Nunavut Impact Review Board
Pre-hearing Conference Decision

Concerning

The Phase 2 Hope Bay Belt Project

(NIRB File No. 12MN001)

Proposed by

TMAC Resources Inc.

Date of Pre-hearing Conference: June 15-16, 2017

Date of Decision: July 21, 2017

Issued by:

Nunavut Impact Review Board (NIRB)
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Cover photos: 1) Technical Meeting prior to the Pre-hearing Conference
2) Pre-hearing Conference Community Roundtable

Executive Summary

The Nunavut Impact Review Board (NIRB or Board) has prepared and issued this Pre-hearing Conference Decision Report to provide a summary of the discussions and outcomes resulting from the recent Technical Meeting and Pre-hearing Conference (PHC) held in Cambridge Bay June 12-15, 2017 as part of the NIRB's Review of TMAC Resources Inc.'s (the Proponent) "Phase 2 Hope Bay Belt" Project (the Project), NIRB File No. 12MN001. Following the completion of the Technical Meeting, Community Roundtable session and PHC in Cambridge Bay, and following consideration of the Draft Environmental Impact Statement (DEIS) provided by the Proponent, the technical review submissions and the dialogue of the parties provided during the Technical Meeting, the NIRB has determined that its assessment of the Phase 2 Hope Bay Belt project proposal can proceed to a Final Hearing. This determination is predicated on the condition that all the information required to be submitted through the Proponent's forthcoming Final Environmental Impact Statement (FEIS) is provided in accordance with the timelines set out in the List of Commitments in Appendix D of this Report.

The NIRB has determined that the most appropriate venue for the Final Hearing is the closest community to the proposed development, Cambridge Bay. The NIRB is also committed to taking steps to ensure that representatives from each of the other potentially affected communities of Kugluktuk, Kingaok (Bathurst Inlet), Umingmaktok (Bay Chimo), Gjoa Haven, Taloyoak and Kugaaruk have an opportunity to participate in the Final Hearing. The Final Hearing will proceed in accordance with the NIRB's Rules of Procedure, dated September 3, 2009. By issuing the guidance in this Report, the Board is modifying the following provisions of the NIRB Rules of Procedure for this Review:

- To vary Rule 18.2 so that the Board may give less than 60 days notice to the Proponent and project distribution list in advance of a meeting of technical experts, should one be required;
- To vary Rule 20.1(b) so that the Board may give less than 60 days notice to the Proponent and project distribution list before a PHC, should one be scheduled; and
- To modify Rule 38.1 to allow materials to be relied on at the Final Hearing to be filed less than 15 days in advance of the hearing.

During the Final Hearing, formal technical presentations will be scheduled to take place first and will be organized by subject. After the technical component of the Final Hearing, the NIRB will host the Community Roundtable session. All parties are required to ensure sufficient technical expertise is available for both the technical sessions and the Community Roundtable to ensure that community representatives, members of the public and other participants have their questions responded to adequately.

In response to the Proponent's request that the NIRB and the Nunavut Water Board (NWB) coordinate, to the extent possible, their respective processes for the assessment of the Project and the associated water licence application, the NWB has initiated its consideration of the draft water licence application while the NIRB's assessment of the Project is ongoing. Reflecting this coordinated approach, the NWB participated in the Technical Meeting and PHC and has undertaken a conformity assessment of the draft water licence application submitted by TMAC as an appendix to its Draft EIS. The detailed results of the NWB's conformity assessment have been included as an appendix to this report, with direction provided regarding items to be addressed in the water licence application that will accompany the Proponent's Final EIS. The NWB has determined that the Proponent's Water Licence Application package for the Project should consist of the following:

1. An application to amend the current scope of the existing Doris North Type "A" Water Licence for proposed water use and waste deposit activities associated with Doris, Madrid North and Madrid South sites; AND
2. An application for a new and separate Type "A" Water Licence for proposed water use and waste deposit activities associated with the Boston site.

In the event that the Water Licence Application package submitted with the Final EIS addresses these deficiencies, the NWB anticipates being in a position to hold a Technical Meeting in relation to that application following the NIRB's Final Hearing.

The NIRB encourages the parties to work together to address the remaining outstanding technical issues, and the Proponent is further encouraged to fully meet its commitments as set out in Appendix D and to comply with the further direction of the Boards as set out in this PHC Decision Report regarding the additional information required.

Signed this 21st day of July, 2017.

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Elizabeth Copland
Chairperson
Nunavut Impact Review Board

