂᖓ ᑯᕕᑎᑕᐅᔪᑉ ᑕᕆᐅᒦᑦᑐᒥᑦ ᓱᑉᓗᓕᒃᑯᑦ; ᖃᐅᔨᒋᐊᖃᑦᑕᕐᓂᖅ ᐃᐸᔪᓂᖅᓗᑕ ᓱᑯᑉ ᐃᑎᕕᐊᓂᑦ ᑕᕆᐅᒥᑦ ᑯᕕᑎᑕᐅᔪᒥᑦ; ᐊᒻᒪᓗ ᑐᓴᒪᒃᑦᑕᐅᑎᓕᐅᕐᓗᑎᒃ ᐊᑐᕐᓂᐊᕐᓗᒍ ᐊᒻᒪᓗ ᐅᓄᐊᓄᖅᑐᖃᕋᔭᕐᓂᖓᓄᑦ ᐊᑐᕐᓂᐊᖅᑐᓂᑦ ᖃᓄᐃᙳᐊᖅᑐᓂᑦ ᖃᐅᔨᓴᖅᑎᑦᑎᓂᐊᖅᑐᓂᑦ ᐃᖏᕐᕋᔾᔪᑎᕕᓂᕐᓄᑦ ᓄᓇᓕᖕᒥᐅᓄᑦ ᐃᑎᕕᐊᒃᑯᑦ ᐱᑕᖃᕆᐊᖃᕐᓂᖓᓄᑦ ᒥᒃᓵᓄᑦ; ᐊᒻᒪᓗ
- ᐅᑉᓗᒥᒎᓕᖅᑐᐃᓗᑎᒃ ᑕᐃᒪᐅᔪᒥᒃ ᑕᕆᐅᕐᒥᑦ ᐆᒪᕐᓴᖅᑲᑎᒌᖕᓂᖓᓄᑦ ᐊᒻᒪᓗ ᐃᒪᕐᒥᐅᑕᐃᑦ ᐆᒪᔪᑦ ᒥᒃᓵᓄᑦ ᖃᐅᔨᒋᐊᖃᑦᑕᕐᓂᕐᒧᑦ ᐃᓚᐅᑉᓗᓂ ᑕᕆᐅᓕᒃ ᑯᕕᑎᑕᐅᔪᒪᔪᖅ ᖃᐅᔨᒋᐊᖃᑦᑕᕐᓂᖅᓴᖅ ᐊᒻᒪᓗ ᑎᑎᖅᑲᐃᑦ ᐃᓚᒋᔭᐅᔪᖅ D ᐊᐅᓪᓚᖅᑎᑦᑎᖃᑦᑕᕐᓂᕐᒧᑦ ᐊᐅᓚᑦᑎᓂᕐᒥᒃ ᐸᕐᓇᐅᑎ ᑕᑯᒃᓴᐅᑎᓪᓗᒍ ᖃᓄᐃᙳᓕᖅᑎᑦᑎᓂᐅᑐᐃᓐᓇᕆᐊᖃᕐᓂᐅᔪᖅ ᐱᔾᔪᑎᖃᖅᑐᑦ ᐃᓚᓯᓂᐅᔪᓂᒃ ᐊᖏᖅᑎᒋᓂᖅᑕ ᑕᕆᐅᕐᒥᑦ ᓄᓇᒥᑦ ᐃᒪᕐᒥᒃ ᑕᕆᐅᒧᑦ ᑯᕕᑎᑕᐅᓂᖅ.

ᐱᐊᓂᒃᐸᓪᓕᐊᓂᕐᒧᑦ, ᑲᑎᒪᔩᑦ ᖁᔭᓕᔦᑦ ᑐᓂᓯᓚᐅᖅᑐᓕᒫᓄᑦ ᐊᑐᕐᓂᑯᖏᓐᓂᒃ ᖃᐅᔨᒪᔭᖏᓐᓂᒃ, ᐊᔪᙱᓐᓂᕆᔭᖏᓐᓂᒃ, ᐊᒻᒪᓗ ᑕᐅᑐᒃᑕᖏᓐᓂᒃ ᐃᑲᔪᕐᓗᑕ ᐱᐊᓂᒃᓯᓂᕐᒧᑦ ᐃᓗᐃᑦᑐᖓᔪᒃᑯᑦ ᐊᒻᒪᓗ ᐊᑯᓂᓗᐊᙱᑦᑐᒥᒃ ᕿᒍᕙᙱᑦᑐᒥᒃ ᖃᐅᔨᓴᐃᓂᕐᒥᒃ ᐋᖅᑭᐅᒪᓕᕐᒥᒃ ᑐᒃᓯᕋᐅᑎᒥᑦ. ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᐃᓕᑕᖅᓯᔦᑦ ᐊᒻᒪᓗ ᖁᐊᕿᑦᓯᖏᑦ ᐱᐅᓯᐅᑉᓗᑎᒃ, ᐱᓕᕆᖃᑎᖏᓐᓂᒃ, ᐊᒻᒪᓗ ᐃᒃᐱᒋᔭᖃᖅᑳᕐᓂᖏᓐᓂᒃ ᑐᓯᔦᓂᒃ ᑭᑐᒃᑖᓂᒃ ᐱᓕᕆᖃᑎᒋᓂᖅᑕᖏᓐᓄᑦ ᑕᓯᐊᕐᓂᒃ ᒎᓗᒧᑦ ᐅᔭᖅᑕᕆᐊᖅ ᐱᓕᕆᐊᖅᑕᖅᑐᒍ ᐱᓕᕆᐊᒃᓴᖅᑐᖅ ᐃᑲᔪᐃᓂᖅᑕᖏᓐᓂᒃ ᕿᓚᓗᐊᓪᓗᓕᒥᑦ ᒥᑭᑐᐊᕐᒥᒃ ᐊᓐᓂᕐᓂᖅᓴᖅᑐᖅ ᐊᕐᓂᑎᓐᓂ ᐃᓄᐃᑦ-ᐱᓪᓚᖅᑯᑐᖕᓂᐊᕐᓃᖕᓂᖅ ᐊᒻᒪᓗ ᐆᒪᖅᑲᖅᑎᕈᓂᖅᑕᐅᔪᖅ.

SOMMAIRE

La Commission du Nunavut chargée de l'examen des répercussions (CNER ou la Commission) a publié un rapport de réexamen et des recommandations pour présenter les résultats de son évaluation de la « Proposition de rejet des effluents salins dans le milieu marin » d'Agnico Eagle Mines Ltd., (Agnico Eagle). En effet, la compagnie envisage d'apporter des modifications au projet de mine d'or Meliadine préalablement approuvé (no. de dossier 11MN034 de la CNER), situé près de Rankin Inlet, Nunavut. Les activités proposées incluent le camionnage, l'entreposage temporaire et le rejet d'eaux souterraines salines traitées, provenant des puits souterrains de la mine d'or Meliadine dans la baie Melvin à Itivia Harbour pendant la saison des eaux libres. Agnico propose d'appliquer une méthode d'évacuation des eaux salines en sus de la pratique préalablement approuvée de traitement des eaux provenant de l'exploitation souterraine puis de déverser cette eau dans le Lac Meliadine par le biais d'un bassin de stockage.

La CNER a reçu la proposition de rejet des effluents salins en janvier 2018 de la Commission d'aménagement du Nunavut (la Commission). Dans son renvoi, la Commission confirmait que les ouvrages proposés respectaient le plan d'aménagement régional du territoire de Keewatin. Elle ajoutait, qu'en raison du changement du site de rejet des effluents salins dans le milieu marin et de la méthode révisée de traitement des eaux, la proposition modifiait grandement le projet approuvé de la mine d'or Meliadine.

Après avoir sollicité et reçu des commentaires de la population, des parties intéressées et des organismes de réglementation vis-à-vis de la proposition de rejet des effluents salins, la CNER a estimé que les changements proposés justifiaient un réexamen des modalités et conditions de l'actuel certificat no.006 du projet de mine d'or Meliadine, conformément à l'alinéa 12.8.2 de l'article 12 de *l'Accord entre les Inuit de la région du Nunavut et sa Majesté la Reine du Chef du Canada (Accord sur le Nunavut*) et l'article 112 de la *Loi sur l'aménagement du territoire et l'évaluation des projets au Nunavut (LATEPN*).

Au cours du processus de réexamen, la CNER a maintes fois invité des représentants des gouvernements fédéral, territoriaux et locaux, du Nunavut Tunngavik Inc., de la Kivalliq Inuit Association, de l'organisation de chasseurs et trappeurs de Kangiqliniq et de la population, à partager leur point de vue sur la proposition de rejet des effluents salins, poser des questions et à formuler leurs préoccupations quant aux possibles effets écosystémiques et socioéconomiques (positifs et négatifs) des ouvrages et activités proposés. Ainsi, une session d'information communautaire en face à face a été organisée le 11 septembre 2018 et une audience publique ouverte a été tenue les 12 et 13 septembre 2018 à Rankin Inlet.

Tout au long de ce processus, la Commission a entendu des inquiétudes suscitées par les éventuelles répercussions (incluant les effets cumulatifs) du rejet des eaux souterraines salines du site Itivia, non seulement sur l'écosystème marin - et en particulier sur les mammifères marins, les invertébrés et les poissons, mais encore sur la formation de la glace dans la région ce qui pourrait

empêcher les membres de la communauté d'utiliser pleinement cette zone pour les récoltes et les transports. La Commission a également entendu des inquiétudes quant au volume de poussière soulevée par les camions citernes transportant l'eau saline souterraine de la mine jusqu'aux réservoirs du site Itivia, 16 fois par jour, aller-retour, pendant la saison des eaux libres. Les éventuelles répercussions du glissement, du craquage et autres dommages du pipeline et du blindage connexe sur les conditions des marées et de la glace au site Itivia, en inquiétaient plus d'un.

Tel que détaillé dans le rapport de la Commission, et après examiné et soupesé les questions techniques, les préoccupations et tous les renseignements qui lui ont été fournis pendant le processus de réexamen de la proposition de rejet d'effluents salins, la Commission a conclu qu'à condition d'être réalisée conformément aux recommandations énoncées, cette proposition de modification du projet de mine d'or Meliadine pouvait progresser jusqu'à l'étape des autorisations règlementaires et de délivrance de permis avec les changements et ajouts suivants imposés aux modalités et conditions du Certificat no.006 et au programme de surveillance du projet.

- Actualisation des actuelles exigences de planification de la gestion des eaux salines et souterraines et des exigences de surveillance du projet, afin de traduire la proposition de rejet des effluents salins;
- Ajout de modalités et conditions exigeant qu'Agnico soumette à la CNER des concepts détaillés et entreprenne des évaluations des risques et de l'opérabilité du système d'évacuation des effluents salins (réservoirs, pipeline et diffuseur marin) au site Itivia, au moins six (6) mois avant sa mise en fonction;
- Modalités et conditions supplémentaires pour planifier le retrait du pipeline sous-marin et du diffuseur lorsque le système d'évacuation des effluents salins n'est plus en fonction;
- Ajout d'une modalité et d'une condition exigeant que, en consultation avec l'organisation des chasseurs et des trappeurs Kangiqliniq et la communauté de Rankin Inlet, Agnico élabore un plan pour identifier la saison d'activité du système d'évacuation des effluents salins, pour contrôler la température des effluents s'écoulant dans le pipeline sous-marin, pour surveiller l'épaisseur de la glace dans la Melvin Bay, aux environs du point de rejet ainsi que pour élaborer et mettre en vigueur des protocoles de sécurité et de communications applicables à d'éventuelles répercussions sur les déplacements des membres de la communauté à travers Itivia et la baie Melvin; et
- Mises à jour des programmes en vigueur de surveillance de l'écosystème marin et des mammifères marins, y compris le plan de surveillance des rejets dans l'océan et l'annexe D du plan de gestion maritime, afin de traduire les effets possibles inhérents au déversement de ce volume d'effluents d'eaux souterraines salines dans le milieu marin.

En terminant, la Commission remercie sincèrement tous ceux et celles qui, par leurs expériences, leur expertise et leurs points de vue, l'ont aidée à effectuer une évaluation toute aussi rigoureuse qu'opportune de cette proposition de modification. La CNER reconnait et apprécie les contributions positives, respectueuses et collaboratives de tous les intervenants qui œuvrent sans cesse pour que le projet de mine d'or Meliadine continue à engendrer de durables retombées économiques pour la région de Kivalliq tout en minimisant la probabilité de négatives répercussions écosystémiques et socioéconomiques.

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1. INTRODUCTION

1.1 Purpose of this Report

This Reconsideration Report and associated recommendations have been prepared by the Nunavut Impact Review Board (NIRB or Board) to summarize the Board's reconsideration of the terms and conditions of Project Certificate No. 006 in light of the "Saline Effluent Discharge to the Marine Environment" proposed modifications to the Meliadine Gold Mine (NIRB File No. 11MN034) (Saline Effluent Discharge Proposal or Modification Proposal) as proposed by Agnico Eagle Mines Limited (Agnico Eagle or Proponent).

As set out under s. 112(5) of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (*NuPPAA*), when the Board has conducted a reconsideration of the terms and conditions in a previously approved Project Certificate, the Board is required to report to the responsible Minister(s) as follows:

> (5) Within 45 days after the end of the Board's reconsideration under subsection (1) or (2), the Board must submit a written report to the responsible Minister that contains
>
> > (a) an assessment of the terms and conditions in force; and
> >
> > (b) any terms and conditions that it recommends should apply in respect of the project.

This Reconsideration Report summarizes the NIRB's assessment of the potential ecosystemic and socio-economic effects of the Saline Effluent Discharge Proposal and concludes that the Modification Proposal should be allowed to proceed. Having concluded that the Modification Proposal should be allowed to proceed, the NIRB has also provided recommended revisions and additions to the Terms and Conditions of existing Project Certificate No. 006 for the Project and also revisions to the Monitoring Program for Project Certificate No. 006 consistent with objectives of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada* (*Nunavut Agreement*) and the *NuPPAA.* The Report further describes in detail the factors taken into consideration, providing details about the Modification Proposal, a summary of all the comments received to date for the Proposal, and outlining the environmental and socio-economic factors given consideration by the NIRB during the Board's assessment of the Saline Effluent Discharge Proposal.

1.1.1 The NIRB's Approach to Assessing Modifications to Previously Approved Projects

As described in more detail in the text below, the Meliadine Gold Mine Project is currently being constructed and was assessed by the NIRB from 2011-2014 and is governed by the terms and conditions set out in NIRB Project Certificate No. 006. In determining the process and procedure guiding NIRB's assessment of the Modification Proposal, the Board considered whether the Saline Effluent Discharge Proposal should be assessed via a NIRB screening or a reconsideration of the terms and conditions of Project Certificate No. 006 under Article 12, Section 12.8.2 of the *Nunavut Agreement* and s. 112 of the *NuPPAA.* The following factors were considered by the Board to determine the appropriate assessment process:

- Was the Saline Effluent Discharge Proposal included within the scope of the assessment of the Meliadine Gold Mine Project (as an alternative means of carrying out the project or even preferred alternative)?
- Was the Saline Effluent Discharge Proposal integrally linked to the Meliadine Gold Mine Project or could the Modification Proposal be characterized as constituting a stand-alone project proposal?
- If the Saline Effluent Discharge Proposal is integrally linked to the Meliadine Gold Mine Project, do the modifications proposed warrant reconsideration of the terms and conditions in Project Certificate No. 006?

The NIRB considered the modification to be within the scope of, and integrally linked to, the original Meliadine Gold Mine Project. Therefore, the NIRB determined that, as established under Article 12, Section 12.8.2 of the *Nunavut Agreement* and s. 112 of *NuPPAA*, a reconsideration of the Terms and Conditions of Project Certificate No. 006 would be the appropriate process to assess the Modification Proposal. The Board further recognized that a comprehensive reconsideration process could also identify additional terms and conditions that would be warranted for inclusion in an updated Project Certificate. Having established that terms and conditions within Project Certificate No. 006 require reconsideration, the Board initiated an assessment of the Saline Effluent Discharge Proposal, including the conduct of a Public Hearing, in accordance with the NIRB's Rules of Procedure.[1]

[1] *NIRB Rules of Procedure*, September 3, 2009.

1.1.2 The Original Meliadine Gold Project

Agnico Eagle Mines Limited (Agnico Eagle or the Proponent) is currently developing the approved Meliadine Gold Mine Project, located approximately 25 km (15.5 miles) north of Rankin Inlet, and 80 km (49.7 miles) southwest of Chesterfield Inlet in the Kivalliq Region of Nunavut (Figure 1). The approved Mine Plan proposes mining methods for the development of the Tiriganiaq gold deposit, with two (2) open pits (Tiriganiaq Pit 1 and Tiriganiaq Pit 2) and one (1) Underground Mine. There are four (4) phases to the development of the Meliadine Gold Mine: just over four (4) years of construction (Q4 2015 to 2019); eight (8) years of Mine operation (2020 to 2027); three (3) years of closure (2028 to 2030); and post-closure (2031 forward).

The previously approved mining facilities for the Meliadine Gold Mine Project include a plant site and accommodation buildings; three (3) ore stockpiles; a temporary overburden stockpile; a tailings storage facility; three (3) waste rock storage facilities; a water management system that includes containment ponds, water diversion channels, and retention dikes/berms; and a Water Treatment Plant. At Rankin Inlet, the existing Itivia dock is receiving materials barged from Canada's eastern ports during the open water season and a fuel storage/tank farm and laydown area were constructed adjacent to the Rankin Inlet airport. This area serves as a transfer and storage facility for materials and supplies (i.e., fuel, reagents, supplies etc.) enroute to the Meliadine mine site. The Rankin Inlet Airport is also used to bring personnel from the south and any materials that cannot be barged. Materials brought in by air are moved directly to site via the bypass road and the all-weather access road (AWAR).

The Type "A" Water Licence for the Meliadine Project allows Agnico Eagle to treat the groundwater coming into the underground workings and discharge it to Meliadine Lake through a collection pond.

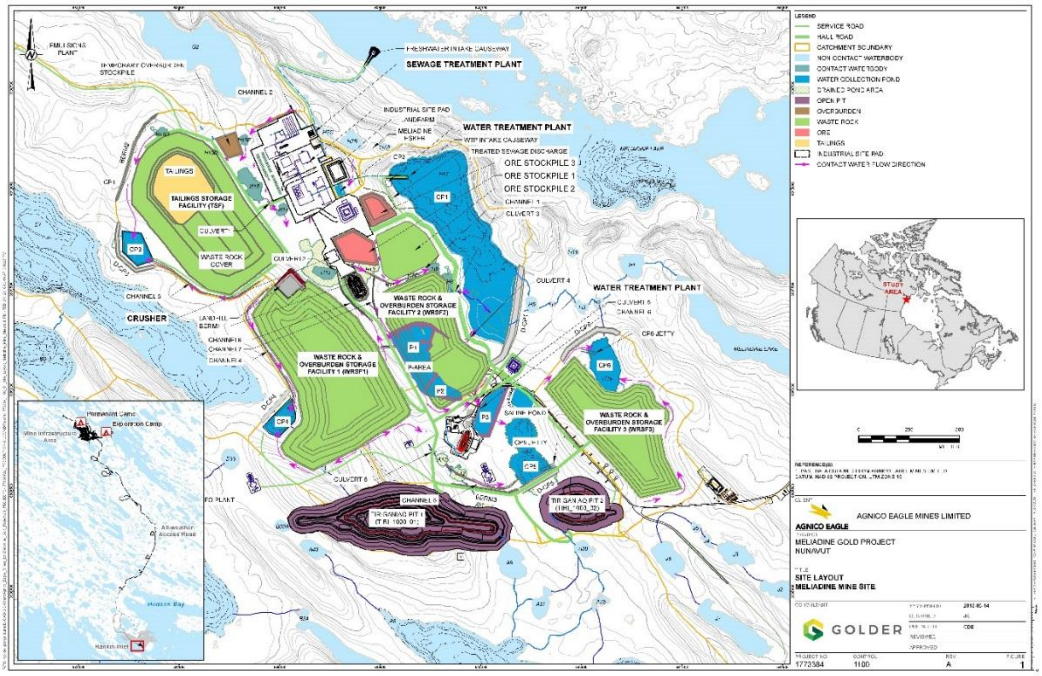

Figure 1: Site-Layout - Meliadine Mine

1.1.3 Exception of Phase 1 of the All-weather Access Road Under 12.10.2

In addition to its Meliadine Gold Mine Project Proposal, Agnico Eagle also submitted an additional separate and stand-alone application for the construction and operation of a single lane all-weather road (AWAR) referenced as "Phase 1" for consideration as an exception from the Review of the Meliadine Gold Mine Project under Article 12, Section 12.10.2(b) of the *Nunavut Agreement* as a pre-development activity. Phase 1 was proposed to be used solely for the transportation of fuel and materials to the Meliadine site in support of the bulk sampling program as well as Agnico Eagle's ongoing exploration in the area that was previously assessed via a screening conducted by the Board (NIRB File No. 10EA018). The limited development of Phase 1 of the road for exploration purposes was not included within the scope of the Review of the larger Meliadine Gold Mine Project, but the road development necessary for full mine support was included within the NIRB's Review of the Meliadine Gold Mine Project considered as Phase 2 of the AWAR development. To date, the full Phase 2 upgrading of the road for the purposes of the mine has not yet been completed.

1.2 Saline Effluent Discharge Proposal

The Saline Effluent Discharge Proposal (or Modification Proposal) involves a proposed discharge of saline effluent (salty or saline groundwater) from the Tiriganiaq Underground Mine to the marine environment at Melvin Bay by Rankin Inlet. The Tiriganiaq Underground Mine is planned to extend to approximately 625 metres (m) (683.5 yards) below the ground surface and therefore,

part of the Underground Mine will operate below the continuous permafrost layer. Consequently, Agnico Eagle predicted that the underground excavations would act as a sink for salty groundwater flow during operation once workings have advanced below the base of the permafrost.

Based on the predicated flows of groundwater into the underground workings, Agnico Eagle has found that additions to the Proponent's original short-term and long-term groundwater management strategy are required. Salty groundwater inflow to the Underground Mine is expected to range between 300 cubic metres (m^3)/day (79,252 gallons/day) in 2018 to 420 m^3/day (110,952 gallons/day) in 2023 and 2024.

The Type "A" Water Licence for the Meliadine Project allows Agnico Eagle to treat the salty groundwater flowing into the underground workings (by removing the salt) and then discharging the treated water to Meliadine Lake through collection ponds at the surface. Agnico Eagle is proposing to continue using the currently licenced practices, but to add to this approved practice by also discharging a portion of the salty groundwater into the ocean either as a direct discharge and/or after temporary on-site storage in one (1) or more of the water containment ponds at the mine. Ocean discharge is currently not authorized under the existing regulatory permits for the Meliadine Gold Mine Project and would require Agnico Eagle to obtain additional authorizations for the marine discharge from regulators.

For the ocean (marine) discharge option, the saline effluent would be trucked from the mine and discharged into Melvin Bay at Itivia Harbour. The discharge facility would include a saline water storage tank at the existing Itivia Fuel Storage Facility and a pipeline extending to an engineered diffuser located in Melvin Bay (Figure 2). Discharges would only take place during the open water season from 2019 to 2032.

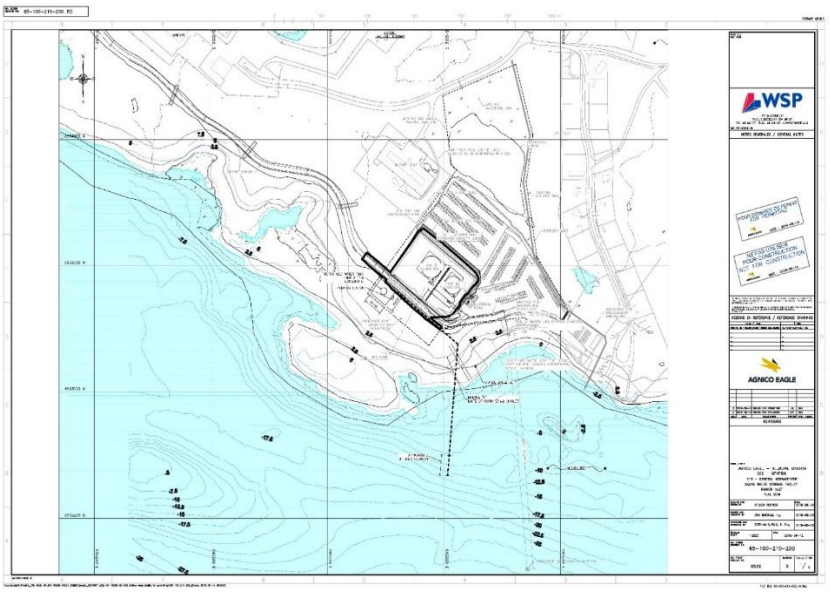

Figure 2: Site Layout - Itivia Storage Facility (Drawing 65-100-210-200)

The scope of the Saline Effluent Discharge Proposal includes the following undertakings, works, or activities which would continue for the life of mine (2019-2032):

- treatment of saline groundwater, as necessary, to ensure it meets criteria for discharge into the marine environment;
- transportation of treated groundwater by water tanker trucks, with up to 16 round trips to Itivia (32 one-way trips);
- construction of a new 2,000 m^3 (528,344 gallon) unheated storage tank adjacent to the existing fuel tank farm at the Itivia site for storage of treated groundwater until release;
- discharge of up to 800 m^3 per day (211,338 gallons/day) directly into Melvin Bay during the open water season (from approximately May to October);
    - Installation, operation, and eventual abandonment of a seven (7) to 10 centimetres (3 or 4-inch) diameter high-density polyethylene pipeline approximately 350 m (1148 feet) in length from the storage tank (or 230 m/755 feet from shoreline) covered in protective rock casing onshore and through the tidal zone; and
    - Placement of the pipeline on the seabed at approximately 20 m (66 feet) below the water at the diffuser end.

Agnico Eagle noted that the saline ground water would only be released during the open water period, and during the winter months would either be stored underground in the Tiriganiaq mine workings or in designated surface ponds as is currently approved under the Type "A" Water Licence No. 2AM-MEL1631 for the Meliadine Mine.

In the Saline Effluent Discharge Proposal Agnico Eagle acknowledged that the disposal of saline groundwater, including transportation from the mine to the discharge area as well as construction of the outflow pipe and supporting activities, could result in increased impacts beyond those previously assessed for the original Meliadine Gold Mine Project. However, due to the activities being located within the existing Project Development Area for the Meliadine Gold Mine Project as well as the release being limited to the open water period only, Agnico Eagle predicted that the Modification Proposal would not result in any significant ecosystemic and socio-economic effects.

Table 1 below compares the scope of the Saline Effluent Discharge Proposal against that of the currently approved operations for the Meliadine Gold Mine Project and describes the extent to which the modifications to the Meliadine Gold Mine Project would comply with relevant conditions in the existing Project Certificate No. 006 or would require changes.

Table 1: Scope of Saline Effluent Discharge Proposal as compared to current operations

Component	Comparison to Current Operations under the Approved Project	Project Certificate Amendment
Mine Site Operation	Activities at mine site would not change	No change required
Treatment of saline groundwater	Approved to use above ground storage areas and treat through evaporation; NOTE: currently treating groundwater via evaporators, Actiflo, and reverse osmosis	Potential change to T&C 25
Transportation of treated groundwater on AWAR	Phase 1 of All Weather Access Road (AWAR) currently in operations (approved by the Board as a 12.10.2 exception application, then becoming part of the approved mine)	Potential for incorporation of AWAR Phase 1 into Project Certificate by amending T&C 25
Designated Storage Tank at Itivia	Would be constructed in an area already utilized by Agnico Eagle	No change required
Itivia Port Site and Tank Farm Operation	Activities at the laydown/tank farm area would not change; increased vehicle traffic due to trucking of water NOTE: Bypass road is due to officially open in the fall of 2018	No change required
Approximately 350-metre-long pipeline with diffuser	New activity to the area	Likely additional term and conditions would be recommended

Component	Comparison to Current Operations under the Approved Project	Project Certificate Amendment
Marine discharge	New activity	While Crown Indigenous Relations Northern Affairs Canada (CIRNAC), Environment and Climate Change Canada (ECCC), Fisheries and Oceans Canada (DFO) and Transport Canada (TC) permit the operations through various permits and licences, additional terms and conditions may be recommended.

1.3 Board Guidance to Proponent in Preparation of Impact Assessment

On April 16, 2018 the NIRB provided guidance to the Proponent regarding the preparation of an Addendum to the Final Environmental Impact Statement (FEIS) to support the NIRB's assessment of the Modification Proposal. In this correspondence, the NIRB included specific information requirements for the FEIS Addendum and noted that the Addendum should demonstrate compliance with the EIS Guidelines originally issued for the Meliadine Gold Mine Project and with Article 12, Section 12.5.2 of the *Nunavut Agreement* and s. 101(3) of the *NuPPAA*.

1.4 Procedural History

1.4.1 Key Procedural Steps in the Reconsideration

Table 2 that follows summarizes the key steps in the Board's assessment of the Saline Effluent Discharge Proposal and reconsideration of the Meliadine Gold Mine Project Certificate No. 006, commencing with the referral from the Nunavut Planning Commission and concluding with the NIRB conducting a two-day Public Hearing in Rankin Inlet. Appendices A and B are the Record of Proceedings and the List of Exhibits from the Public Hearing respectively from that Hearing.

As this summary is not exhaustive, parties wishing to develop a more complete understanding of the activities associated with the NIRB's assessment for of the Modification Proposal are encouraged to consult the complete listing of all documentation available from the NIRB's online public registry. All documentation associated with the NIRB's assessment of the Modification Proposal, including the complete FEIS Addendum, is available online from the NIRB's public registry for the Meliadine Gold Mine Project at http://www.nirb.ca/project/124106.

Table 2: Procedural History

Date	Party	Process Step	Notes
January 4, 2018	Nunavut Planning Commission	Project proposal referred to NIRB for assessment	Nunavut Planning Commission (the Commission) noted proposal conforms to Keewatin Regional Land Use Plan and represented a significant modification to the approved Meliadine Gold Mine Project.
January 26, 2018	NIRB	Additional information requested to clarify scope	NIRB required information to clarify scope of amendment.
February 15, 2018	Agnico Eagle	Proponent provides required information	
February 20, 2018	NIRB	Notice of proposal circulated to parties	Parties asked to comment on proposal and assessment process.
March 13, 2018	Parties	Comments received from parties on appropriate assessment process	Comments from Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC), Fisheries and Oceans Canada (DFO), Environment and Climate Change Canada (ECCC), Health Canada, Natural Resources Canada, and Transport Canada (TC).
March 16, 2018	NIRB	Opportunity to address comments	Agnico Eagle provided with an opportunity to respond to comments from parties.
March 28, 2018	Agnico Eagle	Response to comments submitted	
April 6, 2018	NIRB	Notice of reconsideration circulated	
April 16, 2018	NIRB	Guidance on submission of FEIS Addendum	Agnico Eagle provided with guidance on requirements for its impact statement.
April 30, 2018	Agnico Eagle	Confirm submission of FEIS Addendum	Expected submission date of June 18, 2018.
June 19, 2018	Agnico Eagle	FEIS Addendum submitted	
June 22, 2018	NIRB	Public Hearing announced, technical review commenced	The NIRB accepted Agnico Eagle's FEIS Addendum as complete; Public Hearing announced, including request for Intervenors.
July 30, 2018	NIRB	Intervenor status granted	Intervenor status granted to Kangiqliniq Hunters and Trappers Organization (KHTO).

Date	Party	Process Step	Notes
August 16, 2018	NIRB	Community information session	Information session planned for Rankin Inlet was postponed.
August 21, 2018	Parties	Receipt of final written submissions	Submissions received from Nunavut Tunngavik Inc., Kivalliq Inuit Association, Government of Nunavut, CIRNAC, ECCC, DFO, TC, and KHTO.
August 22, 2018	NIRB	Final written submissions sent to Agnico Eagle	Proponent provided with opportunity to respond to final written submissions.
August 28, 2018	Agnico Eagle	Response to Final Written Submissions	Proponent provided a response to final written submissions received from Parties.
August 29, 2018	NIRB	Public Hearing agenda circulated	
September 11, 2018	NIRB	Community Information Session	Community Information Session conducted in the evening for interested members of the community in Rankin Inlet.
September 12 – 13, 2018	NIRB	Public Hearing held in Rankin Inlet	Technical session and Community Roundtable held over two (2) days, including an evening session.
September 17, 2018	NIRB	The Public Hearing Record closed	As requested by Agnico Eagle at the Public Hearing, following the receipt of information from Agnico Eagle about the outcome of a meeting with the KHTO and the receipt of any reply submissions from Intervenors and the public, the Public Hearing Record for the file closed.

1.5 Evidentiary Issues

1.5.1 The Burden and Standard of Proof

During the NIRB's assessment of the Saline Effluent Discharge Proposal, the burden of establishing that the Modification Proposal is consistent with the objectives of the *Nunavut Agreement* and the *NuPPAA* rests with the Proponent. This means that throughout the Board's reconsideration, the onus was on Agnico Eagle to demonstrate that any predicted adverse ecosystemic or socio-economic impacts and environmental effects of the Saline Effluent Discharge Proposal would be prevented, mitigated, or managed if conducted under the existing Terms and Conditions of Project Certificate No. 006, and/or proposed revisions to Project Certificate No. 006 and the associated Monitoring Program.

1.5.2 The Precautionary Principle and Adaptive Management

As was the case in the Board's previous assessment of the original Meliadine Gold Mine Project, the Board recognizes that for the Saline Effluent Discharge Proposal there may be substantial gaps in data or uncertainty regarding predicted effects. As was indicated during the Board's questioning of Agnico Eagle at the Public Hearing, there are few examples of this method of disposal of saline groundwater into an Arctic marine environment:

> *As I think you heard from our Board members, they're looking for any practical experience with saline effluent discharge into a marine environment in other parts of Canada or the world, as you -- that have informed your project design and your analysis of the potential effects. So we're aware that, with the TMAC Doris North and Hope Bay projects, no discharge has occurred to date. That hasn't occurred yet. Are there other areas where discharge has occurred that have informed your analysis effects?*[2]

In response, Agnico Eagle acknowledged that there are few similar disposal projects operating, and as such, the assessment of the Modification Proposal was largely based on the prior assessment of marine disposal of saline groundwater as proposed by TMAC Resources Inc. at the existing Doris North Gold Mine Site (as approved by the NIRB in 2016)[3] combined with site-specific data from the NIRB's prior assessment of the Meliadine Gold Mine Project:

> *There's other operations, but -- that may be discharging to the sea. But based on this assessment for environmental effects, which is totally different in other jurisdictions, we focused on the information that we've collected back in the early assessment in 2011, plus the additional work we're doing now, plus we reviewed the -- the work that was completed by TMAC for Doris North. So we focused on these areas to ensure that our assessment for environmental effects would be very similar. In other areas, they may be discharging, but the environmental conditions are -- are -- would be totally different than what we're -- we're -- we're managing here. So we really focused on -- on these locations for our assessment.*[4]

In particular, the Board notes that even with the benefit of some monitoring data for some aspects of the Modification Proposal, considerable uncertainty exists regarding the effects the Saline Effluent Discharge Proposal will have on vegetation and wildlife, particularly caribou, associated with the potential increases to dust emissions along the haul road due to the additional traffic required to transport the saline groundwater from the mine site to the storage tank at Itivia (Agnico

[2] R. Barry, NIRB staff, NIRB Public Hearing File No. 11MN034 Transcript, September 12, 2018, p.98, lines 5-14.
[3] NIRB Public Hearing Registry No. 303349
[4] J. Quesnel, Agnico Eagle, NIRB Public Hearing File No. 11MN034 Transcript, September 12, 2018, pp. 98-99, lines 17-26 and 1-4.