ᓇᐃᓕᒋᐊᖅᓯᒪᔪᑦ ᐅᓂᐸᒃᑲᖅᓯᒪᔪᑦ ᐱᓕᕆᐊᖑᓂᐊᖅᑐᒥᒃ

ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᑦ (NIRB) ᐊᕿᒃᓱᐃᓯᒪᙱᓚ ᑐᓂᓯᓯᒪᐸᓪᓗᑎᓪᓗ ᓯᕗᓂᖓᓂ ᑐᓴᓂᐅᑉ ᑲᑎᒪᕐᔪᐊᕐᓂᕐᒥ ᐃᓱᒪᓕᐅᖅᑕᐅᓯᒪᔪᑦ ᐅᓂᑉᑲᖓᓂᒃ ᓇᐃᓕᒋᐊᖅᓯᒪᐸᓪᓗᒍ ᐅᖃᐅᓯᐅᓚᐅᖅᑐᑦ ᐊᒻᒪ ᐃᓱᒪᓕᐅᖅᑕᐅᓂᑯᑦ ᓯᕗᓂᖓᓂ ᖃᓄᐃᓕᐅᕈᑎᒃᓴᑦ ᑲᑎᒪᓂᖓᓂ ᐊᒻᒪ ᓯᕗᓂᖓᓂ ᑐᓴᓂᐅᑉ ᑲᑎᒪᕐᔪᐊᕐᓂᖓᓂ (PHC) ᑲᔪᓯᓚᐅᖅᑐᖅ ᐃᖃᓗᒃᑐᑎᐊᒻᒥ ᔪᓂ 12-15, 2017 ᐃᓚᒋᐸᓗᓂᐅᒃ ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᑕ ᖃᐅᔨᓴᕐᓂᖓᓂᒃ TMAC ᐅᔾᕋᒃᑕᕆᐊᑦ ᐃᓐᑯᐊᐳᕆᑎᑦ (ᐱᓕᕆᔪᐊᖅᑐᖅ) “ᐱᓕᕆᐊᑉ ᑐᒡᓕᐊᓂ Hᐅᑉᐱᒻᒥᐅᔾᕋᖕᓂᐊᕐᕕᒃ” ᐱᓕᕆᐊᕐᒥ (ᐱᓕᕆᐊᖅ), ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᑕ ᑎᑎᖅᑲᐅᑎᖏᓐᓂ 12MN001. ᐱᐊᓂᒃᐸᓕᐊᓕᖅᑎᓪᓗᒍ ᖃᓄᐃᓕᐅᕈᑎᒃᓴᓄᑦ ᑲᑎᒪᓂᖅ, ᓄᓇᓕᖕᓂ ᑲᑎᒪᓂᖃᓚᐅᖅᐳᑦ ᑲᑎᕝᕓᑎᒃ ᐊᒻᒪ ᓯᕗᓂᖓᓂ ᑐᓴᓂᐅᑉ ᑲᑎᒪᕐᔪᐊᕐᓂᖓᓂ ᐃᖃᓗᒃᑐᑎᐊᒻᒥ, ᑭᖑᓂᖓᒍᑦ ᐃᓱᒪᓕᐅᖅᑕᐅᐸᓗᓂ ᓯᕗᓪᓕᖅ ᐊᕙᑎᐅᑉ ᐊᒃᑐᐊᐅᓂᖓᑕ ᑎᑎᖅᑲᐅᑎᖏ (DEIS) ᑐᓂᔭᐅᓯᒪᔪᖅ ᐱᓕᕆᔪᐊᖅᑐᒻᒥᑦ, ᖃᓄᐃᓕᐅᕈᑎᓄᑦ ᖃᐅᔨᓴᕐᓂᑦ ᑐᓂᔭᐅᓂᖏᑦ ᐊᒻᒪ ᑎᒥᐅᔪᑦ ᐅᖃᖅᑲᑎᒋᖕᓂᖏᑦ ᖃᓄᐃᓕᐅᕈᑎᑦ ᑲᑎᒪᓂᖏᓐᓂ, ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᑦ ᐃᓱᒪᓕᐅᓚᐅᖅᐳᑦ ᖃᐅᔨᓴᕐᓂᖏᑦ ᐱᓕᕆᐊᑉ ᑐᒡᓕᐊᓂ Hᐅᑉᐱᒻᒥᐱᓕᕆᐊᕐᒧᑦ ᑐᒃᓯᕋᐅᑦ ᑲᔪᓯᔾᔪᑎᖅᓯᐊᓪᓚᑦ ᑭᖑᓪᓕᕐᒥᒃ ᑐᓴᓂᒥᒃ. ᑖᓐᓇ ᐃᓱᒪᓕᐅᖅᑕᐅᓯᒪᔪᖅ ᒪᓕᒋᐊᖁᓐᓂ ᑐᓴᒐᒃᓴᓗᒃᑕᑦ ᑐᓂᔭᐅᔭᕆᐊᓕᑦ ᐱᓕᕆᓂᐊᖅᑐᑉ ᑲᐃᓂᐊᖅᑐᑦ ᑭᖑᓪᓕᕐᒥᒃ ᐊᕙᑎᐅᑉ ᐊᒃᑐᐊᐅᓂᖓᓄᑦ ᑎᑎᕋᖅᓯᒪᔪᑦ (FEIS) ᐃᓪᓗᐊᓂᖅᓴᐅᙱᑦ ᒪᓕᒃᑯᑎᒃ ᐱᓕᕆᐊᖑᓂᐊᖅᑐᓂᒃ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᓐᓂᒃ ᖃᓄᐃᓕᐅᕈᑕᐅᓂᐊᖅᑐᑦ ᑎᑎᖅᑲᖏᓐᓂ ᓇᓗᓇᐃᑯᑕᖕᒐᓐᓂ D ᑕᕙᓂ ᐅᓂᒃᑲᒥ.

ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᑦ ᐃᓱᒪᓕᐅᖅᓯᒪᕗᑦ ᐊᑐᒐᐅᓂᐊᖅᑐᖅ ᓄᑕᖑᔪᖅ ᑭᖑᓪᓕᕐᒧᑦ ᑐᓴᓂᐅᓂᐊᖅᑐᒧᑦ ᖃᓂᑦᑐᖅᑕᒻᒥ ᓄᓇᓕᖕᒥ ᐱᓕᕆᐊᖑᓂᐊᖅᐳᖅ, ᐃᖃᓗᒃᑐᑎᐊᖅ. ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᑦ ᐊᖏᖅᓯᒪᙱᓚᑦᑕᐅᖅ ᖃᓄᐃᓕᐅᕈᑎᖃᕐᓂᐊᕐᕕᒃ ᑲᑎᒫᖅᑐᖅᓯᒪᔪᑦ ᓄᓇᓕᖕᓂᑦ ᐊᒃᑐᐅᓯᒪᔪᓂᑦ ᐅᑯᓇᖕᒐᑦ ᖁᕐᓗᖅᑐᖅ, ᕿᖕᒐᐅᖅ, ᐅᒥᖕᒪᒃᑐᖅ, ᐅᖅᓱᖅᑐᖅ, ᑕᓗᕐᔪᐊᖅ ᐊᒻᒪ ᑯᒑᕐᔪᒃ ᐊᔪᖏᑎᑕᐅᓂᐊᕐᒪᑕ ᐃᓚᐅᓂᕐᒥᒃ ᑭᖑᓪᓕᕐᒥ ᑐᓴᓂᕐᒥ. ᑭᖑᓪᓕᕐᒥ ᑐᓴᓂᖅ ᑲᔪᓯᓂᐊᖅᑐᖅ ᒪᓕᒡᓗᑎᒃ ᐅᑯᓇᖓ ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᑕ ᑲᑎᒪᑎᑦᓯᓂᕐᒧᑦ ᒪᓕᒐᖏᓐᓂᒃ, ᐅᐸᓗᖅᖢᑐᓂᒃ ᓯᐸᑕᒻᐸ 3, 2009. ᑐᓂᓯᒪᓂᖏᑦ ᖃᓄᐃᓕᐅᕈᑎᒃᓴᑦ ᐅᓂᒃᑲᒥ ᑕᕙᓐᓂ, ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᑦ ᐊᕿᒋᐊᕐᓂᖓᓚ ᐅᑯᓇᖓ ᒪᓕᒐᒃᓴᓂᒃ ᑲᑎᒪᓂᕐᒧᑦ ᖃᐅᔨᓴᕐᓂᐅᓂᐊᖅᑐᒥ:

- ᑐᑭᓯᓇᕿᑎᐊᕐᕈᑎᒍᑦ ᒪᓕᒐᖅ 18.2 ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᑦ ᑐᓂᓯᖕᓇᕐᓂᐊᕐᒪᑕ ᓯᕗᓂᖓᓂ 60 ᐅᐸᑦ ᑐᓴᒃᓴᒥᒃ ᐱᓕᕆᓂᐊᖅᑐᒧᑦ ᐊᒻᒪ ᑐᓂᔭᐅᓂᐊᖅᑐᑦ ᑎᒥᐅᔪᑦ ᐱᓕᕆᐊᕐᒥᒃ ᖃᐅᔨᒪᔪᒻᒥᒃ ᑲᑎᒪᓂᐅᓂᐊᖅᑐᒥᒃ ᖃᓄᐃᓕᐅᕈᑎᒃᓴᓂᒃ ᖃᐅᔨᒪᑎᐊᖅᑐᓂᒃ, ᐊᑐᕆᐊᖅᑲᕐᓂᖅᐸᑦ;

- ᑐᑭᓯᓐᓇᖅᓯᑎᐊᕐᑯᐸᑐᒍ ᒪᓕᒐᖅ 20.1(b) ᓄᓇᓄᒻᒥ ᐊᕙᑎᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᑦ ᑐᓂᓯᔪᖕᓇᕐᑯᐸᑐᒋᑦ 60 ᐅᐸᑐᑦ ᑐᓴᒃᓴᒥᒃ ᐱᓕᕆᓂᐊᖅᑐᒧᑦ ᐊᒻᒪ ᑎᒥᐅᔪᑦ ᐱᓕᕆᐊᕐᒥᒃ ᖃᐅᔨᒪᔪᒻᒥᒃ ᓯᕗᓂᖓᓂ ᑐᓴᓐᓂᐅᐸ ᑲᑎᒪᕐᔪᐊᕐᓂᖓᓂ, ᐊᕐᑭᒃᑕᐅᓯᒪᓇᔾᕐᓂᖅᐸᑦ; ᐊᒻᒪ
- ᐊᓯᐊᖑᑎᕆᐊᕐᑯᐸᑐᒍ ᒪᓕᒐᖅ 38.1 ᑎᑎᕐᑲᑦ ᑐᖓᕕᒋᔭᐅᑐᑎᒃ ᓯᕗᓂᖓᓂ ᑭᖑᓪᓕᕐᒥ ᑐᓴᓐᓂᕐᒥ ᑐᓂᔭᐅᓯᒪᑐᑎᒃ ᒥᒃᓴᓐᓂ 15 ᐅᐸᑐᑦ ᑐᓴᓐᓂᐅᐸ ᓯᕗᓂᖓᓂ.

ᑭᖑᓪᓕᕐᒥ ᑐᓴᓐᓂᕐᒥ, ᖃᓄᐃᓕᐅᕈᑎᒃᓴᑦ ᐅᕐᑲᐅᓯᐅᑎᓪᓗᒋᑦ ᐊᕐᑭᒃᑕᐅᓯᒪᓚᐅᖅᐳᑦ ᓯᕗᓪᓕᐅᑐᑎᒃ ᐊᒻᒪ ᐊᕐᑭᒃᑕᐅᓯᒪᑐᑎᒃ ᐅᕐᑲᐅᓯᖏᑦ ᒪᓕᒃᑐᒋᑦ. ᑭᖑᓂᖓᓂ ᖃᓄᐃᓕᐅᕈᑎᒃᓴᑦ ᐅᕐᑲᐅᓯᖏᓐᓂ ᑐᓴᓐᓂᐅᐸ ᑭᖑᓂᖓᓐᓂ, ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᑦ ᑲᑎᒪᑎᑦᓯᓂᐊᖅᐳᑦ ᓄᓇᓕᖕᓂᒃ ᑲᑎᑕᐅᓯᒪᔪᓐᓂᒃ. ᑎᒥᐅᔪᒃᑕᑦ ᑎᓕᐅᖅᑕᐅᕗᑦ ᖃᐅᔨᒪᑎᐊᖅᑐᓂᒃ ᑎᓕᓯᕐᑯᔾᐅᐸᑐᑎᒃ ᖃᓄᐃᓕᐅᕈᑎᒃᓴᓕᕆᓂᕐᒥᒃ ᐊᒻᒪ ᓄᓇᓕᖕᓂᑦ ᑲᑎᒪᓂᕐᒥ ᑲᑎᒪᔾᖅᑐᖅᑐᒃᑕᑦ, ᐃᓄᒥᐊᓪᓗ ᐊᓯᖏᓪᓗ ᐃᓚᐅᔪᑦ ᐊᐱᕐᑯᑎᖏᑦ ᑭᐅᔾᐅᑎᐊᕐᓂᐊᕐᒪᑕ.