Eagle projected that 16 additional roundtrips would be required per day during the open water season). There is also a lack of existing monitoring data to fully assess the potential for effects on marine mammals and fish from the construction and eventual reclamation of the effluent pipeline and diffuser and the potential effects associated with this volume of saline groundwater being discharged into the marine environment. Consequently, in the face of this uncertainty, the Board expects the "precautionary principle" to apply to the Modification Proposal such that a lack of scientific certainty regarding effects will not be used as a justification for inaction.

In practice, when the precautionary principle applies, as is the case with respect to the prediction of effects on the marine environment associated with the approved Meliadine Gold Mine Project in combination with the added intensity of trucking and discharge of the salty groundwater associated with the Saline Effluent Discharge Proposal, it is the Proponent who bears the burden of proof to show that despite the uncertainty, the potential adverse environmental impacts can be mitigated or prevented.

As in the Board's previous assessment of the Meliadine Gold Mine Project, in the face of uncertainty in terms of potential effects, the Board not only employs the precautionary principle, but has also uses adaptive management to integrate effects predictions with monitoring, mitigation and management functions. Under this adaptive management approach, the Board expects the Proponent to use existing monitoring data to evaluate, on an on-going basis, the effects predicted and the efficacy of mitigation and management developed and implemented to address all effects.

Throughout the Board's reconsideration associated with the Saline Effluent Discharge Proposal, the Proponent, Intervenors, the community members from Rankin Inlet, and the Board via the Board's Monitoring Officers for the Meliadine Gold Mine Project, have considered and referenced the monitoring data and mitigation and management measures already in use at the Meliadine Gold Mine Project to inform this assessment.

1.5.3 Inuit Qaujimaningit

As indicated in previous Environmental Impact Statement (EIS) Guidelines, the Board's previous decisions, and reflective of the minimum EIS requirements set out under Article 12, Section 12.5.2 of the *Nunavut Agreement* and s. 101(3) of the *NuPPAA*, in the Board's view Inuit Qaujimaningit, which encompasses Inuit Traditional Knowledge (and variations thereof) as well as contemporary Inuit knowledge that reflects Inuit societal values and experience, contributes vital information to the NIRB's assessment process. The term "Inuit Qaujimaningit" is meant to encompass local and community-based knowledge and ecological knowledge (both traditional and contemporary) which is rooted in the daily life of Inuit people and represents experience acquired over thousands

of years of direct human contact with the environment.[5,6] With its emphasis on personal observation, collective experience and oral transmission over many generations, Inuit Qaujimaningit provides factual information on such matters as ecosystem function, social and economic well-being, and explanations of these facts and causal relations among them. In this regard, Inuit Qaujimaningit has played a significant role in this assessment by contributing to the development of accurate baseline information; comparing predictions of effects with experience; and assisting in the assessment of the magnitude of predicted effects.

The Proponent was required to incorporate Inuit Qaujimaningit into its FEIS Addendum to the extent that the Proponent had access to such information and in keeping with the expectation that the Proponent would undertake appropriate due diligence to gain access to the information. However, the Board understands that the availability of such information for Agnico Eagle's use in the FEIS Addendum may be limited by obligations of confidentiality and other ethical obligations that may attach to such information, and respects where such limits have been noted.

In addition to Inuit Qaujimaningit provided as part of the FEIS Addendum, Inuit Qaujimaningit was also freely shared with the Board during the Community Roundtable portion of the Public Hearing in questions or responses provided by the intervenors, Elders, Inuit harvesters, and other community members. The NIRB has benefitted from the Inuit Qaujimaningit provided in the FEIS Addendum and shared by the participants at the Public Hearing and considers Inuit Qaujimaningit to play a central role in the Board's Review of the Project.

1.5.4 Motion to Keep the Public Hearing Record Open After the Close of the Public Hearing

On September 12, the last day of the Public Hearing, Agnico Eagle brought a motion before the Board, requesting the following:

> *…Agnico Eagle would like to make a motion to ask the Board to keep the record open for the following purpose: Agnico Eagle and the hunters and trappers are meeting tomorrow to discuss some of the ideas the hunters and trappers shared with us tonight. Agnico Eagle would like to ask the Board to keep the record open until the end of business tomorrow, 4 PM Mountain business time for the Board, to permit Agnico Eagle to submit in writing any outcomes from those discussions that*

[4] Ellis, S.C. 2005. "Meaningful Consideration? A Review of Traditional Knowledge in Environmental Decision Making." Arctic 58, 1: 66–77.

[6] Berkes, F. 1993. Traditional ecological knowledge in perspective. In: Inglis, J. (ed.), Traditional Ecological Knowledge: Concepts and Cases. Ottawa: Canadian Museum of Nature, pp. 1-9.

> *may be of interest to the Board. We ask that the record be kept open for this narrow purpose only and that the record be considered closed in all other respects.*[7]

In response, the parties at the Public Hearing did not voice objections to Agnico Eagle's request to keep the Public Hearing Record open, provided that the Board give parties an opportunity to provide any comments on any additional materials (e.g., minutes of the meeting or other such materials) filed by Agnico Eagle after the proposed meeting.

The Board adjourned the Public Hearing for a short period to consider Agnico Eagle's motion, and decided the following:

> *…the Board has granted the motion to keep the record open solely for the purposes of receiving the additional report, written confirmation of the outcome of the meeting that you* [Agnico Eagle] *will be having tomorrow morning with the [Kangliniq] HTO. The expectation is that the information will be received by the end of business on Friday, which is tomorrow, at 4 PM Kitikmeot time. In addition, the parties will be given until Monday, close of business to reply in the event that they have any comments on that additional written submission that is to be provided by Agnico Eagle…At the close of business on Monday, the record -public hearing record for this file will close, and there will be no additional verification provided by the Board at that time.*[8]

In keeping with the Board's Ruling, Agnico Eagle filed a submission on September 14, 2018 describing what was discussed at the meeting between Agnico Eagle and the Kangiliniq Hunters and Trappers Organization (KHTO) and on September 17, 2018 Nunavut Tunngavik Inc. and the KHTO confirmed the accuracy of Agnico Eagle's submission. Therefore, at the close of business on September 17, 2018 the Board closed the Public Hearing Record in respect of the assessment of the Saline Effluent Discharge Proposal and remitted the matter to the Board for decision-making.

[7] C. Kowbel, Agnico Eagle Legal Counsel, NIRB Public Hearing File No. 11MN034 Transcript, September 13, 2018, pp. 310-311, lines 25-26 and lines 1-12.
[8] T. Meadows, NIRB Legal Counsel, NIRB Public Hearing File No. 11MN034 Transcript, September 13, 2018, p. 314, lines 5-23.

2. SUMMARY OF THE PROPONENT'S ASSESSMENT OF THE SALINE EFFLUENT DISCHARGE PROPOSAL

2.1 Project Description

As described in Section 1.2 of this report, the Saline Effluent Discharge Proposal would involve the collection, storage, and transportation of saline groundwater that would collect in the Tiriganiaq Underground Mine, to be disposed of through seasonal discharge during the open water season into the marine environment at Melvin Bay adjacent to Rankin Inlet. The proposal would involve construction and operation of a storage tank on the shore of Itivia Harbour to hold the saline groundwater, as well as installation in Melvin Bay of an underwater pipeline and underwater diffuser at the end of the pipeline to facilitate the release into the marine environment.

2.1.1 Need for the Project

In the Meliadine Gold Mine Project FEIS, the Proponent assessed the potential effects of discharge of this saline groundwater to Meliadine Lake, and discharge criteria associated with releases into Meliadine Lake were included in the Type "A" Water Licence No. 2AM-MEL1631 issued to the Proponent by the Nunavut Water Board in 2016. However, other saline groundwater disposal alternatives were considered in the FEIS and during the water licensing process, and Agnico Eagle has continued to investigate these alternatives. In June 2018 when changes to the *Metal and Diamond Mining Effluent Regulations* (*MDMER*), SOR/2002-222 came into force that would enable this type of discharge into the marine environment by identifying a marine fish species that could be used for the fish toxicity testing required under the *MDMER*, Agnico Eagle indicated that the alternative of disposal into the marine environment would now become one of the preferred alternatives for disposal of a portion of the excess saline groundwater collected at Meliadine.

2.1.2 Project Phases

The Meliadine Gold Mine Project was previously approved for approximately four (4) years of construction (2015 to 2019), eight (8) years of operation (2020 to 2027), and three (3) years of closure (2028 to 2030), and post-closure activities to begin in 2031. The proposed discharge of saline groundwater into the marine environment as proposed in the Modification Proposal would occur from 2019 to 2032 (13 years) coinciding with the life of mine. Agnico Eagle projected that two (2) months of construction and two (2) months of decommissioning would be required for the Saline Effluent Discharge Proposal.

2.1.3 Construction and Operations

The construction phase of the Saline Effluent Discharge Proposal would include:

i. construction of the storage tank;
ii. assembly of the pipeline with diffuser; and
iii. encasing of the pipeline in rock protection for the portion of the pipeline onshore and through the tidal zone.

Assembly of the pipeline would occur onshore and the assembled pipeline would then be floated out to its location, weights (made of concrete or similar material) would be used to sink the pipeline and then to keep it on the seabed. The equipment required to construct and install the pipeline would include: land-based cranes, a boat with a davit (small crane) to help pull the pipeline and diffuser into the water, and two (2) to three (3) boats to support divers and to position the pipeline and diffuser.

Agnico Eagle anticipated that installation of the pipeline and diffuser would require approximately ten (10) people for four (4) weeks. Within the FEIS Addendum, Agnico Eagle noted that due to the short construction period and small number of employment opportunities, these positions could likely be filled by the contractor's existing workforce.

Once in place, saline effluent that meets specific water quality parameters would be discharged in the open water season (expected to be May to October as indicated by Agnico Eagle) through to the end of mine life. Agnico Eagle noted in the FEIS Addendum that operational workforce requirements are low (limited to additional trucking of saline groundwater from the main mine site to Itivia), and that these positions would be filled by qualified local seasonal employees.

2.1.4 Decommissioning and Reclamation

Although minimal detail was provided in the application on decommissioning and reclamation of infrastructure related to the Saline Effluent Discharge Proposal, during the Public Hearing, in response to questioning by the NIRB, Agnico Eagle committed to removing the diffuser and pipeline from Melvin Bay when it is no longer required: "*At this time, when the diffuser and the pipeline is no longer required, we're looking at removing that from Melvin Bay*."[9]

[9] J. Quesnel, Agnico Eagle, NIRB Public Hearing File No. 11MN034 Transcript, September 12, 2018, p. 86, lines 20-22.

During the Public Hearing, the Board also confirmed that the removal of the pipeline and diffuser in Melvin Bay would be governed by regulatory approval of Transport Canada as follows:

> *The question that I have to Transport Canada is the removal of the pipes for the diffuser -- and the diffuser. Before -- prior to deconstructing the diffuser and the pipe, would you -- would there have to be prior approval prior to the -- did you say that there has to be prior approval before removal of the pipe and diffuser?*[10]
>
> *Yes, so prior to the removal of the pipe, there would have to be an approval because there could be an impact to navigation when you're taking the pipe off the sea floor. So we would want to ensure that that can be safely mitigated, proper signage, proper lighting, proper path around that construction site, similarly to when you're putting the pipe in.*[11]

2.2 Summary of Potential Changes to Ecosystemic Effects

Agnico Eagle considered the impacts of the proposed discharge to the ecosystemic environment through pathway analysis and assessed the potential effects of the inclusion of the proposed activities on the previously approved Meliadine Gold Project. Agnico Eagle also considered cumulative effects as part of the assessment. The Proponent concluded that for the most part the saline groundwater discharge to the ocean would not have a significant impact to the environment or people. Agnico Eagle noted that additional trucks on the road would create some impacts to air quality, vegetation, and wildlife including more dust and potential impacts to caribou on the road. The discharge of treated groundwater to the ocean and a potential spill from the discharge pipeline could also affect marine water quality, marine mammals, marine fish, and other small organisms in the water.

Agnico Eagle excluded the following subjects and/or Valued Ecosystemic Components (VEC) during its assessment as these were determined by Agnico Eagle to not have any potential impacts due to proposed activities or no effects were expected above those predicted in the original FEIS as a result of the Saline Effluent Discharge Proposal:

- Climate, Meteorology, and Climate Change;
- Terrestrial Environment (including Permafrost, Soils, and Terrain);
- Geology (including Geochemistry);
- Hydrogeology and Groundwater Quantity and Quality;

[10] M. Qumuatuq, NIRB Board Member, NIRB Public Hearing File No. 11MN034 Transcript, September 13, 2018, p. 209, lines 5-11.
[11] A. Downing, Transport Canada, NIRB Public Hearing File No. 11MN034 Transcript, September 13, 2018, p. 209, lines 13-20.

- Hydrology (including Surface Water Quantity and Water and sediment quality);
- Birds and Bird Habitat; and
- Freshwater Aquatic Environment (including Fish and Freshwater Plankton and Benthos).

Table 3 below provides the summary of impact predictions and significance determinations as presented by Agnico Eagle in the FEIS Addendum.

Table 3: Summary of Ecosystemic Changes in Project Interactions and Factors Relating to Significance[12]

Subject	Changes	Discussion	Proposed Mitigation and Monitoring
ECOSYSTEMIC EFFECTS			
Air Quality	non-significant	Minimal increase in equipment use and minimal seasonal increase in traffic along the AWAR to transport treated groundwater effluent from water management ponds to Itivia Harbour which could result in increased air emissions and dust deposition which may cause localized changes.	Application of mitigation measures as presented in the FEIS and adherence to the Project Certificate Terms and Conditions.
Noise and Vibration	non-significant	Minimal increase in equipment use and minimal seasonal increase in traffic along the AWAR to transport treated groundwater effluent, could result in increased noise levels and a higher likelihood of sensory disturbance. Noise during construction of the storage tank and diffuser pipe would be minimal and at a level unlikely to be disturbing.	Application of mitigation measures as presented in the FEIS and adherence to the Project Certificate terms and conditions.

[12] NIRB Public Registry No. 318246.

Subject	Changes	Discussion	Proposed Mitigation and Monitoring
Vegetation	no change and /or negligible-minor impacts	No change through construction to approved Project footprint. Construction of the discharge pipe would primarily affect the heath tundra plant community type; however, as heath tundra represents the most abundant plant community type. Air emissions and dust deposition from increased equipment use and traffic may cover vegetation and lead to chemical, physical and/or physiological changes to plants, affecting wildlife habitat. Equipment use during construction within approved footprint, and minimal seasonal increase in traffic could result in a higher likelihood of potential spills or accidental release of treated groundwater effluent from trucks.	Application of mitigation measures as presented in the FEIS and adherence to the Project Certificate conditions.
Terrestrial Wildlife and Wildlife Habitat	non-significant and/or negligible to minor impacts	Increase traffic along AWAR could result in a higher likelihood of sensory disturbance and accidental collisions with vehicles causing injury or mortality. Minimal increments in disturbance from the proposed activities are unlikely to cause sufficient disturbance that would prevent caribou and other wildlife from engaging in typical behaviours.	Application of mitigation measures as presented in the FEIS and adherence to the Project Certificate conditions.
Marine Sediment and Marine Water Quality	negligible	Disturbance of nearshore or seabed material from in-water construction of pipe will impact both sediment and water quality short term. Equipment use, traffic and placement of pipe at Itivia Harbour could result in potential spills	Application of following best practices, suitable mitigation measures and adherence to the current Project Certificate conditions and federal regulations.

Subject	Changes	Discussion	Proposed Mitigation and Monitoring
		and/or displacement of habitat. Minor changes to habitat quality, are expected to be short-term in duration or restricted to the mixing zone. Discharge of treated groundwater effluent would meet regulatory requirements for applicable guidelines and standards. Accidental release along the discharge pipe or from the storage tank can have direct adverse effects to marine water quality and associated indirect effects on marine wildlife.	
Marine Fish and Fish Habitat (including Benthic Invertebrates)	negligible to minor impacts	Equipment use and installation of pipe at Itivia Harbour could result in potential spills and/or displacement of marine habitat. Discharging treated groundwater effluent into marine environment could change fish habitat quality. Discharge of treated groundwater effluent would meet regulatory requirements for applicable guidelines and standards. Accidental release along the discharge pipe or from the storage tank can have direct adverse effects on marine water quality	Application of best practices and suitable mitigation measures and adherence to current Project Certificate conditions, the Groundwater Management Plan, Spill Contingency Plan and Risk Management and Emergency Response Plan and federal regulations for both temperature and water quality guidelines. Implementation of monitoring program and adaptive management implemented if negative impacts detected.
Marine Birds and Marine Mammals	negligible to minor impacts	Discharging treated groundwater effluent into the marine environment could change habitat quality for marine birds and mammals. Discharge of the treated groundwater effluent will meet regulatory requirements for applicable guidelines and standards.	Application of best practices and suitable mitigation measures and adherence to current Project Certificate conditions, the Groundwater Management Plan and federal regulations.

Subject	Changes	Discussion	Proposed Mitigation and Monitoring
		Treated groundwater effluent discharge would be during the open water summer season only to eliminate potential effects on sea ice thickness and timing of seasonal freeze-up. Construction activities at Itivia harbour could affect sediment and water quality, particularly in the near-shore environment. Accidental release along the discharge pipe or from the storage tank can have direct adverse effects to marine water quality and associated indirect effects on marine wildlife and marine habitat. Sensory disturbance from structural lighting and in-air noise may result in changes to health, behaviour, and mortality risk in marine birds due to collisions with infrastructure.	No discharge under ice – discharge during the open water season (summer months) only. Treated groundwater temperature would be managed via the diffuser as per regulatory guidance. Any required lights on infrastructure would be shielded and/or angled to minimize direct illumination and reflection of the sea surface.

It is anticipated that the proposed amendment activities would result in minor environmental changes and would have negligible residual effect on terrestrial and marine habitat quantity and quality. The construction and presence of the discharge pipeline and diffuser would alter a limited area of potential marine fish, benthic invertebrate, bird, and mammal habitat. The installation of the storage tank for the groundwater would be in an area of previously disturbed habitat at the Itivia Fuel Storage Facility and the diffuser pipe would also be near the community boat launch.

In-water construction works have the potential to increase suspended sediment concentration in the water which could have potential effects to marine life. To minimize the potential for sedimentation, installation of the discharge pipeline and diffuser near the shore and in-water works would be minimal, and when possible, would be restricted during frozen or low tide conditions.

Discharge of treated groundwater effluent into the marine environment could result in negative changes in habitat quality for marine fish, benthic invertebrates, marine birds, and mammals. Resulting impacts from changes in habitat can also impact health and survivorship of marine fish, benthic invertebrates, marine birds, and mammals. Prior to discharge of the saline groundwater the effluent would be obligated to meet regulatory requirements for both temperature and water quality guidelines and as such, the discharge is not anticipated to have any negative impacts on the marine environment.

The transport of the saline groundwater would add a maximum of 16 round trips per day during operations, concentrations of air emissions and dust deposition may result in local changes to the quality of vegetation and associated wildlife habitat along the all-weather access road (AWAR) and by-pass road. However, the effects of the accumulation of dust (i.e., particulate matter and total suspended particulate (TSP) deposition) and concentrations of air emissions produced from the Meliadine Project on vegetation were previously assessed in Agnico Eagle's FEIS in 2014 and existing air quality monitoring, management, and mitigation programs were considered by Agnico Eagle in the assessment of potential for additional effects associated with the increased traffic. Collisions with vehicles could also cause injury or mortality to individual animals, which could affect population sizes. Agnico Eagle proposed that continuing to monitor air quality and dust as per the Air Quality Monitoring as well as wildlife and vegetation per the Environmental Management and Protection Plan (EMPP) and Terrestrial Environment Management and Monitoring Plan (TEMMP) would be adequate to address the potential for additional effects associated with the increased traffic.

2.2.1 Proposed Mitigation and Monitoring (Ecosystemic Environment)

The Proponent highlighted that groundwater would be treated prior to discharge into the marine environment. Within the FEIS Addendum, the Proponent provided a stand-alone Conceptual Ocean Discharge Monitoring Plan for the Meliadine Mine. Within this Plan, Agnico Eagle identified that effluent at the end-of-pipe would be measured and analyzed with reference to the

requirements of the *Metal and Diamond Mining Effluent Regulations* (*MDMER*), SOR/2002-222 as well as the fish and benthic invertebrates sampling required under the *MDMER*. Water quality and sediment quality within the exposure area would be monitored and compared against various standards/guidelines including those issued by the Canadian Council of Ministers for the Environment (CCME), or for parameters with no published guidelines, against measured baseline and reference area concentrations. Temperature of effluent stored in the tank would be monitored and then compared to the range of temperatures used in modelling. The Proponent has also committed to no discharge of the groundwater under ice and would consult with the Kangiqliniq Hunters and Trappers Organization (KHTO) in the spring of each year regarding timing of release into Melvin Bay.

The location of the discharge pipeline and diffuser would follow Fisheries and Oceans Canada's (DFO) *Measures to Avoid Causing Harm to Fish and Fish Habitat* (2013) and would be placed in an area that is not critical habitat for fish in the area. All construction activities would be subject to an erosion and sediment control plan, and best management practices would include standard erosion and sediment control (ESC) measures (e.g., erosion mats, silt curtains or fences, boom curtains, or similar). The site-specific erosion and sediment control plan would be developed in consultation with the KHTO, Kivalliq Inuit Association (KIA), and DFO prior to pipeline and diffuser construction. Agnico Eagle would also follow DFO's operation of machinery guidelines and would time all in-water works to adhere to any applicable DFO timing windows in Nunavut to protect fish, including their eggs, juveniles, spawning adults, and/or the organisms upon which they feed.

In addition to the Conceptual Ocean Discharge Monitoring Plan, Agnico Eagle listed the following management and monitoring plans developed for the Meliadine Gold Mine Project that would be expected apply to the Saline Effluent Discharge Proposal. Agnico Eagle noted that no changes would be required to these Plans for the inclusion of the Saline Effluent Discharge Proposal except for the Groundwater Management Plan which would be updated following approvals and licencing and prior to discharge:

- Groundwater Management Plan;
- Terrestrial Environment Management and Monitoring Plan;
- Air Quality Management Plan;
- Noise Abatement and Monitoring Plan;
- Water Management Plan;
- Mine Waste Management Plan;
- Roads Management Plan (including Appendix C, the Dust Management Plan);
- Hazardous Materials Management Plan;

- Risk Management and Emergency Response Plan;
- Spill Contingency Plan; and
- Shipping Management Plan (including Appendix D, the Marine Environmental Management Plan).

2.3 Summary of Potential Changes to Socio-Economic Effects

Agnico Eagle assessed the impacts of the proposed amendment activities and the socio-economic components. The Proponent concluded that overall, people are not expected to be affected by the Saline Effluent Discharge Proposal as the effects of the activities are expected to be short-term. However, the Proponent did note that construction and operation of the tank, pipeline, and diffuser could result in the perception that water, marine wildlife, and fish are no longer safe for traditional use resulting in impacts to traditional harvesting. Construction and operations could also impact recreational use (e.g., snowmobiling) in the immediate vicinity of the pipeline and diffuser. The KHTO noted that traditional land use activities occur on the ice until late June, so if treated groundwater discharged under the ice degraded the ice or limited ice formation, the Saline Effluent Discharge Proposal could make traditional trails inaccessible. The Proponent has committed to engagement with traditional land users and adherence to best practices and mitigation measures should mitigate any impacts.

> *Agnico Eagle's commitment not to discharge into Melvin Bay when there is sea ice near the diffuser, the pipeline, in order to protect the sea -- sea ice for traditional activities…*
>
> *Lastly, we will continue to meet with traditional land users, and we'll engage with the Kivalliq Inuit Association and hunting and trapping organization to ensure that the Ski-dooing, boating, and traditional land uses are not affected by the project design for the operation of the diffuser.* [13, 14]

Construction for the proposed amendment activities could result in the additional use of a local contractor, generating some possible positive impacts; however, there are few additional employment opportunities likely to be associated with the Saline Effluent Discharge Proposal, with the primary additional employment involving trucking of the groundwater during the summer season, which would likely be filled by the existing workforce (see the summary in Table 4 that follows). Agnico Eagle excluded the following subjects and/or Valued Socio-Economic

[13] J. Quesnel , Agnico Eagle, NIRB Public Hearing File No. 11MN034 Transcript, September 12, 2018, p. 37, lines 22-25.
[14] R. Vanengen, Agnico Eagle, NIRB Public Hearing File No. 11MN034 Transcript, September 13, 2018, p. 237, lines 17-22.

Components (VSEC) during its assessment as the Saline Effluent Discharge Proposal was assessed to have no impacts on these VSECs above those predicted in the original FEIS:

- Individual and Community Wellness;
- Education and Training;
- Population Demographics;
- Public and Worker Health and Safety; and
- Governance and Leadership.

Table 4: Summary of Socio-Economic Changes in Project Interactions and Factors Relating to Significance[15]

Subject	Changes	Discussion	Proposed Mitigation and Monitoring
SOCIO-ECONOMIC EFFECTS			
Employment and Procurement	No change/ negligible to minor positive impact	Construction for the proposed activities could result in modest employment using a local contractor. Construction period is short and employment opportunities would be very limited and could likely be filled by the contractors existing workforce. Operational workforce requirements are low with only a few seasonal positions for trucking the groundwater to Itivia Harbour.	Application of mitigation measures as presented in the Human Resources Plan, the FEIS and adherence to existing Project Certificate conditions.
IQ and Traditional Land and Resource Use	Negligible to minor impact	Construction activities and discharging of treated groundwater into the marine environment could impact marine wildlife and fish behaviour and/or health resulting in adverse impacts to traditional harvesting. Impacts from activities on terrestrial wildlife and bird behaviour and health could result in adverse impacts to traditional harvesting. Location of discharge pipe could impact traditional use of area in summer months. Changes to land and its resources could impact traditional use of the land and can impact the transmission of IQ to current and	Engagement with traditional land users regarding location of the discharge pipe. No under ice discharge to Melvin Bay. Mitigation: markers and ramps of appropriate grade and slope allow for safe snowmobile travel along shore and over discharge pipe; application of management and monitoring plans for various terrestrial and marine species; best practices for erosion and sediment control for construction;

[15] NIRB Public Registry No. 318246.

Subject	Changes	Discussion	Proposed Mitigation and Monitoring
		future generations. Construction and discharging of treated groundwater into the marine environment could result in the perception that water, marine wildlife, and fish are no longer safe for traditional use.	and adherence to DFO *Measures to Avoid Causing Harm to Fish and Fish Habitat* and the Oil Pollution Emergency Plan. Application of best practices and mitigation measures for reducing or removing impacts to birds, fish, and terrestrial and marine animals due to construction and operations, per the FEIS and Project Certificate conditions.
Non-Traditional Land Use	No change/ negligible	Changes to the land and water from the proposed activities, and discharge pipe can impact non-traditional land uses such as snowmobiling, guiding, hunting, and fishing in the immediate vicinity.	Engagement impacted land users regarding identification of suitable and comparable space for recreational land use, in line with Community Involvement Plan. Markers and ramps of appropriate grade and slope allow safe snowmobile travel along the shore and over the discharge pipe. No under ice discharge to Melvin Bay.

Subject	Changes	Discussion	Proposed Mitigation and Monitoring
Historical Resources	No change/ negligible	Construction of the storage tank and installation of discharge pipe and diffuser could lead to ground alteration that could affect physical heritage resources. Storage tank would be within the Itivia Fuel Storage Facility which is in an area already developed and unique cultural, archeological, and paleontological resources are unlikely.	Application of mitigation measures as presented in Heritage Resource Protection Plan, the FEIS and adherence to the Project Certificate conditions as well as legal requirements under the *Nunavut Act*.
Community Infrastructure and Public Services	No change	Employment generated by development can prompt job-seekers to relocate to Rankin Inlet, which intern can place additional demand on housing, infrastructure, and services; however, the construction period is short, and few additional jobs will be created.	Application of mitigation measures as presented in the FEIS and adherence to the Project Certificate conditions.

2.3.1 Proposed Mitigation and Monitoring (Socio-Economic Environment)

Mitigation and monitoring highlighted by the Proponent in the FEIS Addendum included the following (see the Heritage Resource Protection Plan developed for the Meliadine Gold Mine Project for additional details):

- Avoid previously recorded heritage resource sites near the Project footprint; implement required mitigation if avoidance is not possible;
- Continue to adhere to legal requirements and other guidelines related to archaeology and palaeontology in Nunavut (i.e., Section 33 of the *Nunavut Agreement*, *the Nunavut Archaeological and Paleontological Site Regulations developed pursuant to* Section 51(1) of the *Nunavut Act*, and *Guidelines for Applicants and Holders of Nunavut Territory and Palaeontology Permits*).
- Provide awareness training and a manual for recognizing heritage resources to all staff and contractors per the Heritage Resource Protection Plan;
- Monitor condition of known heritage resource sites near the Project footprint; and
- The Proponent has a Community Involvement Plan and has committed to continued engagement with impacted traditional land users and the KHTO to ensure skidooing, boating, and traditional land uses are not affected by the location and operation of the discharge pipe and its diffuser.

2.4 Other Issues Considered by The Board

Agnico Eagle considered the effects on the environment should treated groundwater effluent be accidentally released along the discharge pipeline, on land, or in Melvin Bay before reaching the diffuser and considered the worst-case scenarios including if the entire storage tank ruptured. Appropriate monitoring and mitigation would be applied to prevent spills and if a spill should occur, Agnico Eagle would implement appropriate procedures to contain and clean up any spill, particularly if the spill occurs on land. Should an accidental release occur, any changes in habitat quality for marine fish, benthic invertebrates, marine birds, and mammal are anticipated to be negligible as the groundwater effluent released from the tank or pipeline would have already been treated to meet discharge criteria.

Agnico Eagle committed during the original environmental assessment process for the Meliadine Gold Mine Project, to treat groundwater but was uncertain of the quantity of groundwater that may accumulate in the underground and included as part of their alternatives assessment in the 2014 FEIS, the potential for discharging treated saline groundwater to the marine environment. The *Canadian Metal Mining Effluent Regulations* (*MMER*) in force at that time did not. However, include an approved saline-tolerant fish species to support the monitoring and evaluation of

toxicity of saline effluent proposed to be discharged into the marine environment. In June 2018, this changed and the revised *Metal and Diamond Mining Effluent Regulations* (*MDMER*), SOR/2002-222 now allow for testing of toxicity on saline-tolerant fish species, thereby allowing for the discharge of saline groundwater into the marine environment provided that the groundwater meets the requirements of the *MDMER* and is not toxic to the saline-tolerant fish.

Agnico Eagle excluded the following additional issues that were subjects considered during its assessment of the original Meliadine Gold Mine Project as Agnico Eagle determined that the assessment of these issues had not changed from the original FEIS as a result of the Modification Proposal:

- Performance Bonding
- Transboundary Effects

Table 5: Summary of Conclusions in Respect of Other Issues Considered by the Board

Subject	Changes	Discussion	Applicable Mitigation and Monitoring
OTHER ISSUES CONSIDERED BY THE BOARD			
Accidents and Malfunctions	Negligible or minor	Accidental release of treated groundwater effluent from an unknown location along the discharge pipe can have direct adverse effects on marine water quality and associated indirect effects on marine wildlife.	Application of best practices and suitable mitigation measures and adherence to current Project Certificate conditions, Management Plans, and federal regulations.
Alternatives Analysis	No change	Remain with previously approved methods of discharging saline water into Meliadine Lake.	
Cumulative Effects		Predicted to not result in significant impacts that would influence the abundance and distribution of marine fish, benthic invertebrates, marine bird, or marine mammal populations.	

2.4.1 Proposed Mitigation Measures

Within the FEIS Addendum, Agnico Eagle proposed specific mitigation measures to reduce the potential effects from spills through prevention and spill response, including adhering to the procedures identified in their Spill Contingency Plan and Risk Management and Emergency Response Plan for the Meliadine Mine, industrial best management practices, and international and local regulations, including the *Arctic Waters Pollution Prevention Act*, R.S.C. 1985, c. A-1*2*. The Proponent also noted that a Risk and Hazard Assessment of shore-based marine response activities would be undertaken as part of training the Emergency Response Team. Spills would be reported to the Environmental Emergencies 24-Hour Report Line, and, if necessary, advice would be requested from the Regional Environmental Emergencies Team and appropriate regulatory authorities.

Spill prevention measures would include the following aspects:[16]

- *Engineering design*: storage tanks, pipes, and components would meet relevant safety standards for preventing uncontrolled release of stored materials during normal operation and during exposure to natural hazards, and to prevent fires and explosions;
- *Personnel training and competence*: all activities would be conducted by properly trained personnel;
- *Documented procedures*: all activities would be conducted according to pre-established formal procedures to prevent accidental releases and fire and explosion hazard;
- *Inspection and maintenance*: the heated tank, discharge pipe, and associated components would be regularly inspected and maintained in proper order to prevent uncontrolled release of treated groundwater effluent; and
- *Record keeping*: fuel, lubricants, and other chemicals transfers, inspection, and maintenance activities would be recorded, and records would be kept according to the Project records-keeping Procedures.

[16] NIRB Public Registry ID No. 318246

3. SUMMARY OF INTERVENOR SUBMISSIONS

3.1 Summary of Submissions in Respect of Ecosystemic Effects

After providing parties an opportunity between June 22 and August 21, 2018 to provide final written submissions on Agnico Eagle's Final Environmental Impact Statement Addendum (FEIS Addendum) for the Saline Effluent Discharge Proposal, the NIRB received submissions from:

- Nunavut Tunngavik Incorporated (NTI)
- Kivalliq Inuit Association (KIA)
- Kangiqliniq Hunters and Trappers Association (KHTO)
- Government of Nunavut (GN)
- Crown – Indigenous Relations and Northern Affairs Canada (CIRNAC)
- Environment and Climate Change Canada (ECCC)
- Fisheries and Oceans Canada (DFO)
- Transport Canada (TC)

Table 6: Summary of Comments Received from Parties in Final Written Submissions

Party	Areas of Concern
NTI	▪ Noted need for greater effort from the Proponent to mitigate and minimize dust deposition on the land and water, and to improve air quality especially near sensitive wildlife areas, near water and traditional-use areas (e.g., near cabins and traditional berry-picking areas). ▪ Identified that three (3) stations along all-weather access road (AWAR) may not be sufficient to monitor dustfall. ▪ Recommended that the Proponent expand their dust collection program by adding more dustfall collection stations to better characterize dust generated by traffic along the AWAR. ▪ Expressed concern over the timing of the effluent discharge as presented by the Proponent. They noted that the open water season in Rankin Inlet is more commonly from June through Oct, not May through October. ▪ Recommended the Proponent consult with Kangiqliniq Hunters and Trappers Organization (KHTO) to determine and agree on when open water conditions have been reached prior to discharges commencing.
KIA	▪ Expressed concern regarding quantity of groundwater and surface water dilution and requested clarification on whether both were considered in the volumes of treated groundwater discharge and the potentially associated impacts, particularly dust deposition that could be generated from additional truck trips between the Meliadine mine site and Rankin Inlet.