ᑭᐅᔪᑎᕐᑲᖅᑐᑎᒃ ᐱᓕᕆᓂᐊᖅᑐᐸ ᑐᒃᓯᕋᐅᑎᖕᒋᓐᓂᒃ ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᑦ ᐊᒻᒪ ᓄᓇᕗᒻᒥ ᐃᒪᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᑦ (NWB) ᑲᑎᒪᓂᕐᒥᒃ ᓯᕗᒧᐊᒃᑎᕗᑐᑎᒃ ᐊᔪᕐᓇᖏᐸᑦ ᖃᐅᔨᓴᖅᑕᐅᓂᖓᓄᑦ ᐱᓕᕆᐊᖑᔪᐸ ᐊᒻᒪ ᐃᓚᖓᓐᓂᒃ ᐃᒥᐅᐸ ᓚᐃᓴᖓᑕ ᑐᒃᓯᕋᐅᑎᖓᓐᓂᒃ, ᓄᓇᕗᒻᒥ ᐃᒪᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᑦ ᐱᒋᐊᖅᑎᕙᓚᐅᕐᒪᑕ ᐃᓱᒪᓕᐅᕐᓂᕐᒥᒃ ᓯᕗᓪᓕᕐᒥᒃ ᓚᐃᓴᓐ ᑐᒃᓯᕋᐅᑎᖓᓂᒃ ᒪᓐᓇᐅᔪᖅ ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᑦ ᖃᐅᔨᓴᖅᑎᓪᓗᒋᑦ ᐱᓕᕿᐊᐸ ᑲᔪᓯᓂᖓᓐᓂᒃ. ᐅᕐᑲᐅᓯᐅᐸᑐᓐᓂ ᐊᑐᒐᐅᓂᐊᖅᑐᖅ ᑕᒻᓇ, ᓄᓇᕗᒻᒥ ᐃᒪᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᑦ ᐃᓚᐅᓚᐅᕐᒪᑕ ᖃᓄᐃᓕᐅᕈᑎᒃᓴ ᑲᑎᒪᓂᖓᓐᓂ ᐊᒻᒪ ᓯᕗᓂᖓᓂ ᑐᓴᓐᓂᐅᐸ ᑲᑎᒪᕐᔪᐊᕐᓂᖓᓐᓂ ᐱᓕᕆᐊᖑᓯᒪᓕᖅᑐᑦ ᐊᖏᖅᑕᐅᓂᖓᓄᑦ ᖃᐅᔨᓴᕈᑎᓐᓂ ᓯᕗᓪᓕᕐᒥ ᐃᒥᐅᐸ ᓚᐃᓴᖓᑕ ᑐᒃᓯᕋᐅᑎᖓᓐᓂ ᑐᓂᔭᐅᓯᒪᔾᖅ TMAC ᐅᔾᔨᖕᓂᐊᖅᑎᓂᒃ ᐃᑐᐊᓂᓯᐅᖅᑐᖅ ᓯᕗᓪᓕᕐᒥ ᐊᕙᑎᐅᐸ ᐊᒃᑐᑲᐅᓂᖓᑕ ᑎᑎᕋᖅᓯᒪᓂᖏᓐᓂ. ᓇᑐᓇᐃᖅᑕᐅᓯᒪᔪᑦ ᖃᐅᔨᓴᕐᓂᑯᑦ ᓄᓇᕗᒻᒥ ᐃᒪᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᑦ ᐊᖏᖅᑕᐅᓂᖓᓄᒃ ᖃᐅᔨᓴᕈᑎᓂ ᐃᓚᐅᖓᑕ ᓇᑐᓇᐃᑯᑕᖏᓐᓂ ᐅᓂᐸᒃᑲᒥ, ᖃᓄᐃᓕᐅᕐᑯᔨᔪᑦ ᐅᕐᑲᐅᓯᐅᓂᐊᖅᑐᑦ ᐃᒥᐅᐸ ᓚᐃᓴᖓᑕ ᑐᒃᓯᕋᐅᑎᖓᓐᓂ ᐃᒪᐅᓂᐊᖅᑐᑦ ᐱᓕᕆᓂᐊᖅᑐᐸ ᑭᖑᓪᓕᕐᒥ ᐊᕙᑎᐅᐸ ᐊᒃᑐᑲᐅᓂᖓᓄᑦ ᑎᑎᕋᖅᓯᒪᔾᓐᓂ. ᓄᓇᕗᒻᒥ ᐃᒪᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᑦ ᐃᓱᒪᓯᒪᖓᒪᑕ ᑐᒃᓯᕋᖅᑐᐸ ᐃᒥᕐᒧᑦ ᓚᐃᓴᓐᒧᑦ ᑐᒃᓯᕋᐅᑎᖓ ᐱᓕᕆᐊᕐᒧᑦ ᐅᑯᓂᖓ ᐃᑐᓕᕐᑲᕐᑯᐸᑐᒍ:

1. ᑐᒃᓯᕋᐅᑦ ᐊᓯᐊᖑᑎᐊᕈᑕᐅᔾᖅ ᒪᓐᓇ ᐊᑐᖅᑐᒧᑦ ᑐᕋᖓᑎᔾᖕᒋᓐᓄᑦ ᑐᐊᑎᔅ ᓄᐊᑦ ᓇᑐᓇᐃᑯᑕᖓ "A" ᐃᒥᕐᒧᑦ ᓚᐃᓴᒻᒧᑦ ᐊᑐᕈᒪᐸᑐᑎᒃ ᐃᒥᕐᒥᒃ ᐊᒻᒪ ᐊᑕᑯᖅᑕᕈᒪᐸᑐᑎᒃ ᑐᕋᑐᐊᖅᑐᓄᑦ ᑐᐊᑎᔅ, ᒪᑐᑎᑦ ᓄᐊᑦ ᐊᒻᒪ ᒪᑐᑎᑦ ᓴᐅᔅ ᐅᔾᔨᖕᓂᐊᕐᕕᖕᒋᓐᓄᑦ; ᐊᒻᒪ

2. ᑐᒃᓯᕋᐅᑦ ᓄᑕᒻᒧᑦ ᐊᓯᐊᓄᑦᑐ ᓇᓗᓇᐃᑯᑕᕐᑲᖅᑐᒧᑦ “A” ᐃᒥᕐᒧᑦ ᓚᐃᓴᒻᒧᑦ ᐊᑕᑯᓄᑦᑐ ᑐᕋᕐᓂᐊᖅᑐᓄᑦ ᐸᔅᑕᓐᒥ ᐅᔭᕋᖕᓂᐊᕐᕕᖕᒧᑦ.

ᐅᕐᑲᐅᓯᕐᑲᕋᔭᕐᓂᖅᐸᑦ ᐃᒥᕐᒧᑦ ᓚᐃᓴᐅᑉ ᑐᒃᓯᕋᐅᑎᖕᖓ ᑐᓂᔭᐅᓯᒪᔪᖅ ᑭᖑᓪᓕᒥ ᐊᕙᑎᐅᑉ ᐊᒃᑐᐃᓂᖕᖓᑕ ᑎᑎᕐᑲᖕᒋᓐᓂ ᓇᒻᒪᖕᒋᓐᓇᔭᕐᓂᖅᐸᑦ, ᓄᓇᕗᒻᒥ ᐃᒪᓕᕆᔨᑦ ᑲᑎᒪᔨᖕᒋᑦ ᐃᓱᒪᓕᐅᖅᓯᒪᕗᑦ ᖃᓄᐃᓕᐅᕈᑎᒃᓴᓄᑦ ᑲᑎᒪᓂᕐᑲᕐᓗᑎᒃ ᑐᕋᓗᐊᖅᑐᒧᑦ ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᑦ ᑲᑎᒪᔨᖕᒋᑕ ᑭᖑᓪᓕᕐᒥᒃ ᑐᓴᓐᓂᖕᖓᓐᓄᑦ.

ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᑦ ᑲᑎᒪᔨᖕᒋᑦ ᐃᑲᔪᖅᑐᐃᕗᑦ ᑎᒥᐅᔪᓐᓂᒃ ᐱᓕᕆᕐᑲᑎᒋᕐᑯᐸᓗᒋᑦ ᐅᕐᑲᐅᓯᕐᑲᕐᓗᑎᒃ ᐊᕐᑭᒋᐊᓕᖕᓂᒃ ᖃᓄᐃᓕᐅᕈᑎᑦ ᐱᓕᕆᐊᖕᒋᓐᓂᒃ, ᐊᒻᒪ ᐱᓕᕆᓂᐊᖅᑐᖅ ᐃᑲᔪᖅᑐᒐᐅᑲᓂᖅᐳᖅ ᐱᓂᐊᕐᓂᕋᖅᑕᐅᔪᓐᓂᒃ ᑲᔪᓯᑎᑦᓯᕐᑯᐸᓗᒍ ᓇᓗᓇᐃᖅᓯᒪᔪᓐᓂᒃ ᓇᓗᓇᐃᑯᑕᖕᖓᓐᓂ D ᐊᒻᒪ ᒪᓕᕐᑯᔭᐅᐸᓗᓂ ᖃᓄᐃᓕᐅᕈᑎᒃᓴᓂᒃ ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᑦ ᑲᑎᒪᔨᖕᒋᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ ᓯᕗᓂᖕᖓᓂ ᑐᓴᓐᓂᐅᑉ ᑲᑎᒪᕐᔪᐊᕐᓂᖕᖓᑕ ᐃᓱᒪᓕᐅᖅᑕᐅᓂᖕᖓᑕ ᐅᓂᑉᑲᖕᖓᓐᓂ ᑐᑭᓯᔪᑎᑲᓂᐅᔪᑦ ᐊᑐᓇᐊᕐᑲᖅᑐᑦ.

ᐊᑎᓕᐅᖅᑕᐅᔪᖅ ᐅᐸᓗᒻᒥ 21 ᐅᐸᓗᖅ ᔪᓚᐃ, 2017.

ᐃᓕᓴᐱ ᑯᐸᓚᓐ

ᐃᒃᓯᕙᐅᑕᖅ

ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖕᒋᑦ

Aulapkaiyini Naittuq

Nunavut Aviktulikyiit Katimayiit (NIRB Katimayiingilluuniit) piliuqtuq tuniyuqlu una Katimatinnagit Katimaniq Ihumaliurut Taiguagakhaq tunigiami naittumik uqaqatigiiktaminik qanuriliurutingillu piyuq qangannuaq Ayuittiarniqmut Katimaniq Katimatinnagillu Katimaniq (PHC) Iqaluktuutiaqmi Imaruqtirviani 12-15, 2017 ilanganik NIRB-kut Ihivriuqninnga uuminnga TMAC Resources Havakvinga (Ikayuqtiuyup) "Ilangani 2 Hope Bay Nunanga" Havauhikhaq (Havauhikhaq), NIRB Naunaitkutaq Nampanga 12MN001. Iniqtirmagu Ayuittiarniqmut Katimaniq, Nunallaani Katimaniq unalu PHC Iqaluktuutiami, talvangaanillu ihumagiyait Iniqhimaittuq Avatiliriniqmut Pilaqtutit Titiraq (DEIS) tuniyauyuq Ikayuqtiuyumit, ayuittiarniqmut ihivriurutinga uqaqtamikniklu ilauyunit tuniyuq pitillugu una Ayuittiarniqmut Katimaniq, NIRB ihumaliuqtaa ihivriuqninnga Ilangani 2 Hope Bay Nunanga Havauhikhaq tukhiutinga pittaaqtuq Kingulliqpaamut Tuhaqtipkainiq. Una akhuurninnga ihumagiyauyuq qanurittaakhaanik tamaita naunaitkutat ihariagiyauyuq tuniyaugiami ukunuuna Ikayuqtiuyup Qanikliliqtuq Kingulliqpaaq Avatiliriniqmut Pilaqtutit Titiraq (FEIS) tuniyauyuq malikhugu qanuriliurutingit piliurhimayuq Titiraqhimayuni Uqariiyaqtamiknik Naunairvikmi D uuminnga Taiguagakhaqmi.

NIRB-kut ihumaliuqtaa ihuatqiaq katimavikhaq Kingulliqpaamut Tuhaqtipkaidjutikhaq qanitqiamut nunallaat piliurnahuaqtamiknik, Iqaluktuutiaq. NIRB akhuuqtullu talvanga pigiami naunairiami katimanahuat tamainnit ayurhaqtitauyunit nunallaat Kugluktuk, Qingauk, Umingmaktok, Urhuqtuuq, Taloyoak uumanilu Kugaaruk ilauttaaqtut uumani Kingulliqpaamut Tuhaqtipkaidjutikhaq. Kingulliqpaamut Tuhaqtipkaidjutikhaq piniaqtut angirutiplugu NIRB-kut Maliktakhangit Qanuriliurutauyuq, Apitilirivikmi 3, 2009. Tuniplugu munariniq uumani Taiguagakhami, Katimayiingit ihuarhaliqtait hapkuat piyakhangit una NIRB Maliktakhangit Qanuriliurutauyuq uumunnga Ihivriurut:

- Aadlanguriami Maliktakhaq 18.2 taimaa Katimayiingit tunittaaqtuq 60nit ikitqiamik ublunik naunaipkainiq uumunnga Ikayuqtiuyup unalu Havauhikhaq tuniqhaidjutikhaq atiliurhimayuq katimaliqtinnagit ayuittiaqtunit, ihariagiyaukpat;
- Aadlanguriami Maliktakhaq 20.1(b) taimaa Katimayiingit tunittaaqtuq 60nit ikitqiamik ublunik naunaipkainiq Ikayuqtiuyup unalu Havauhikhaq tuniqhaidjutikhaq atiliurhimayuq PHC-kunnut, atauhiq naunairumi; unalu
- Aadlanguriami Maliktakhaq 38.1 pipkaidjutigiami hunavaluit ihariagiyauyut uumunnga Kingulliqpaamut Tuhaqtipkaidjutikhaq tutquqtakhaq ikitqiamit 15nik ublunik katimapkailiqtinnagit.

Pitillugu Kingulliqpaamut Tuhaqtipkaidjutikhaq, ilitariyauyut ayuittiaqtut tuhaqtipkaiyut naunaiqtauniaqtut piluni ihuarhaqtauniaqtuq kitunit. Talvangaanit ayuittiarniqmut pidjutinga una Kingulliqpaamut Tuhaqtipkaidjutikhaq, NIRB-kut katimapkainiaqtut. Tamaita ilauyut naunaiqtukhat piqaqtut ayuittiarniqmut piinarialik tamarmiknut ayuittiarniqmut katimaniq unalu Nunallaani Katimaniq naunairiami nunallaani katimayut, inungit aadlatlu ilauyut apirhuutingit kiuttauyuq ihuaqtumik.