Party	Areas of Concern
	▪ Requested clarification about the treatment of groundwater discharge to marine environment, specifically the treatment plan for salinity, and how the *Metal and Diamond Mining Effluent Regulations* (MDMER) are being considered in the proposal. ▪ Recommended that the results of any sensitivity test(s) during modelling have been done using realistic temperature assumptions as they may not capture the range of temperatures that could occur.
KHTO	▪ Noted traditional land use activities occur on the ice until late June so if treated groundwater discharged under ice could degrade the ice, this effect could make traditional trails inaccessible. KHTO proposed June 17th as a more realistic starting date and requested clarification on if this change of date would affect the Proponent's plan for road traffic. ▪ Recommended the Proponent commit to a reassessment of their dust management control protocols.
GN	▪ Recommended confirmation regarding a contingency plan to manage saline groundwater on site should the AWAR be shutdown due to caribou migration and requested more evidence that the project proposal is not likely to cause significant adverse environmental effects on terrestrial ecosystems. ▪ Requested confirmation of the objectives and thresholds for wildlife entering the mine infrastructure areas and the AWAR corridor remaining the same if there is an increase in traffic as proposed.
CIRNAC	▪ Noted Agnico Eagle's application did not have evidence supporting the rationale for the amendment and stated the addendum did not present an assessment of alternatives that could be used to manage the higher than anticipated groundwater flows. ▪ Requested clarification regarding what treatment the saline groundwater would undergo prior to release into Itivia Harbour and what treatment would be used. Further dispersion models appear to be based on untreated groundwater and noted this could distort the data. ▪ Noted that the FEIS Addendum contains conflicting data between the end of pipe effluent criteria and water quality objectives at the edge of the mixing zone. The models used to predict mixing do not include scenarios where temperature differentials between the effluent and Itivia Harbour were the greatest; therefore, potential thermal effects may be underestimated. ▪ Indicated that Agnico Eagle did not identify the maximum mixing zone required to meet all water quality objectives and there appear to be errors in calculations. ▪ Requested clarification on the maximum discharge levels into Itivia Harbour. ▪ Noted discrepancies in when the area was ice free and requested clarification regarding when effluent would be discharged. ▪ Observed that the FEIS Addendum did not include a comparison of traffic numbers as they currently are on the AWAR in comparison to the projected traffic should the Modification Proposal be approved. ▪ Noted application had multiple errors, omissions, and inconsistencies.

Party	Areas of Concern
ECCC	▪ Recommended Agnico Eagle use consistent parameters in comparisons and identify plume dilution factor using salinity throughout the equation and not total dissolved solids. ▪ Recommended the Proponent identify location in the receiving environment where guideline for maximum 10% alteration of chloride concentrations would be met and if modeling considered the higher proportion of chloride in the mine water quality. ▪ Recommended clarification on where guideline for total ammonia came from and what portion of total ammonia would be unionized.
DFO	▪ Recommended the Proponent provide updated design drawings for discharge pipeline and diffuser to: better indicate location of rock cover in the tidal zone and calculate and describe habitat area impacted below the high water mark. ▪ Recommended construction/installation of the pipeline and diffuser occur during frozen conditions and clarification be provided involving the use of isolation measures for dewatering if they are considered as part of the Project. Clarification requested on the timing of proposed activities relative to the information provided in the application. ▪ Recommended that the Proponent implement all available best management practices and guidelines to avoid and mitigate serious harm to fish. ▪ Requested a detailed site-specific plan of the full suite of mitigation measures that would be used during construction/installation of the pipeline and diffuser specific to erosion and sediment control.
TC	▪ Stated Agnico Eagle would be adhering to the *Navigable Waters Protection Act* and any need for a permit would be determined through its review process, as Melvin Bay is part of the Scheduled waters under the *Act.* Agnico Eagle must submit a Notice of Works to TC for all works (permanent and temporary) and work must not commence until the approval has been issued.

Following receipt of parties' final written submissions, on August 28, 2018 Agnico Eagle provided its response to comments, submitted as Exhibit 2 at the Public Hearing (Appendix C), summarized as follows:

1. Noted that concrete collar anchors (or similar) would be installed approximately every 5 to 10 metres (m) (16 to 33 feet) apart to anchor the pipeline along the sea floor in the marine environment.
2. May discharge up to 800 cubic metres (m^3) per day (211,338 gallons) of groundwater, based on the information on groundwater flow that has been collected since the original Meliadine assessment, and this volume would require a maximum of 16 round trips by truck per day requiring up to four (4) trucks dedicated for the transportation of treated groundwater.
3. Storage of water prior to discharge would change the temperatures of effluent stored, but modeling remains accurate and significant dilution would be achieved a short distance from the diffuser, one (1) m horizontally and two to three (2-3) m vertically.

4. 18 dustfall stations currently being monitored at various locations along the road, including around the Hamlet, near cabins and traditional use areas, as well as the mine site. Applied dust suppressants along the road reduce dust and potential impacts to sensitive wildlife and adjacent water bodies.
5. Committed to the following operational adherences:
    a. Continue to discharge treated groundwater to Meliadine Lake as per the NIRB Project Certificate, Nunavut Water Board (NWB) Type "A" Water Licence, and the Water Management Plan for the Mine.
    b. Treat groundwater to comply with the British Columbia Ministry of the Environment Guidelines for Chloride and the Canadian Council of Minister of the Environment – *Canadian Water Quality Guidelines for Marine Salinity* (CCME 1999) as well as any effluent discharge criteria under MDMER.
    c. Adhere to Part E Item 10 of the Type "A" Water Licence 2AM-MEL1631 and submit a Groundwater Management Plan to the NWB at least six (6) months prior to the discharge of any groundwater.
    d. Reassess dust management control protocols as part of the Air Quality control protocols and add extra monitoring stations should it be required.
    e. Meet with the Kangiqliniq Hunters and Trappers Organization (KHTO) in the spring season of each year to reach agreement on when open water conditions at Itivia permit discharge, and only discharge during the open water season or when there is no ice in Melvin Bay. Further, Agnico Eagle has enough onsite storage to deal with any issues that may arise.
    f. Follow Ocean Discharge Management Plan once finalized which contains benchmarks from CCME *Water Quality Guidelines*.
    g. Update information and calculations regarding Itivia Harbour after the September 2018 survey as part of the next update to the Ocean Discharge Management Plan and the Groundwater Management Plan.
    h. Adhere to all management and monitoring plans related to the all-weather access road (AWAR) including the Road Management Plan, the Terrestrial Environment Management and Monitoring Plan, and the Air Quality Monitoring Plan including current caribou best practices. Commit to maintaining the objectives and thresholds for wildlife entering the mine unfractured areas and the AWAR corridor.
    i. Follow up with Fisheries and Oceans Canada (DFO) once the final design of the pipeline and diffuser is complete and prior to construction along with the recommended information if the project is approved. Construction is anticipated to start in Q2 2019 and no isolation measures for dewatering are being considered as part of construction
    j. Consult with the KHTO, Kivalliq Inuit Association (KIA), and DFO to develop a site-specific erosion and sediment control plan for construction of the plan prior to the pipe and diffuser construction and include DFO recommendations.

k. Submit a notice of works with final design drawings (onshore, near-shore signage, and lighting) and specific construction details to Transport Canada (TC) prior to construction. Construction (temporary or permanent) would not commence until TC approves the project.

3.1.1 Recommended Mitigation Measures

As noted in the previous section, Agnico Eagle provided several commitments summarized in Appendix C to adhere to various mitigation and monitoring plans as well as best practices to manage impacts of the Saline Effluent Discharge Proposal, which are already in place to manage impacts related to the approved Meliadine Gold Mine Project.

3.2 Summary of Submissions in Respect of Socio-Economic Effects

During the Public Hearing, the Board heard that Inuit harvesters from Rankin Inlet have observed that fish caught this summer were few and some fish were inedible. They were concerned that the saline water considered for release into the marine environment would result in negative impacts to fish and mussels and that it would not be fully monitored as Inuit rely on seals, fish, sea mammals as well as mussels in their diet.

> *And when I was younger, as soon as the sea ice cleared, my mother and I would put our nets, and our fish were always very red, red in colour, our char. And now that I'm here -- last year, they were redder in colour, but sometimes the ones we caught this summer we couldn't even eat. They weren't edible, and they were very few in number. So this water that will be diffused that contains salt is going to ruin and affect -- largely affect, I think, and have a large impact. And we're not nobody will be able to monitor it or protect the sea fully, and this is really serious.* [17]

> *...we hear about polluted areas from previous mines anywhere in the world. And many of us still pick mussels, et cetera. It's -- it's going to affect our land. It's going to impact negatively. And perhaps it sounds very well in this report and presentation, but just wait in time.*[18]

> *...it's a concern to me that this underground water is being transferred to the ocean, and I think the sea animals, the sea fish, and stuff like that going to make strange to that new water. They're not used to that.*[19]

[17] M. Amauyaq, Community Member, Rankin Inlet, NIRB Public Hearing File No. 11MN034 Transcript, September 13, 2018, p. 246, lines 14-25.
[18] M. Amauyaq, Community Member, Rankin Inlet, NIRB Public Hearing File No. 11MN034 Transcript, September 13, 2018, p. 247, lines 6-11.
[19] L. Brown, Community Member, Rankin Inlet, NIRB Public Hearing File No. 11MN034 Transcript, September 13, 2018, p. 250, lines 18-22

The Proponent outlined strategies to address these concerns by describing that the discharge water would be tested prior to release and would be safe as it would diffuse into the water in Melvin Bay within a couple of metres resulting in no predicted impact to marine life. Agnico Eagle further noted that the results of the Monitoring Program would be available to the KHTO or community members.

Community members also noted that their drinking water has changed since the Meliadine project was approved and they felt it was not good to drink anymore at the bridge to Meliadine Lake.

Community members also noted that they were concerned about change to their ability to travel through or over mine infrastructure potentially adversely impacting their ability to camp and harvest in traditional areas. The Proponent noted that infrastructure associated with the proposal would be limited, have a minimal footprint, not result in changes to sea ice formation, and should not disturb traditional land use activities either near town or by the AWAR. The KHTO also indicated how hunters move around the shoreline near the proposed marine outflow area and it was agreed that the proposed infrastructure would not be expected to disturb use of the area or require significant deviation from the usual travel routes of hunters. Agnico Eagle stated: *"…we'll make sure that structure around the pipe in the tidal zone and on shore is graded to allow for snowmobiles to pass over and that boats will be able to -- to -- to move over the pipe as well"*[20]

Agnico Eagle noted that it has a community office in Rankin Inlet with staff that enables Agnico Eagle to conduct public engagement activities and receive feedback from communities.

For the most part, the Board has concluded that the potential for these types of adverse effects has been adequately addressed through the FEIS Addendum; however, the Board notes that there is some uncertainty related to the potential for effects on harvesting of fish and mussels in the vicinity of the saline effluent diffuser as this method of disposal of saline groundwater is new to Nunavut.

3.3 Other Issues Considered by The Board

No other significant issues were brought forward for consideration by Intervenors with respect to Agnico Eagle's Saline Effluent Discharge Proposal.

[20] R. Vanengen, Agnico Eagle, NIRB Public Hearing File No. 11MN034 Transcript, September 13, 2018, p. 236, lines 6-10.

4. CONSULTATION OPPORTUNITIES

4.1 Public Consultation

As set out in s. 112(4) of the *NuPPAA*, the Board has the discretion to develop the appropriate process and procedure when conducting a reconsideration of Project Certificate terms and conditions. The Board's process for conducting the reconsideration included soliciting and receiving written comments from interested members of the public, in addition to hosting a Community Information Session on September 11, 2018 in the community of Rankin Inlet. In addition, an in-person Public Hearing was held over two (2) days (September 12 & 13, 2018) in Rankin Inlet which included a technical session and a focused Community Roundtable session with representation from community members from Rankin Inlet.

Table 7 below gives a summary of some of the key issues raised by members of the public and Community Representatives. Anyone wishing to review the comments in full is invited to consult the Public Hearing Transcript.[21]

Table 7: Key Issues raised by Members of the Public and Community Representatives

Subject	Issues/Concerns/Comments
ECOSYSTEMIC EFFECTS	
Fish	What would Agnico Eagle do if you noticed that the fish are affected by the water being discharged? How would Agnico Eagle handle that?
Fish	How many fish does Agnico Eagle test on an annual basis and in what seasons does Agnico Eagle sample fish?
Fish	Will the fish be affected by the release of this "new" water that could be different than the surrounding water in the ocean?
Fish	There will be impacts on the fish and seals and the mussels; I have real concerns that measures to protect them won't be enough – it appears that our lakes are being contaminated by mining and now our ocean may be contaminated too.
Fish	Does Agnico Eagle have actual tests (not predictions) that show that the water is safe for the fish before it is released into the marine environment?
Freshwater Quality	Could this water discharge affect/contaminate our drinking water sources?
Freshwater Quality	Water at the second bridge seems to have been impacted because it turns black now when we use it for tea.

[21] See for example the comments provided during the evening session, NIRB Public Hearing File No. 11MN034 Transcript, September 13, 2018, pp. 241-298.

Subject	Issues/Concerns/Comments
Freshwater Quality	What measures are being taken by Agnico Eagle to prevent the saline groundwater that is going into Meliadine Lake from releasing contaminants into the water?
Freshwater Quality	Is the water at the point of discharge into Meliadine Lake drinkable? Would it meet drinking water standards?
Freshwater Quality	If the water that is being discharged into Meliadine Lake only meets the standards required for fish health does that mean that it might not be okay for humans to drink?
Groundwater	Where does the groundwater come from? Is it coming from the surface? We have noticed that the volume of freshwater from Meliadine Lake is going down, and we are concerned that it appears that mine operations may be drawing down the water in the lake.
Groundwater Management	If the ice-free season is only three (3) months or so, how does Agnico Eagle propose to handle this water the other nine (9) months of the year?
Groundwater Management	How much contingency does Agnico Eagle have for holding the groundwater longer if Agnico Eagle can't transport the excess groundwater to Itivia or discharge it into the marine environment for some reason?
Groundwater Management	If Agnico Eagle is not approved to discharge into Melvin Bay, what would Agnico Eagle do with the groundwater?
Groundwater Management	Has Agnico Eagle considered discharging all the groundwater into Melvin Bay and not into Meliadine Lake at all?
Groundwater Quality	What kinds of contaminants could the groundwater that Agnico Eagle is proposing to discharge into Itivia contain?
Groundwater Quality	Does Agnico Eagle test the groundwater that will be released into Melvin Bay; where and how?
Groundwater Quality	What is Agnico Eagle going to add to the groundwater to clean it and other than adding chemicals, how can Agnico Eagle treat the groundwater to remove contaminants?
Groundwater Quantity	How much water will Agnico Eagle be releasing into the ocean?
Groundwater Quantity	How much of this water (treated) has Agnico Eagle already discharged into Meliadine Lake?
Marine Environment, Water, Ice, and Sediment	Will Agnico Eagle commit to disposing of this water only during the ice-free season (when there is absolutely no sea ice)?
Marine Wildlife and Marine Habitat	The char and seals in the area have been decreasing and the char that we have gotten recently this summer have been lighter in colour and were not really edible. I am concerned that the discharges into the Bay could further destroy the char and the mussels and the other wildlife in the Bay and could destroy the habitat for marine wildlife in the Melvin Bay.

Subject	Issues/Concerns/Comments
Monitoring	How will Agnico Eagle monitor the quality of the groundwater (including not only contaminants and salt levels, but also temperature) that is going to be released?
Monitoring	How will Agnico Eagle monitor the quality of the groundwater that is going to be released?
Monitoring	What monitoring are you doing to prevent the saline groundwater that is going into Meliadine Lake from releasing contaminants into the water and how can you share that information with the community?
Technology	Are there any examples in Nunavut or in other areas that are similar where mines are discharging groundwater from the mine into the marine environment like Agnico Eagle is proposing to do here?
Tidal Effects	The current design of the rock structure covering the pipeline on land does not seem to be designed well to resist tides pushing off the rock cover over the pipe; we are concerned that once the rock cover is off, it seems the pipe will be sheared off when the tides push the ice to the shore.
Water Management (in the general area)	Rankin Inlet is really growing, and our water is going to be in short supply; how can we make sure that the mines and this activity do not impact our water supply?
SOCIO-ECONOMIC EFFECTS	
Human Health and Well-Being	We are seeing more cancer in our community; who monitors this and can figure out if this could be the result of mining in the area? How would the community know whether these increases are linked to increased mining?
Road Accessibility	Will snow machines and other transportation be able to pass over the roads Agnico Eagle will be using to haul the water to Melvin Bay?
OTHER ISSUES	
Corporate Responsibility	What are Agnico Eagle's practices in terms of this kind of groundwater disposal at Agnico Eagle's mine sites in Finland?
Input from the Community	If the number of people providing input at a meeting like this is small can Agnico Eagle and the NIRB assure us that all of our input will be heard, even if we are a small group?

5. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS OF THE BOARD

5.1 Ecosystemic Effects

5.1.1 Views of the Board

The Board recognizes that the discharge of saline effluent into the marine environment addressed in the Saline Effluent Discharge Proposal was included in the alternatives analysis provided in the Final Environmental Impact Statement (FEIS) for the Meliadine Gold Mine Project. Owing to limitations in legislation while the original project was under consideration, marine discharge of saline groundwater was not considered a feasible alternative for the Project at that time. Instead, it was acknowledged during the 2014 Final Hearing for the Meliadine Gold Mine Project that, should release of brine water to the marine environment be proposed as a path forward in future, it would likely require an amendment to the Project Certificate.