Kiudjutinga Ikayuqtiuyup apiriyuq NIRB unalu Nunavut Imangatigut Katimayiingit (NWB) munariyakhaa, talvungalluamut, nanminiriyait havaangit ihiriurutikhamut Havauhikhaq ukuatlu atayut imaqmut laisikhanganik uuktuut, NWB pipkaidjutigiyaa ihumagiyakhanginnik inniqhimaittuq imaqmut laisikhanganik uuktuut taimaa NIRB-kut ihivriuqninnga Havauhikhaq pihimmaaqtuq. Naunaipkainiq una munariyauniqmut piyuq, NWB ilauyuq uumani Ayuittiarniqmut Katimaniq unalu PHC aullaqtiqtaallu angirutimut ihivriuqniq iniqhimaittuq imaqmut laisikhanganik uuktuut tuniyauyuq uumannga TMAC naunairvikhaq Iniqhimaittumut EIS. Naunaiqhimayut qanuriliurutingit NWB-kut angirutinga ihivriuqninnga ilaliutihimayuq naunairvikmik uumunnga taiguagakhamut, qanuriliurutikhamut tuniyuq piyunut hunavaluit ihuaqhaqtauyukhat imaqmut laisikhanganik uuktuut ilaliutiniaqtaa una Ikayuqtiuyup Kingulliqpaaq EIS. NWB ihumaliuqtaa tamna Ikayuqtiuyup Imaqmut Laisikhanganik Uuktuut katitiqhimayut uumunnga Havauhikhaq piqaqtukhaq hapkunanik:

1. Uuktuutikhaq aadlanguriami nutaaq tautuktuuyaaqtamiknik atuqtauyuq Doris Tununnganut Imaittuq “A” Imaqmut Laisikhanganik piumayanginnut imaqmik aturninnga iqqakumullu hulilukaarutit piyuq ukununnga Doris, Madrid Tununnganut unalu Madrid Hivuraani uyarakhiurviit; UNALU
2. Uuktuutikhaq nutaamut avaliittumullu Imaittuq “A” Imaqmut Laisikhanganik piumayanginnik imaqmut aturninnga iqqakumullu hulilukaarutit Boston uyarakhiurvinganut.

Pillirumi una Imaqmut Laisikhanganik Uuktuutinga katitiqhimayut tuniyauyut Kingulliqpaamut EIS ihuarhaqtait hapkuat piqalluangittut, NWB itqurnarutiyuq talvaniinmat pigiami Ayuittiarniqmut Katimaniq talvunganut uuktuutikhaq talvangaaanit NIRB-kut Kingulliqpaamut Tuhaqtipkaidjutikhaq.

NIRB akhuuquyait ilauyut havaqatigiiktukhat ihuarhigiami ilakunga ayuittiarniqmut ihumaalutigiyauyut, unalu Ikayuqtiuyup aadlamik akhuuquyauyut pigiami uqariiyaqtamiknik piliurhimayuq Naunairvikmi D maliktukhaqlu aadlamut pipkaiquyauyut Katimayiinut piliurhimayuq uumani PHC Ihumaliurut Taiguagakhaq piyuq aadlamik naunaitkutamik ihariagiyauyuq.

Sainiqtauyuq uumani 21 Taarhiqtirviani, 2017.

Elizabeth Copland
Atanguyauyuk Ikhivautalik
Nunavut Aviktulikyiit Katimayiit

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List of Abbreviations and Acronyms

AANDC	Aboriginal Affairs and Northern Development Canada
AWR	All-weather road
DEIS	Draft Environmental Impact Statement
DFO	Fisheries and Oceans Canada
ECCC	Environment and Climate Change Canada
EIS	Environmental Impact Statement
FEIS	Final Environmental Impact Statement
GN	Government of Nunavut
HBML	Hope Bay Mining Ltd.
HC	Health Canada
HTA	Hunters and Trappers Association
HTO	Hunters and Trappers Organization
IIBA	Inuit Impact Benefit Agreement
INAC	Indigenous and Northern Affairs Canada
IR	Information Request
KIA	Kitikmeot Inuit Association
km	Kilometres
m	Metres
ML	Million Litres
MW	Megawatts
NIRB	Nunavut Impact Review Board
NPMO	Northern Projects Management Office
NRCan	Natural Resources Canada
NWB	Nunavut Water Board
PHC	Pre-hearing Conference
TC	Transport Canada
TIA	Tailings Impoundment Area
TMAC	TMAC Resources Inc.
WSMA	Watershed Management Areas

1. Introduction

In accordance with the mandate and objectives of the Nunavut Impact Review Board (NIRB or Board) established under Article 12 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (*Nunavut Agreement*), the NIRB recently concluded the Technical Review and Pre-hearing Conference stages of the Board's assessment of the potential ecosystemic and socio-economic effects of TMAC Resources Inc.'s (TMAC or the Proponent) Phase 2 Hope Bay Belt Project Proposal (NIRB File No. 12MN001).

Pursuant to Rule 18 of the NIRB Rules of Procedure[1] a meeting of technical experts (i.e., a Technical Meeting) was facilitated by the NIRB with participation by the Proponent, responsible authorities and other interested parties in Cambridge Bay, Nunavut, from June 12 to June 14, 2017. The Technical Meeting was an opportunity to bring technical reviewers together in person with the Board's staff in an effort to address technical issues associated with the Draft Environmental Impact Statement (DEIS) and to achieve further clarity and/or resolution on items within the DEIS where the methodology, analyses or conclusions were not supported by reviewers, prior to the Pre-hearing Conference (PHC) for the Phase 2 Hope Bay Belt Project (the Project).

Pursuant to Rule 21.1 of the NIRB's Rules of Procedure, in order to facilitate the hearing process, the NIRB may hold a PHC with the parties either before or after the date of a hearing is set. The PHC may be held in writing or orally, by teleconference or in person, and deal with any of the following matters:

(a) Prepare a clear statement of issues in question;
(b) Confirm the participation of authorizing agencies in the hearing;
(c) Identify and register intervenors;
(d) Determine the positions of the parties;
(e) Determine the witness list;
(f) Determine whether the parties may benefit from a mediation meeting to discuss the issues;
(g) Set a timetable for the exchange of documents and information requests prior to the hearing;
(h) Finalize procedures to be followed in the hearing; and
(i) Decide any other matters that may aid in the simplification of the hearing.

A Community Roundtable and PHC were conducted in Cambridge Bay from June 15 to June 16, 2017 as part of NIRB's Review of the Project. The NIRB benefitted from the attendance at the Community Roundtable and PHC of community representatives from the seven (7) potentially affected communities (including seasonal communities) in the Kitikmeot region who asked

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

questions and provided comments about the DEIS. Section 3.10 of this Report provides a summary of the questions, comments and issues raised by community members. The list of attendees at the Technical Meeting, Community Roundtable, and PHC (summarized from the sign-in sheets recorded at these sessions) can be found in Appendix B to this Report.

The following parties were represented through the first phase of the NIRB's Review process, including through attendance at the Technical Meeting and PHC:

- TMAC Resources Inc.
- Nunavut Water Board
- Kitikmeot Inuit Association
- Government of Nunavut
- Environment and Climate Change Canada
- Fisheries and Oceans Canada
- Health Canada
- Indigenous and Northern Affairs Canada
- Natural Resources Canada
- Transport Canada
- Canadian Northern Economic Development Agency (in support of the Federal attendees, but did not provide technical submissions on their own behalf)

Through the technical review period for the DEIS, and the NIRB's Technical Meeting, the Proponent made over 300 commitments (130 commitments in response to comment submissions and 172 commitments at the Technical Meeting) intended to address the technical comments, questions and concerns raised by interested parties regarding the Project and the information needed for presentation within a Final Environmental Impact Statement (FEIS) submission for the Project. A list of these commitments was compiled and brought forward for consideration at the PHC held as part of the Review of the Project, to assist the Board with identifying those areas where additional direction may be required for the Proponent's preparation of its FEIS submission.

The PHC serves as an important milestone in the NIRB's review process, providing an opportunity for the Board to hear from parties, the Proponent and the public regarding issues identified during the technical review of the DEIS for the Project, including issues which have been adequately addressed and those which remain outstanding. The NIRB conducts a PHC to identify and limit the issues of divergence among parties to the Review, and to promote the efficient use of time at the Final Hearing. The PHC also serves as an opportunity to discuss the final phase of the review process, the readiness of the matter to proceed to a Final Hearing; timelines for the submission of the Proponent's FEIS and the Final Hearing, future meetings, evidence and document exchange; participants in a Final Hearing; Final Hearing venue; Final Hearing format; and, any other matters related to the procedure and logistics associated with the Final Hearing.

Should the Proponent fulfill its commitments and comply with the specific direction and intention of the NIRB's Guidelines for the Preparation of the Environmental Impact Statement for the Project (EIS Guidelines[2]), the NIRB believes that many of the technical issues identified by the parties during their review of the DEIS would be addressed through TMAC's FEIS submission. However, the Board notes that there were also a number of issues identified at the Community Roundtable and PHC that may not be fully addressed through the Proponent's commitments alone. The objective of this PHC Decision Report is to provide further direction that must be addressed by TMAC in its preparation of the FEIS for the Project, such that the final stage of the NIRB's Review of the Project adequately addresses the potential impacts and public concerns associated with the proposed project and narrows the outstanding issues to be addressed through the Final Hearing for this Review. The PHC Decision Report provides a proposed timetable for the exchange of information and a timeline for the NIRB Final Hearing that respects the Board's sixty (60) day public notice requirements.[3]

1.1. Procedural History

The key procedural steps that have been taken by the NIRB during its consideration of the Draft Environmental Impact Statement (DEIS) are set out in Table 1. In particular, the NIRB wishes to highlight and provide more detail regarding important procedural developments leading up to the Technical Meeting, Community Roundtable and Pre-hearing Conference (PHC).

On December 8, 2011 the NIRB received the Phase 2 Hope Bay Belt Project (the Project) from Hope Bay Mining Ltd., and on January 12, 2012 the Board received a referral to screen the Project from the Kitikmeot Inuit Association (KIA). The Board subsequently conducted a screening of the Project pursuant to the *Nunavut Agreement*, Article 12, Part 4, and recommended to then-Minister of Aboriginal Affairs and Northern Development (now Indigenous and Northern Affairs Canada, or INAC) that the Project undergo a Review pursuant to the *Nunavut Agreement*, Article 12, Part 5 or 6, which was accepted by the Minister on May 30, 2012. In 2013, the ownership of the existing Doris North Project and associated assets was transferred from Hope Bay Mining Ltd. to TMAC Resources Inc. (TMAC or the Proponent). Subsequently, on December 28, 2016 the NIRB received a DEIS for the Project from TMAC and, after confirming conformity of the DEIS to the project-specific EIS Guidelines issued by the Board, commenced the Technical Review of the Project. As part of the Review of the Project, the NIRB conducted consultation sessions in potentially impacted communities in the Kitikmeot region in February and March 2017, and hosted a Technical Meeting and Pre-hearing Conference

[2] NIRB Guidelines for the Preparation of an Environmental Impact Statement for Hope Bay Mining Ltd.'s Phase 2 Hope Bay Belt Project (NIRB File No. 12MN001)
[3] This notice requirement arises from s. 102 of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14 (NuPPAA) and Rule 20.1(c) of the NIRB Rules of Procedure.

in Cambridge Bay in June 2017. Details of various steps/milestones completed in association with the Board's screening and review of the Project are presented in Table 1.

All documentation associated with the NIRB's Review of the Project can be accessed from the Board's online public registry at www.nirb.ca using any of the following search criteria:

- Project Name: Phase 2 Hope Bay Belt Project
- NIRB File No.: 12MN001
- Application No.: 124148

Table 1: Procedural History

Assessment Step	Party	Timeline	Process Step	Notes[a]
	Hope Bay Mining Ltd. (HBML)	**December 8, 2011**	The NIRB receives the "Phase 2 Hope Bay Belt" project proposal (the Project) directly from HBML	On December 12, 2011 the NIRB (or Board) noted that the application was pending a referral from an authorizing agency. HBML's also included an application for a Type "A" Water Licence.
SCREENING	**Kitikmeot Inuit Association (KIA)**	**January 12, 2012**	The NIRB receives a referral to screen the project proposal from the KIA.	The Proposed Project was outside the area of an applicable regional land use plan; hence, a Conformity Determination by the Nunavut Planning Commission was not required.
	NIRB	**January 19, 2012**	The NIRB issues correspondence on public engagement and comment request on assessment process	Correspondence requested that parties provide comments regarding the project proposal.
	Public/Parties	**February 9, 2012**	Comments received by the NIRB on assessment process	Comments received from: KIA, Government of Nunavut – Executive and Intergovernmental Affairs, Transport Canada (TC), Fisheries and Oceans Canada (DFO), and Environment Canada (EC).
	NIRB	**February 22, 2012**	Ministerial extension request	NIRB requested for an extension of the timeline for the screening of the Project due to limited Board Member availability.
	NIRB	**February 24, 2012**	Screening Decision Report to the responsible Minister	Project recommended for Review under Article 12, Part 5 or 6 of the *Nunavut Agreement*
	NIRB	**March 28, 2012**	Addendum to Screening Decision Report to the Responsible Minister	The NIRB issued a summary of comments on the Project submitted by Aboriginal Affairs and Northern Development Canada (AANDC) as comments from AANDC were not included in the February 24, 2012 Screening Decision Report due to an internal server error.