Once new regulations were introduced which allowed for possible approval of this type of marine discharge, and Agnico Eagle applied to the NIRB for consideration of marine discharge to allow for operational flexibility of site water management for the Meliadine Mine, an updated impact assessment was required for the related activities. In its FEIS Addendum, Agnico Eagle noted that most impact predictions would not be significantly changed as a result of undertaking the Saline Effluent Discharge Proposal. Further, Agnico Eagle pointed to existing regulations which would implement clear guidelines on testing requirements and water quality parameters which must be adhered to in undertaking activities related to any possible discharge to the marine environment.

Through parties' participation in the technical review of the FEIS Addendum and participation at the Public Hearing for the Saline Effluent Discharge Proposal, the Board understands that discussion between parties, consideration of the legislation applying to the components of this proposal, and the commitments from Agnico Eagle (as outlined in Appendix C of this report) would require monitoring of proposed activities and provide pre-release water quality standards regardless of the Proponent undertaking these activities. 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.

Further, the Board notes that the already-approved mechanisms for managing the saline groundwater in surface ponds is sufficient to handle the volume of water expected to inflow into the Tiriganiaq Underground Mine should testing show that water quality objectives were not being achieved to allow discharge into the marine environment as proposed in the Saline Effluent Discharge Proposal. Agnico Eagle confirmed at the Public Hearing that sufficient capacity and water treatment options remain at the Meliadine site to manage the saline groundwater as already permitted under the Project's Type "A" Water Licence No. 2AM-MEL1631 if circumstances arise that limit or delay the discharge of saline groundwater into the marine environment at Melvin Bay.[22]

Agnico Eagle needs to ensure that community organizations are involved in ongoing monitoring of these project components and that community concerns are addressed through the Proponent Commitments in Appendix C and Section 3.1 bullet 5(e) and (j) of this report.

Significant discussion at the Public Hearing focused on concerns regarding the adequacy of the proposed cover for the marine outflow pipe to protect against possible damage from marine ice scouring the pipe and causing unintended releases. As noted members of the community during the Community Roundtable session:

> *"…with the ocean and the frozen ice, ice pushes rock, and we've seen huge boulders being moved and water -- breakwaters and our docks being damaged by just the ice force itself, by the tides going up and down."*[23]

However, Agnico Eagle remained confident that the planned rock cover would protect the pipeline from shifting ice and gouging, as stated at the Public Hearing:

> *…based on our engineering team and technical services team we evaluated a few different options, and this is what we presented, but, however, we looked at different products like concrete and things like that based on the experience our technical services and engineering team have, including our consultants and especially with their -- with their experience elsewhere related to installation of these type of devices; however, your comments are valid. I think it would be important that -- from yourself and other members, that we -- that could be input into our design. So we would welcome your input based on your experience and what you've seen in that area to look at our design and provide some comments to -- to our team to*

[22] J. Quesnel, Agnico Eagle, NIRB Public Hearing File No. 11MN034 Transcript, September 13, 2018, p. 283, lines 6-22.
[23] A. Netser, Community Member, Rankin Inlet, NIRB Public Hearing File No. 11MN034 Transcript, September 13, 2018, p. 268, lines 2-6

> *ensure that we have the right design that would meet the needs if everything is approved for -- for that installation.*[24]

During the Public Hearing, the Board also discussed concerns related to dust due to the additional traffic on the AWAR associated with the transportation of the treated groundwater to the tank at Itivia Harbour.

> *As I see that your proposed traffic area will be passing through the community of Rankin Inlet out to Melvin Inlet [sic] for your discharge, I believe, or on -- just immediate on the outside of the -- the community. Can you explain to me how -- how you plan on controlling dust control in the summertime, as I see Rankin has a lot of problems with dust on their roads.*[25]

> *This is in regards to dust management on the road and the surrounding area. My question is whether the proponent has made any changes to the -- the already approved strategies for dust management, be it on the -- on the -- on the snow or the ice. And my -- my question is whether there will be additional studies that will be conducted in light of additional traffic that will be created from delivering effluent water to the -- to the discharge site. What I'm thinking is there will be cumulative -- more cumulative effects from what is already approved.*[26]

In both cases, Agnico Eagle responded by noting it had monitoring stations along the AWAR and has committed to increasing the number of monitoring stations along the bypass road and the community of Rankin Inlet and will apply dust suppressant to control any dust during the drier months.

The Board continues to have concerns regarding the dust and traffic on the road as potentially having an impact on the surrounding area including the potential to have a cumulative effect when viewed in combination with the increase of vehicles in the community and increased number of trips to the Iqalugaarjuup Nunanga territorial park and to cabins in the vicinity. The Board is encouraged by Agnico Eagle's commitment to dust control and its work with Rankin Inlet by providing dust suppressants and commitment to evaluating dust suppressants in use by both Agnico Eagle and the Hamlet of Rankin Inlet. Further, the Board notes that the potential for salt produced as a byproduct during the treatment of saline groundwater in the Saltmaker unit already approved for use at the Meliadine Gold Mine Project to be used as dust control may also be explored in future.

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[24] J. Quesnel, Agnico Eagle, NIRB Public Hearing File No. 11MN034 Transcript, September 13, 2018, p. 268-269, lines 14-26 and 1-4.
[25] A. Maghagak, NIRB Board Member, NIRB Public Hearing File No. 11MN034 Transcript, September 12, 2018, p. 100, lines 12-19.
[26] P. Kadlun, NIRB Board Member, NIRB Public Hearing File No. 11MN034 Transcript, September 13, 2018, p. 288-289, lines 26 and 1-10.

5.1.2 Conclusions and Recommendations of the Board

With respect to the freshwater aquatic environment, the Board heard concerns from the residents of Rankin Inlet regarding changes to the freshwater resources near the Meliadine Project and the All-Weather Access Road (AWAR). Despite the activities of this proposal being focused on trucking of the saline water to Itivia Harbour and release into the marine environment, the Board notes that increased dust from transport of the saline groundwater is a potential impact of great concern to the community. The Board expects that due to the increased use of the AWAR as a result of the proposed Saline Effluent Discharge Proposal and the delay of the development of the Phase 2 of the AWAR that all the road plans and monitoring recommended in terms and conditions 48, 56, 125, and 12 would require updating prior to commencing the transport of treated saline groundwater to Itivia Harbour. The Board also highlights the importance of Agnico Eagle meeting the existing and on-going commitments provided by Agnico Eagle related to dust monitoring, along with the planned coordination by Agnico Eagle with the Hamlet of Rankin Inlet to control dust on the AWAR and bypass road. In particular, the Board would expect that the Project's spill plans would be updated to include measures for managing saline spills onto land or into freshwater along the AWAR and bypass road.

With respect to concerns expressed by the members of the community of Rankin Inlet and the KHTO with respect to the placement of rock armoring to protect the pipeline and the potential for the pipeline to be damaged by ice shear or tidal actions, the Board requires Agnico Eagle to develop and implement a monitoring and maintenance program to ensure the protection and integrity of the pipeline on an annual basis. The program would require Agnico Eagle to inspect the pipeline each year along with the pipeline cover in order to demonstrate its ongoing adequacy as a protective cover. Further, the Proponent would also inspect the pipeline and armoring to ensure its integrity prior to commencing use.

5.2 Socio-Economic Effects

5.2.1 Views of the Board

The Board heard that there are concerns regarding potential disruption of hunter activity around the components of the marine diffuser, sea ice formation around the discharge area, and changes to travel routes in the area as hunters' travel to hunting areas. Through discussion at the Public Hearing, the Board requested information from the KHTO and community members confirming that the area proposed for installation of the pipe is not highly used by hunters except in the spring time when following traditional trails to hunting and land use areas, as summarized by the following exchanges:

"Do people, up to today, still harvest, fish, and/or hunt around the vicinity of the discharge pipe?"[27]

"Not as much as before. There's some fishing and seal hunting, but -- but not so much today".[28]

"I have a question with regards to the discharge area. Is it a launching area, and do hunters take off from that area?"[29]

"At this moment, it's --there's a -- there's a launch -- boat launch. It's quite a ways, but in the fall, winter, and in the springtime, hunters do use that launching area, and they -- it's also a boat launch in the summertime."[30]

"Will there be any disturbance to boaters in the summertime?"[31]

"It's kind of a distance away. to where they dock, except driving Ski-doos during spring, fall, and winter, that route is used a lot, but I believe Agnico Eagle will -- or the hunters will work on a different route to go around it… We understand they will bring about a different route. They will mark a different route section for locals."[32]

As a result, the Board expects minimum disturbance to traditional access and uses of the land to result from installation of the storage tanks and the discharge pipe to the marine environment. Agnico Eagle's impact assessment also projected no change to the ice formation patterns around the diffuser, and parties did not have any outstanding concerns related to the timing and quality of ice formation directly around the diffuser.

The Board however, still has concerns regarding whether the temperature differences between the discharge and the marine sea water could have an impact on the timing of freeze up and the ice thicknesses in the area immediately around the diffuser.

[27] P. Kadlun, NIRB Board Member, NIRB Public Hearing File No. 11MN034 Transcript, September 12, 2018, p. 129, lines 18-20.
[28] B. Sigurdson, KHTO, NIRB Public Hearing File No. 11MN034 Transcript, September 12, 2018, p. 129, lines 21-23.
[29] E. Copland, NIRB Chairperson, NIRB Public Hearing File No. 11MN034 Transcript, September 12, 2018, p. 130, lines 1-3.
[30] B. Sigurdson, KHTO, NIRB Public Hearing File No. 11MN034 Transcript, September 12, 2018, p. 130, lines 4-8.
[31] E. Copland, NIRB Chairperson, NIRB Public Hearing File No. 11MN034 Transcript, September 12, 2018, p. 130, lines 16-17.
[32] B. Sigurdson, KHTO, NIRB Public Hearing File No. 11MN034 Transcript, September 12, 2018, p. 130, lines 11-20.

5.2.2 Conclusions and Recommendations of the Board

To address the uncertainty regarding whether the temperature and flow of the discharge will have an impact on the timing of freeze up and ice thickness in Melvin Bay, the Board is recommending that the Proponent update its Groundwater Management Plan to include mitigations measures for higher-than-predicted saline groundwater volumes, treatment and disposal methods, and details of its plan to monitor saline water.

It is also recommended that the Proponent update the Ocean Discharge Monitoring Plan to record on an annual basis for a minimum of three (3) years, the timing of freeze up when discharge is halted and to assess the thickness of the ice for up to one (1) month following freeze up at a location directly above the diffuser to establish when a safe thickness of ice is achieved after discharge has ended. It is expected that Agnico Eagle will continue to work with the KHTO to monitor ice formation in this area, and should changes to ice conditions be observed, adaptive management strategies will be implemented while risks are communicated to the community to prevent any accidents associated with local transportation over the ice in this area.

The Board also expects that the Proponent will continue to consult and cooperate with regulators and stakeholders as the Project activities are undertaken. As changing climatic conditions have the potential to impact project components and their interaction with the surrounding environment in unexpected ways, the Board stresses the importance of diligent mitigation and rigorous monitoring to ensure that all potential effects are adaptively managed if unanticipated effects occur.

6. RECOMMENDATION TO THE MINISTER

The NIRB provides this Reconsideration Report and Recommendations to the Responsible Ministers as required under Article 12, Section 12.8.3 of the *Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada* (*Nunavut Agreement*) and s. 112(5) of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (*NuPPAA*). Following the NIRB's assessment of the potential ecosystemic and socio-economic effects of Agnico Eagle Ltd.'s "Saline Effluent Discharge to the Marine Environment" Proposal the NIRB has concluded that:

> After due consideration of all information provided throughout the Board's assessment of the Proposal, and in accordance with the process and primary objectives of the *Nunavut Agreement* and the *NuPPAA*, the Board recommends that the Proposal be allowed to proceed in accordance with this Reconsideration Report and Recommendations, with revisions to the Terms and Conditions and Project Monitoring of the existing Project Certificate No. 006 having been identified as required (See Section 8.0).

7. RECOMMENDATIONS FOR REGULATORY AGENCIES, LAND AND MINERAL OWNERS

As the Board has noted extensively throughout its report, numerous issues raised by parties were helpful to the Board in making its determination and specific issues should addressed in detail through the various regulatory processes which follow if the Saline Effluent Discharge Proposal is approved to proceed by the Responsible Ministers. Under the NIRB Project Certificate No. 006, the Board expects to receive updates from Regulatory Authorities on their respective monitoring of the Project identified in the subsequent regulatory processes. Parties are also encouraged to carry forward the issues within their respective mandates to be addressed in more detail through permitting, and are reminded of the need to communicate the results of their monitoring and regulatory oversight for the Project with the community of Rankin Inlet and the KHTO. The Board therefore provides the following direction to regulatory authorities of items to be considered in subsequent processes:

Fisheries and Oceans Canada

Fisheries and Oceans Canada should report to the NIRB regarding its regulatory oversight for project activities undertaken in the marine environment for the Saline Effluent Discharge Proposal during pre-construction, construction, operations, decommissioning, and post-closure. This is to ensure that the Board, parties, and the general public are kept aware of all monitoring undertaken and results obtained, with a focus on outcomes associated with potential impacts to fish, fish habitat and harvesting of marine species by community residents.

Environment and Climate Change Canada

Environment and Climate Change Canada should report to the NIRB regarding its regulatory oversight for project activities undertaken in the marine environment for the Saline Effluent Discharge Proposal during pre-construction, construction, operations, decommissioning and post-closure. This is to ensure that the Board, parties, and the general public are kept aware of all monitoring undertaken and results obtained, with a focus on outcomes associated with potential impacts to water quality and the receiving environment from marine discharge activities.

Transport Canada

Transport Canada should report to the NIRB regarding its regulatory oversight for project activities undertaken in the marine environment for the Saline Effluent Discharge Proposal during pre-construction, construction, operations, decommissioning and post-closure to ensure that the Board, parties, and the general public are kept aware of issues relevant to the continued safe navigation of vessels in Melvin Bay.

8. RECOMMENDATIONS REGARDING CHANGES TO EXISTING PROJECT MONITORING OR PROJECT CERTIFICATE TERMS AND CONDITIONS

As set out in Article 12, Sections 12.7.1 and 12.7.2 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)* and s. 135(2) of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (*NuPPAA*) the Nunavut Impact Review Board (NIRB) has the jurisdiction to establish a project-specific monitoring program to:

- measure the ecosystemic and socioeconomic effects of a project;
- assess whether the project is in compliance with the prescribed project terms and conditions;
- share information with regulatory agencies to support the enforcement of land, water or resource use approvals and agreements; and
- to assess the accuracy of predictions contained in the environmental impact statements.

Given the Board's application of the precautionary approach to the original consideration of the Meliadine Gold Mine Project and the assessment of the Saline Effluent Discharge Proposal, it is the Board's view as noted in previous sections, that project-specific monitoring will continue to play a crucial role in addressing the uncertainty regarding project effects and enabling all parties to adapt mitigation measures on an ongoing basis to ensure any potential negative effects are prevented or limited to the extent possible.

As established in the original Meliadine Final Hearing Report,[33] the role of the Board with respect to the establishment of monitoring programs is to focus the terms and conditions in relation to the Project. With respect to existing or future general regional and territorial monitoring programs that may include some of the same monitoring parameters/indicators as the project-specific monitoring program, the *Nunavut Agreement* also directs the NIRB to avoid duplication but facilitate co-ordination and integration between the project-specific monitoring programs required by the NIRB and more general programs such as the Nunavut General Monitoring Program. Where the requirements of regional or territorial programs are more extensive or substantively different than those established through the project certificate, always the Proponent must ensure compliance with the project certificate terms and conditions.

[33] NIRB Final Hearing Report, for Agnico Eagle Mines Limited Meliadine Gold Project, NIRB File No. 11MN034, October 10, 2014.

To co-ordinate, integrate, and avoid duplication with other monitoring programs, but also to ensure that the NIRB's project-specific monitoring program yields the information required to measure effects and adequately assess compliance with terms, conditions, regulatory instruments and agreements, the NIRB's monitoring program is developed after consultation with responsible authorities, the resource and land owners, and the proponent following a Regulators' Meeting that typically occurs within several weeks after the responsible Minister has issued a decision that the Project can proceed to obtain regulatory authorizations and providing the Minister's direction regarding recommended terms and conditions. A short time after the Regulators' Meeting, the NIRB issues the project certificate, but the project-specific monitoring program, which is usually issued as an Appendix to the project certificate may not be issued in final form until some months after key regulatory authorizations, including land use permits, water licences, mineral leases, etc. are issued so that the monitoring program supplements and supports, and does not duplicate, the monitoring requirements in regulatory and land use instruments. The NIRB anticipates issuing this Appendix to the Project Certificate once all key regulatory authorizations, including land use permits, water licences, mineral leases, etc. are issued.

It is important to remember that the NIRB's monitoring program will have varying requirements over the course of the Project lifecycle, and that monitoring requirements will apply from construction to eventual abandonment and reclamation. In areas where there may be a need for flexibility in relation to the terms and conditions of the project certificate or their application, the NIRB has endeavored to reflect this in the associated language and/or acknowledge that objectives may be achieved through various means. In addition, if the monitoring program needs to be modified to better achieve its purpose, the Board, the Proponent, the Designated Inuit Organization or other interested parties may cause the Board, under Section 12.8.2 of the *Nunavut Agreement* to revisit the monitoring program, or any other terms and conditions in the NIRB project certificate. However, the NIRB wishes to clearly state that the Board has every expectation that Agnico Eagle Mines Ltd. will fulfill all commitments made during the both the Public Hearing, within its Amendment Application and supporting documentation submitted during the assessment, not just those commitments that have been incorporated into the Terms and Conditions recommended by the Board in this Report.

8.1 Changes to the NIRB's Monitoring Program

The Board notes from its discussion throughout this report and its Recommendations for Regulatory Authorities, that updates to project modelling and monitoring are likely to be identified in the subsequent regulatory processes for the Saline Effluent Discharge Proposal. As required for the NIRB's ongoing monitoring program for the Meliadine Gold Mine under NIRB Project Certificate No. 006, the Board expects to receive updates from Regulatory Authorities on the progress of these subsequent processes, as well as revised mitigation and monitoring plans from Agnico Eagle as they become available.

As noted previously in the original Meliadine Final Hearing Report,[34] the Board expects that Agnico Eagle will continue to take a precautionary approach and minimize the footprint of its Project and the impacts of all associated activities, even where new construction and continuous operations will fundamentally alter existing landscapes.

Therefore, the Board notes the following expectations regarding required updates to the Proponent's management plans to reflect the approval of the Saline Effluent Discharge Proposal:

1. The Proponent shall update all relevant management plans to address the potential impacts of the Saline Effluent Discharge Proposal, including but not limited to: Shipping Management Plan, Wildlife Mitigation and Monitoring Plan, Adaptive Management Plan, Road Management Plan (including Dust Management Plan), Groundwater Management Plan, Spill Contingency Plan, and Ocean Discharge Monitoring Plan.
2. The Proponent shall update the existing marine ecosystem and marine mammal monitoring programs including the Hunter Harvest Survey, TEMMP and the Marine Environmental Management Plan (which is Appendix D of the Shipping Management Plan) to reflect the potential for effects associated with the addition of the volume of saline groundwater effluent being released into the marine environment.

8.2 Recommended Changes to Terms and Conditions

As set out in detail within this Report, having reviewed and considered the technical issues, concerns and all information provided to the Board throughout the reconsideration process for the Saline Effluent Discharge Proposal, the NIRB has concluded that if conducted in accordance with the Board's recommendations, the changes proposed in the Modification Proposal to the previously approved Meliadine Gold Mine Project may proceed to the licensing and permitting regulatory phase with the additions of new terms and conditions and changes to the existing Terms and Conditions of Project Certificate No. 006 as set out below.

[34] NIRB Final Hearing Report, for Agnico Eagle Mines Limited Meliadine Gold Project, NIRB File No. 11MN034, October 10, 2014.

8.2.1 Ecosystemic Terms and Conditions

Previous Term and Condition

Term and Condition No.	**25**
Category:	Hydrogeology and Groundwater – Saline Water Management Plan
Responsible Parties:	The Proponent
Project Phase:	Pre-construction, construction, Operations, temporary closure/care and maintenance, closure, post closure monitoring.
Objective:	To manage saline groundwater and minimize the impacts to permafrost, soil, surface water, vegetation and wildlife.
Term or Condition:	The Proponent shall provide to the NIRB, a saline water management plan which includes, but is not limited to, mitigation measures designed to address the potential for higher-than-predicted volumes of saline water inflows into the underground mine, treatment and disposal methods, and details of its plan to monitor saline water at site.
Reporting Requirements:	To be determined following approval of the Project by the Minister

Updated Term and Condition

***Revised* Term and Condition No.**	**25**
Category:	Hydrogeology and Groundwater – Saline Water Management Plan
Responsible Parties:	The Proponent, Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)
Project Phase:	Pre-construction, construction, Operations, temporary closure/care and maintenance, closure, post closure monitoring.
Objective:	To manage saline groundwater and minimize the impacts to permafrost, soil, surface water, vegetation and wildlife.
Term or Condition:	The Proponent shall submit a detailed Groundwater Management Plan to the NIRB which includes mitigation measures designed to address the potential for higher-than-predicted volumes of saline water inflows into the underground mine, treatment and disposal methods, and details of its plan to monitor saline water at site. The plan must acknowledge uncertainties pertaining to predictions for groundwater quality and quantity and inform adaptive management strategies for the site. CIRNAC should be consulted with respect to the contents of the Plan and any required mitigation measures.
Reporting Requirements:	To be included in the Proponent's annual reporting to the NIRB.

New Terms and Conditions

NEW Term and Condition No.	**128**
Category:	Marine Environment
Responsible Parties:	The Proponent, Fisheries and Oceans Canada, Environment and Climate Change Canada, Crown-Indigenous Relations and Northern Affairs Canada
Project Phase:	Operations, Care and Maintenance, Closure
Objective:	To assess the environmental impact of the Project on the seabed and marine environment if the effluent discharge pipeline is abandoned in place or removed.
Term or Condition:	The Proponent shall provide the NIRB with a detailed design for the system that includes the location of the pipeline in relation to the saline effluent storage tank at Itivia, the location of submerged collars supporting the pipeline and the design of the diffuser.
Reporting Requirements:	To be provided to the Nunavut Impact Review Board at least six (6) months prior to construction of the effluent pipeline and diffuser system.

NEW Term and Condition No.	**129**
Category:	Marine Environment
Responsible Parties:	The Proponent and Crown-Indigenous Relations and Northern Affairs Canada
Project Phase:	Operations, care and maintenance, and closure
Objective:	To assess the environmental impact of the Project on the seabed and marine environment if the effluent discharge pipeline is abandoned in place or removed.
Term or Condition:	The Proponent shall conduct and submit to the Board a hazard and operability assessment of the pipeline and marine outfall system as part of the land authorization process.
Reporting Requirements:	To be provided to the Nunavut Impact Review Board at least six (6) months prior to operation of the effluent pipeline and diffuser system.

NEW Term and Condition No.	130
Category:	Marine Environment
Responsible Parties:	The Proponent, Crown-Indigenous Relations and Northern Affairs Canada, Environment and Climate Change Canada, and Fisheries and Oceans Canada
Project Phase:	Operations, care and maintenance, and closure
Objective:	To assess the environmental impact of the Project on the seabed and marine environment if the effluent discharge pipeline is abandoned in place or removed.
Term or Condition:	The Proponent shall remove the subsea pipeline and diffuser in Melvin Bay when the pipeline is no longer in use unless it can be demonstrated to the satisfaction of the Nunavut Impact Review Board that this infrastructure will provide a net positive environmental effect to the local ecosystem.
Reporting Requirements:	Information necessary to support an application for removal of the subsea pipeline and diffuser must be provided to the Nunavut Impact Review Board for consideration at least 12 months prior to planned removal.

NEW Term and Condition No.	131
Category:	Marine Environment
Responsible Parties:	The Proponent
Project Phase:	Operations, care and maintenance, and closure
Objective:	To prevent adverse impacts to community travel and use of local marine areas.
Term or Condition:	The Proponent shall ensure its Marine Environment Management Plan addresses a procedure for engagement with the Kangiqliniq Hunters and Trappers Organization (HTO) to confirm the commencement and ending of the open water season for marine effluent discharge each year. The Proponent shall also engage with the HTO and the community of Rankin Inlet when developing a program for monitoring saline effluent temperature going into the subsea pipeline, ice thickness on Melvin Bay in the vicinity of the discharge and determining appropriate communication and safety protocols applicable for travel by community members through Itivia and Melvin Bay.
Reporting Requirements:	A summary of actions taken are to be included in the Proponent's annual reporting to the NIRB.

APPENDIX A Record of Proceedings

Project Proponent:	Agnico Eagle Mines Limited 93 rue Arseneault Val d'Or J9P0E9 Canada
Modification Proposal referral received from the Nunavut Planning Commission:	January 4, 2018
Dates of Hearings:	Day 1: September 12, 2018, Rankin Inlet, NU Day 2: September 13, 2018, Rankin Inlet, NU
Board Members Present:	Elizabeth Copland, Chairperson Guy Alikut, Member Allen Maghagak, Member Philip (Omingmakyok) Kadlun, Member Henry Ohokannoak, Member Madeleine Qumuatuq, Member
NIRB Staff:	R. Barry, Executive Director T. Arko, Director, Technical Services K. Gillard, Manager, Project Monitoring L. Atatahak, Secretary/Receptionist
Assistant to NIRB Staff:	Victoria Noolook
NIRB Legal Counsel:	T. Meadows, Meadows Law
Interpreters:	J. Tucktoo, Interpreter (NIRB) D. Adams, Interpreter V. Noolook, Interpreter
Court Reporters:	K. Longacre, RPR, CSR(A), Dicta Court Reporting
Sound Technician:	W. Nicoll, Environmental Technologist (NIRB)
Proponent:	
Agnico Eagle Mines Limited	J. Quesnel, Environmental Superintendent R. Vanengen, Environment Superintendent – Permitting and Regulatory Affairs, Nunavut M. Turmel, Permitting Lead C. Ramcharan, General Supervisor of Community Affairs N. Duquet-Harvey, Environmental Superintendent M. Groleau, Nunavut Permitting Lead L. Syvret, Acting General Manager Meliadine Mine L. Young, Consultant, (Golder Associates)

	C. Lesigneur Torres, Consultant, (Golder Associates) C. Kowbel, Legal Counsel (Lawson Lundell)
Interveners:	
Nunavut Tunngavik Inc.:	B. Dean, Assistant Director, Wildlife Environment Dept. J. Ottenhof, Resource Management Advisor, Wildlife Environment Dept. R. Mercer, Resource Management Coordinator
Kivalliq Inuit Association:	L. Manzo, Director of Lands B. Osmond, Administrative Officer J. Hart, Land and Water Inspector, Baker Lake J. Tulugak, Land and Water Inspector, Rankin Inlet J. Martin, Water Management engineer A. Sexton, Consultant M. Sammurtok, In-house Legal Counsel K. Gilson. Legal Counsel (Duboff, Edwards, Haight and Schacter)
Kangiqliniq Hunters and Trappers Organization:	B. Sigurdson, Chairperson C. Tartak, Manager
Government of Nunavut:	C. Spencer, Environmental Co-ordinator A. Chaikine, Environmental Assessment Specialist
Crown-Indigenous Relations and Northern Affairs Canada:	S. Dewar, Director Resource Management J. Prokopick, Senior Environmental Assessment Specialist J. Walsh, Senior Environmental Policy Analyst (Capital Region) T. Brown, Consultant (Arcadis)
Justice Canada:	S. Gruda-Dolbec, Legal Counsel H. Coman, Legal Counsel
Environment and Climate Change Canada:	M. Pinto, Senior Environmental Assessment Coordinator
Fisheries and Oceans Canada:	M. D'Aguiar, Senior Fisheries Protection Biologist B. Tracz, Fisheries Protection Biologist
Transport Canada:	A. Downing, Superintendent of Environment, Prairie and Northern Region at Transport Canada

APPENDIX B List of Exhibits from the Public Hearing

Exhibit	Exhibit Description	Date	From
1.	Hard Copy PowerPoint Presentations (combined Parts i, ii, iii, iv and v) (*English/Inuktitut*)	September 12, 2018	Agnico Eagle Mines Ltd.
2.	Hard Copy Agnico Eagle Mines Ltd. – Meliadine Division Saline Effluent Discharge Table of Commitments September 2018 (*English*)	September 12, 2018	Agnico Eagle Mines Ltd.
3.	Hard Copy Meliadine Saline Effluent Discharge Technical Comments September 11, 2018 (*English*)	September 12, 2018	Agnico Eagle Mines Ltd.
4.	Electronic Copy only Resumé and Curricula Vitae for Golder Associates personnel: ▪ Lasha Young ▪ Corey De La Mare ▪ Kelly Bourassa ▪ Carolina Lesigneur Torres ▪ Colleen Prather ▪ Chris Madland ▪ Patrick Young ▪ Victor Young ▪ K. Bruce Dean ▪ Phillippe Rouget	September 12, 2018	Agnico Eagle Mines Ltd.
5.	Electronic Copy only Videoclip animation of tank, pipeline and diffuser into Melvin Bay	September 12, 2018	Agnico Eagle Mines Ltd.
6.	Hard copy PowerPoint Presentation Agnico Eagle Mines – Meliadine Project Saline Effluent Discharge Final Hearing (*English*)	September 12, 2018	Nunavut Tunngavik Inc.
7.	Hard copy PowerPoint Presentation Agnico Eagle Mines – Meliadine Project Saline Effluent Discharge Final Hearing (Inuktitut)	September 12, 2018	Nunavut Tunngavik Inc.

Exhibit	Exhibit Description	Date	From
8.	Hard Copy PowerPoint Presentation Technical Review Saline Effluent Discharge to Marine Environment, Rankin Inlet, Meliadine Gold Mine (English/Inuktitut)	September 12, 2018	Kivalliq Inuit Association
9.	Hard Copy PowerPoint Presentation Agnico Eagle Mines – Meliadine Project Saline Effluent Discharge Final Project (English)	September 12, 2018	Kangiqliniq Hunters and Trappers Organization
10.	Hard Copy Cover Letter – August 21, 2018 from C. Spencer (GN) to R. Barry (NIRB) (English)	September 12, 2018	Government of Nunavut
11.	Hard Copy PowerPoint Presentation NIRB Final Hearing Agnico Eagle Mines Limited's (AEM) "Saline Effluent Discharge to Marine Environment, Rankin Inlet Meliadine Gold Mine: Project (English/Inuktitut)	September 12, 2018	Government of Nunavut
12.	Hard Copy PowerPoint Presentation NIRB Final Hearing Agnico Eagle Mines Limited's (AEM) "Saline Effluent Discharge to Marine Environment, Rankin Inlet Meliadine Gold Mine: Project (French/Inuktitut)	September 12, 2018	Government of Nunavut
13.	Hard Copy PowerPoint Presentation Agnico Eagle Mine Limited's Saline Effluent Discharge to Marine Environment, Rankin Inlet, Meliadine Gold Mine Project Technical Session Nunavut Impact Review Board (English/Inuktitut)	September 12, 2018	Crown-Indigenous Relations and Northern Affairs Canada
14.	Hard Copy PowerPoint Presentation Agnico Eagle Mine Limited's Saline Effluent Discharge to Marine Environment, Rankin Inlet, Meliadine Gold Mine Project Community Session Nunavut Impact Review Board (English/Inuktitut)	September 12, 2018	Crown-Indigenous Relations and Northern Affairs Canada

Exhibit	Exhibit Description	Date	From
15.	Hard Copy Environment and Climate Change Canada Executive Summary (English)	September 12, 2018	Environment and Climate Change Canada
16.	Hard Copy Environment and Climate Change Canada Executive Summary (Inuktitut)	September 12, 2018	Environment and Climate Change Canada
17.	Hard Copy PowerPoint Presentation Environment and Climate Change Canada's Presentation to the Nunavut Impact Review Board Respecting the Meliadine Saline Effluent Discharge to the Marine Environment Amendment (English/Inuktitut)	September 12, 2018	Environment and Climate Change Canada
18.	Hard Copy PowerPoint Presentation Agnico Eagle Mines Limited's "Meliadine Saline Effluent Discharge to Marine Environment, Rankin Inlet, Meliadine Gold Mine" Project Proposal (English)	September 12, 2018	Fisheries and Oceans Canada
19.	Hard Copy PowerPoint Presentation Agnico Eagle Mines Limited's "Meliadine Saline Effluent Discharge to Marine Environment, Rankin Inlet, Meliadine Gold Mine" Project Proposal (Inuktitut)	September 12, 2018	Fisheries and Oceans Canada
20.	Hard Copy PowerPoint Presentation Agnico Eagle Mines Limited's "Meliadine Saline Effluent Discharge to Marine Environment, Rankin Inlet, Meliadine Gold Mine" Project Proposal (French)	September 12, 2018	Fisheries and Oceans Canada
21.	Hard Copy Executive Summary Fisheries and Oceans Canada (English)	September 12, 2018	Fisheries and Oceans Canada
22.	Hard Copy Executive Summary Fisheries and Oceans Canada (Inuktitut)	September 12, 2018	Fisheries and Oceans Canada
23.	Hard Copy Executive Summary Fisheries and Oceans Canada (French)	September 12, 2018	Fisheries and Oceans Canada

Exhibit	Exhibit Description	Date	From
24.	Hard Copy PowerPoint Presentation Transport Canada Recommendations and Advice Agnico Eagle Mines Limited Meliadine Gold Mine Reconsideration of Project Certificate No. 006 (English)	September 13, 2018	Transport Canada
25.	Hard Copy PowerPoint Presentation Transport Canada Recommendations and Advice Agnico Eagle Mines Limited Meliadine Gold Mine Reconsideration of Project Certificate No. 006 (Inuktitut)	September 13, 2018	Transport Canada
26.	Hard Copy PowerPoint Presentation Meliadine Gold Mine—Saline Effluent Discharge (English/Inuktitut)	September 13, 2018	Agnico Eagle Mines Ltd.
27.	Hard Copy Updated Exhibit 2 Agnico Eagle Mines Ltd. – Meliadine Division Saline Effluent Discharge Table of Commitments September 2018 (English)	September 13, 2018	Agnico Eagle Mines Ltd.
28.	Hard Copy Table Summarizing Resolution of Issues September 13, 2018 (English)	September 13, 2018	Agnico Eagle Mines Ltd.

APPENDIX C List of Commitments from the Public Hearing

Subject	Commitment No.	Summary of Commitments (As listed in Agnico Eagle Final Written Submission filed with NIRB on August 29, 2018)	NIRB Reference No.
Updating information and calculations regarding Itivia Harbour	1.	A field program is being conducted for ltivia Harbour in September 2018 and Table 9 of the FEIS Addendum will be updated with refined baseline parameters and updated predicted concentrations at the edge of the near-field mixing zone following the field program and provided as part of the next update to the management plan, prior to any discharge. The results will be captured under existing management plans for the Mine (e.g.., the Groundwater Management Plan). Agnico Eagle will take samples in September 2018 to confirm background values in Melvin Bay for direct comparisons. Near- Field dispersion modelling will be updated with refined TDS parameters when they are available following the field program in September 2018 and the chloride proportion will be refined as requested.	CIRNAC-FC #8
Groundwater Effluent	2.	Agnico Eagle commits to only discharging treated groundwater effluent during the open water season.	CIRNAC-FC #10
Benchmarks used for water quality variables	3.	As indicated in the conceptual Ocean Discharge Monitoring Plan (ODMP; Appendix E, Section 5.1 of the FEIS Addendum), the benchmarks used for water quality variables are the CCME Water Quality Guidelines (WQGs) for the Protection of Marine Aquatic Life, British Columbia Ministry of Environment (BC MOE 2017a), Approved WQG for Marine Aquatic Life (Short-Term) and BC MOE Working WQG for Marine Aquatic Life (BC MOE 2017b) at the edge of the mixing zone of 100 m from the diffuser. For parameters for which no WQG exist,	CIRNAC-FC #6

Subject	Commitment No.	Summary of Commitments (As listed in Agnico Eagle Final Written Submission filed with NIRB on August 29, 2018)	NIRB Reference No.
		concentrations from the exposure area will be compared with the baseline concentrations and concentrations in the reference areas.	
Benchmarks used for water quality variables cont.	4.	Additional baseline data is being collected from Melvin Bay in 2018-2019 ahead of proposed ocean discharge start to better define benchmark and effect thresholds for the Project.	CIRNAC-FC #6
	5.	Temperature of effluent stored in the tankage will be monitored and then compared to the range of temperatures used in the modelling.	CIRNAC-FC #7
	6.	Should treatment options result in an effluent with temperature higher than what has been assessed to date, Agnico Eagle will complete additional modelling to adjust the design of the engineered diffuser to comply with the applicable discharge criteria within the mixing zone and this information would be included in annual monitoring.	CIRNAC-FC #7
Measures to control sediment	7.	Agnico Eagle is evaluating the best available measures to control sediment and will work with DFO to develop an erosion and sediment control (ESC) plan to avoid and mitigate serious harm to fish.	DFO-3.2
	8.	Agnico Eagle will use all best available management practices and guidelines to avoid and mitigate serious harm to fish as a result of the construction and installation of discharge pipe and diffuser.	DFO-3.2

Subject	Commitment No.	Summary of Commitments (As listed in Agnico Eagle Final Written Submission filed with NIRB on August 29, 2018)	NIRB Reference No.
Measures to control sediment cont.	9.	In consultation with the KHTO, KivIA, and DFO, Agnico Eagle will develop a site-specific erosion and sediment control (ESD) plan for construction of the diffuser, prior to the pipe and diffuser construction. The plan will include DFO recommendations listed in 3.2.5.	DFO-3.2
	10.	It is not expected that the predicted increase in Chloride concentrations will affect the conclusion that adequate dilution can be provided for the proposed discharge to Melvin Bay. Agnico Eagle will take samples in September 2018 to confirm background values in Melvin Bay for direct comparisons. Near- Field dispersion modelling will be updated with refined TDS parameters when they are available following the field program in September 2018 and the chloride proportion will be refined as requested. Note: See NIRB Ref No. Response to ECCC e-mail dated September 7, 2018. Background concentrations will be updated subsequent to the 2018/2019 field program, to inform future MDMER-EEM monitoring and refine final treatment design.	ECCC #1
Wildlife	11.	Agnico Eagle commits to maintaining the objectives and thresholds for wildlife entering the mine infrastructure areas and the AWAR corridor. Agnico Eagle will continue to meet the standards set out in the TEMMP: "Vehicle Collisions -no more than 1 caribou per year and Caribou Movement -no more than 10% deflection of caribou approaching roads and infrastructure."	GN-01

Subject	Commitment No.	Summary of Commitments (As listed in Agnico Eagle Final Written Submission filed with NIRB on August 29, 2018)	NIRB Reference No.
Engagement with KHTO	12.	Agnico Eagle commits to on-going engagement with KHTO to confirm conditions in which discharge could occur. This will be taken into consideration on an annual basis during operations for ocean discharge activities.	KHTO-1
	13.	Regardless of the first day or last day of discharge in any given year, Agnico Eagle commits to a maximum of 800m^3/day discharge through the pipe and diffuser to Melvin Bay.	KHTO-1
Dust management	14.	Agnico Eagle commits to a reassessment of dust management control protocols as part of the Air Quality Monitoring Program.	KHTO-2
Comply with Type "A" Water License conditions	15.	As indicated in Section 3.4 of the FEIS Addendum, Agnico Eagle has been considering treatment options to meet applicable discharge criteria and comply with Project Certificate and Type A Water License conditions, as well as objectives in the Water Management Plan for the Mine. Should treatment options result in an effluent with temperature higher than what has been assessed to date, Agnico Eagle will complete additional modelling to adjust the design of the engineered diffuser to comply with the applicable discharge criteria within the mixing zone and this information would be included in annual reporting.	KivIA-4

Subject	Commitment No.	Summary of Commitments (As listed in Agnico Eagle Final Written Submission filed with NIRB on August 29, 2018)	NIRB Reference No.
Comply with Type "A" Water License conditions cont.	16.	Temperatures of effluent stored in the tank will be monitored and then compared to the range of temperatures utilized in the modelling.	KivIA-4
Stakeholders	17.	Agnico Eagle is committed to working with stakeholders to continue to address dust concerns and are open to discussing new monitoring locations.	NTI-1
	18.	Agnico Eagle will meet with the Kangiqliniq Hunters and Trappers Organization in the spring season of each year to determine and reach agreement on, when open water conditions at ltivia permit discharge.	NTI-3
Notice of Works	19.	Agnico Eagle will submit a Notice of Works, final design drawings (on shore, near-shore signage and lighting) and specific construction details to Transport Canada prior to construction. Commencement of these works or any temporary works will not begin until a Transport Canada approval is issued.	TC-3.1.1
Traffic	20.	Agnico Eagle has committed to no more than 16 one way truck trips per day for transport of saline effluent. If Agnico Eagle exceeds the number of trips due to caribou migration, weather and mechanical issues, Agnico Eagle will notify KIA with the reason.	KiVA-1

APPENDIX D List of Acronyms

ACRONYM	ENGLISH and INUKTITUT
CIRNAC	Crown Indigenous Relations and Northern Affairs Canada ᑲᓇᒪᑦᔪᑦ ᓄᓇᖅᖃᑎᖅᑐᑦ ᐱᓕᕆᖃᑎᒋᓕᓂᖅ ᐊᒻᒪᓗ ᐅᑭᐅᖅᑕᖅᑐᒥᑦ ᐱᓕᕆᐊᖏᔪᑦ
Previously	ᑲᓇᑕᒥ
INAC	Indigenous and Northern Affairs Canada ᑲᓇᑕᒥ ᓄᓇᖅᖃᑎᖅᑐᑦᓯᓕᒃ ᐅᑭᐅᖅᑕᖅᑐᒥᓗ ᐱᓇᓕᐊᔪᓕᕆᓯᓕᒃ
ARD	Acid Rock Drainage ᐅᔨᕋᐃᑦ ᐅᑦᑐᕋᖅᑐᖅᑕᓪᓕᑦ ᕋᔪᑦᓕᐊᕋᓂᖅᑎᑦ
ATV	All-Terrain Vehicles ᓇᐅᖃᔪᑐᐃᓐᓇᑭᓐᓇᖅᑐᑦ ᓄᓇᓗᐅᑎᑦ
CCG	Canadian Coast Guard ᑲᓇᑕᒥ ᐅᒥᐊᕐᔪᐊᓕᕆᔨᖃᔪᑦ
CEA	Cumulative Effects Assessment ᐊᖏᑐᖅᑕᐅᓗᒪᖅᓂᐅᔨᖅᐅᓗᒪᔪᓂᖅ ᓇᓗᓇᐃᔨᐃᓂᖅᖃᖅ
COPC	Constituents of Potential Concern ᐃᓗᐊᓗᑕᐅᖅᑲᓂᐅᔨᖅᐅᑐᐃᓐᓇᑕᐊᓪᓕᑦ
DFO	Fisheries and Oceans Canada ᑲᓇᑕᒥ ᐃᖅᑲᓗᓕᕆᓂᑦ ᐃᒪᖏᐅᑕᓕᕆᓂᑦᓗ
ECCC	Environment and Climate Change Canada ᐊᔭᑎᓕᕆᓂᕐᒥᑦ ᐊᒻᒪ ᓱᓪᒥᑉ ᐊᓱᓴᖅᐸᑦᓕᐊᓂᕐᒧᑦ ᖃᓇᑕᒥ
EIS	Environmental Impact Statement ᐊᔭᑎᑎᐅᑕᓂᕐᑐᑦ ᐊᖏᑐᖅᑕᐅᓗᒪᖅᓂᐅᔨᖅᐅᑐᐃᓐᓇᓕᕆᐊᖃᖅᓂᖅᑎᑲᓐᓂᓕᑦ ᐅᓂᒃᑲᓕᐊᖅ
EMPP	Environmental Management and Protection Plan ᐊᔭᑎᑎᐅᑕᓂᕐᑐᑦ ᐊᐅᓪᑕᐅᓂᖅᑎᑲᓐᓂᓕᑦ ᐸᖅᓇᐅᑦ
FEIS	Final Environmental Impact Statement ᑭᖓᔪᓕᓂᖅᐸᖅ ᐊᔭᑎᑎᐅᑕᓂᕐᑐᑦ ᐊᖏᑐᖅᑕᐅᓗᒪᖅᓂᐅᔨᖅᐅᑐᐃᓐᓇᓕᕆᐊᖃᖅᓂᖅᑎᑲᓐᓂᓕᑦ ᐅᓂᒃᑲᓕᐊᖅ
GDP	Gross Domestic Product ᑲᓇᑕᒥᓂᐅᕕᐊᒃᖁᔨᑎᑎᖅᑐᓐᓇᑦ ᐱᓕᕆᓂᕐᕆᐅᑎᖅᑎᑦᓇᓕᓪᓗ ᑲᑎᒪᔨᓗᑎᑦ ᑭᓇᐅᔨᕈᓕᐊᑦ
GHG	Greenhouse Gas ᓂᓪᖁᐊᑦ ᐅᑦᓂᒃᓂᔭᓕᐊᕐᔪᐊᑎᖏᑐᒐ
GN	Government of Nunavut ᓄᓇᕗᑦ ᑲᔭᒪᖏᒐ
HC	Health Canada ᑲᓇᑕᒥ ᐊᐢᓂᐊᖃᖅᖏᑦᑐᑕᓪᓕᒃᔨᔨᑦ

ACRONYM	ENGLISH and INUKTITUT
HTO	Hunters' and Trappers' Organization ᐊᓯᖏᖅᑎᑦ ᑲᑐᔪᖅᑎᑎᒋᔭᖅᑎᑦ
IIBA	Inuit Impact and Benefit Agreement ᐃᓄᐃᑦᐊᕆᑐᖅᑕᐅᓂᐊᖅᓂᖏᓐᓄᑦ ᐃᑲᓗᓯᐊᖅᑕᑭᓐᓇᐅᑎᖏᓐᓄᑦᓄᓪᓗ ᐊᖏᑎᑕᑎᑦ
IOL	Inuit Owned Land ᐃᓄᐃᑦ ᓄᓇᖅᑰᑎᖏᑦ
IPG	Institution of Public Government ᐃᓄᖕᓄᑦ ᓚᖏᒪᖅᑲᖅᓴᑲ
IR	Information Request ᑐᓴᖅᑎᑕᐅᑎᐊᕆᑲᓂᓂᕈᒪᓴᓪᔨᑦ
KIA	Kivalliq Inuit Association ᑭᖏᑦᓂᖅᒥ ᐃᓄᐃᑦ ᑲᑐᔪᖅᑎᑎᑦ
LSA	Local Study Area ᓄᓇᓕᐅᕐᕿ ᖃᑲᓂᕆᔨᓂ ᖃᑲᐅᔪᖅᑲᐃᐅᔨᖅᑐᖅ
ML	Metal Leaching ᖁᐃᕐᕼᑲᐃᑦ ᖃᑭᓂᖅᑎᓇᖏᑦᓂᐊᓂᖏᓐᓄᑦ
NGMP	Nunavut General Monitoring Program ᓄᓇᕗᒥᑭᔪᑐᐃᓐᓇᖅᓂᒃ ᓱᓐᓂᖅᑐᑐᖅᑭᖅᑕᖏᓐᓄᑦᓄᓇᕗᒻᒥᐅᓐᓂᒃ ᖃᑲᐅᔪᑎᐊᖅᑲᑕᖅᓂᖅ
NIRB	Nunavut Impact Review Board ᓄᓇᕗᒥ ᐊᖏᑎᑕᓇᔭᕆᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ
NLCA	Nunavut Land Claims Agreement ᓄᓇᕗᒻᒥ ᓄᓇᑦᓂᖅᓱᑦ ᐊᖏᑦᑕᑎᑦ
NNLP	No Net Loss Plan ᐃᖅᑲᓚᑦᑕᓪᓕ ᐊᑲᑐᖅᑕᐅᔪᒪᖅᑲᔪᐅᓴᐅᖅᑐᕆᐅᓂᑦ ᓄᑦᓄᑦ ᐱᓕᓇᐊᓇᓴᐅᓂᐊᖅᑐᓄᑦ ᐸᖅᓇᐅᑦ
NPC	Nunavut Planning Commission ᓄᓇᕗᒻᒥ ᐸᖅᓇᐃᔭᑦ
NRCan	Natural Resources Canada ᑲᓇᑕᒥ ᓄᓇᒥᐅᑕᓕᓇᔭᑦ
NTI	Nunavut Tunngavik Incorporated ᓄᓇᕗᑦ ᑐᓴᓚᕆᖅ ᐃᓐᓯᐊᐳᓇᑎᑦ
Nunavut Agreement ᓄᓇᕘᒍᑦ ᐊᖏᑦᑕᑎᒥ	*Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* *ᐊᖏᑦᑕᑎᑐᐅᔪᓴ ᐅᓯᓂᖏᓐᓄ ᐃᓄᐃᑦᓄᓇᕗᒻᒥ ᐊᓯᒪ ᖁᔪᑎᓂᖅᑕᖓᖏᓐᓄ ᓯᐃᐟ ᐱᔪᓐᓇᐅᑎᖏᓐᓄ ᑲᓇᑕᒥ*
NuPPAA	Nunavut Planning and Project Assessment Act ᓄᓇᕗᒻᒥ ᐸᖅᓇᐃᓂᒍᑦ ᐊᓯᒪ ᐱᓕᓇᐊᕐᓴᑦ ᖃᐅᔨᓴᖅᑕᐅᓂᖓᓄᑦ ᒪᓕᓴᖏᑦ
NWB	Nunavut Water Board ᓄᓇᕗᒥ ᐃᒪᓕᓇᔭᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ

ACRONYM	ENGLISH and INUKTITUT
NWMB	Nunavut Wildlife Management Board ᓄᓇᕗᒻᒥ ᐅᒪᔨᓕᕆᔨᖏᔪᑦ ᑲᑎᒪᔨᖅᑭᑦ
PC	Parks Canada ᑲᓇᑕᒥ ᒥᖕᓴᐃᖅᓯᖏᓐᓇᓕᒃ
PHC	Preliminary Hearing Conference ᐃᓄᑭᐊᖅᑎᑦᓗᐊᔪ ᐃᓄᐃᑦ ᑲᑎᒪᑎᑕᐅᓂᐊᓵᖏᓪᓂᖅ ᑲᑎᒪᓂᖅ
RSA	Regional Study Area ᓄᓇᓕᑦ ᐊᕕᑲᑐᓯᒪᐅᖏᓂᖅᓱᓪᓂ ᖃᑲᐅᔨᖏᕕᐅᔪᖅ
SARA	Species at Risk Act ᐅᒪᔪᑦ ᐊᑦᑕᓇᖅᑐᑲᑯᓕᒋᔨᓄᑦ ᒪᓕᑉᓱᖅᔪᐊᖅ
SEMC	Socio-Economic Monitoring Committee ᐃᓄᓕᓐᓂᓂᖅ -ᐱᕐᓕᓕᐊᔪᓕᓐᓂᓂᕐᒧᑦᓱᖓᔪᑦᓗ ᓯᓚᓂᖅᑐᖏᖅᐸᑦᓕᐊᓕᖅᓴᑎᑲᓗᐊᓇᐊᖅᓱᓚᓪᓂᖅ ᖃᑲᐅᔨᑎᐊᖏᑦᑕᖏᓂᖅᑎᓚᓄᑦ ᑲᑎᒪᔨᕿᓕᑦ
TC	Transport Canada ᑲᓇᑕᒥ ᐃᖕᑎᕿᔨᓕᓐᓇᓕᒃ
TDS	Total Dissolved Solids ᓯᑎᔨᕕᓂᑦ ᐊᐅᑲᓯᒪᔨᑦ ᑲᑎᑦᓗᑎᑦ
TK	Traditional Knowledge ᐃᓄᖕᓄᑦ ᖃᑲᐅᔨᒪᕗᐅᔨᑦ
VEC	Valued Ecosystem Component ᐅᒪᔨᓚᓇᖅᑐᓕᒻᒥᑦ ᐊᐸᑎᖕᑎᑦᓗ ᐃᓄᖕᓄᑦ ᐱᓪᒪᓇᑎᕗᐅᔨᑦ
VSEC	Valued Socio-Economic Component ᐃᓄᓕᓐᓂᓂᖅ -ᐱᕐᓕᓕᐊᔪᓕᓐᓂᓂᕐᒧᑦᓱᖓᔪᑦᓗ ᐃᓄᖕᓄᑦ ᐱᓪᒪᓇᑎᕗᐅᔨᑦ