Assessment Step	Party	Timeline	Process Step	Notes[a]
	HBML	**May 7, 2012**	NIRB's assessment of the Project	HBML noted in correspondence to the NIRB that although it had made a decision to place the Doris North Project into care and maintenance and to suspend development of the Phase 2 Hope Bay Belt Project (correspondence to the NIRB on January 31, 2012), it was requesting that the NIRB continue to process the Project Proposal up to the issuance of Environmental Impact Statement (EIS) Guidelines.
	Responsible Minister of Aboriginal Affairs and Northern Development	**May 30, 2012**	Responsible Minister issues decision in support of the NIRB's recommendation	Project referred to the NIRB for a Review under Part 5, Article 12 of the *Nunavut Agreement*. The Minister of Aboriginal Affairs and Northern Development also provided direction on some issues to be considered in the Review.
REVIEW	**NIRB**	**May 31, 2012**	Minister's decision distributed and Review commences	
	HBML	**June 8, 2012**	NIRB/Nunavut Water Board (NWB) Coordinated Process	HBML noted in correspondence to the NIRB that it did not wish to proceed with a NIRB/NWB coordinated process in the assessment of the Project.
Scoping and EIS Guidelines	**NIRB**	**June 8, 2012**	*Draft* Scope for the Project released for comments	
	Public/Parties	**August 17, 2012**	Comments received on *Draft* Scope of assessment for the NIRB's Review of the Project	Comments received from: KIA, DFO, EC, Natural Resources Canada (NRCan), TC, Aboriginal Affairs and Northern Development Canada, and Government of Nunavut (GN)
	NIRB	**August 27, 2012**	*Revised Draft* Scope and *Draft* EIS Guidelines released for comments	
	Public/Parties	**October 4, 2012**	Comments received on *Revised Draft* Scope and *Draft* EIS Guidelines	Comments received from: KIA, GN, AANDC, DFO, EC, NRCan, and TC.
	NIRB	**October 9-23, 2012**	Public Scoping Meetings	Public scoping meetings held in the five Kitikmeot communities (i.e. Kugluktuk, Cambridge Bay, Gjoa Haven, Taloyoak, and Kugaaruk), with participation of seasonal residents of Bay Chimo and Bathurst Inlet.

Assessment Step	Party	Timeline	Process Step	Notes[a]
	NIRB	**November 9, 2012**	*Final* Scope and *Revised Draft* EIS Guidelines distributed to interested parties	
	NIRB	**November 16, 2012**	Release of Scoping Summary Report	
	Public/Parties	**November 30, 2012**	Comments received on the *Revised* EIS Guidelines	Comments received from: KIA, GN, AANDC, DFO, EC, NRCan, and TC.
	NIRB	**December 14, 2012**	*Final* EIS Guidelines for the Project issued to HBML and suspension of the Review of the Project.	NIRB subsequently distributed the *Final* EIS Guidelines for the Project to other parties on December 17, 2012. The NIRB suspended its Review of the Project, as requested by HBML in correspondence to the Board on May 7, 2012.
	HBML	**March 18, 2013**	Notification of Change in Project Ownership	HBML informed the Board about change of ownership of the Hope Bay Gold Project, including the Phase 2 Hope Bay Belt Project, to TMAC Resources Inc.
Exception from the Review	**TMAC Resources Inc. (TMAC; Proponent)**	**December 31, 2014**	Application pursuant to Section 12.10.2(b) of the *Nunavut Agreement*	TMAC submitted its "Madrid Advanced Exploration Program" project proposal to the NIRB for consideration of an exception from the Board's ongoing Review of the Project to allow specific exploration and/or development activities to proceed.
	NIRB	**June 24, 2016**	Release of NIRB's Determination Report regarding the "Madrid Advanced Exploration Program" project proposal	The NIRB approved the "Madrid Advanced Exploration Program" project proposal to proceed prior to completion of the Review pursuant to Section 12.10.2(b) of the *Nunavut Agreement*. The Board also noted that the approval of the proposal was subject to the implementation of the Board's recommendations as set out in the Determination Report
	TMAC	**August 26, 2016**	Expected date for submission of the Draft EIS (DEIS) for the Project	TMAC confirmed to the Board that it plans to submit the DEIS for the Project in December 2016. This correspondence was preceded by periodic updates to the NIRB on timing for submission of a DEIS for the Project.
Submission of DEIS	**NIRB & NWB**	**December 28, 2016**	Receipt of TMAC's DEIS and Draft Type "A" Water Licence Application for the Project	NIRB issued correspondence that noted TMAC's submission of DEIS and intention to continue the assessment as coordinated between the NIRB and NWB.

Assessment Step	Party	Timeline	Process Step	Notes[a]
Conformity and Information Requests	**NIRB**	**January 18, 2017**	Commencement of NIRB's technical review period	NIRB issued correspondence accepting TMAC's submission as a DEIS and commenced the technical review with a 30-day information request (IR) period related to the DEIS and Draft Water Licence Application. Correspondence further requested clarification from TMAC on the level of coordination it was seeking in the Review of the Project.
	NWB	**February 10, 2017**	Phase 2 Hope Bay Belt Project File Status Request	NWB issued correspondence requesting TMAC provide clarification on the level of coordination for the assessment of the Project and clarified that as the water licence application was a draft only, any IRs received related to the water licence application would be considered preliminary IRs.
	TMAC	**February 16, 2017**	Clarification on level of NIRB/NWB Coordination Request	Correspondence to the NIRB and NWB provided clarification on the level of coordination TMAC was seeking for the Review of the Project.
	Public/Parties	**February 24, 2017**	Submission of IRs by parties to the NIRB	IRs received from: KIA, GN, Environment and Climate Change Canada (ECCC), DFO, Health Canada (HC), Indigenous and Northern Affairs Canada (INAC), NRCan, and TC.
	NIRB	**February 27, 2017**	IRs distributed to appropriate parties	IRs sent to TMAC.
Community Consultation	**NIRB**	**February 27 – March 22, 2017**	Community Information Sessions	Meetings held in the Kitikmeot communities of Kugluktuk, Cambridge Bay, Gjoa Haven, Taloyoak, and Kugaaruk. Seasonal residents of Bay Chimo and Bathurst Inlet were provided an opportunity to participate in the community information sessions in either Cambridge Bay or Kugluktuk.
	TMAC	**March 20, 2017**	Responses to IRs submitted to the NIRB	

Assessment Step	Party	Timeline	Process Step	Notes[a]
Technical Review	**NIRB**	**March 24, 2017**	Commencement of 60-day technical review	NIRB issued correspondence requesting parties submit technical review comments on the DEIS, and provided the anticipated process for the coordinated assessment, tentative schedule for a Technical Meeting and Pre-hearing Conference (PHC) and the Community Roundtable.
	NIRB	**March 31, 2017**	Confirmation of dates for the Technical Meeting and PHC	
	NIRB	**April 12, 2017**	Public information meeting summary report released	NIRB issues report that summarized community information meeting sessions.
	NIRB	**May 18, 2017**	Circulation of *draft* agenda and request for comments	Correspondence provided information on the Technical Meeting and PHC protocols.
	Public/Parties	**May 23, 2017**	Technical review comments on the DEIS submitted to the NIRB	Comments received from: KIA, GN, ECCC, DFO, HC, INAC, NRCan, and TC.
	NIRB	**May 24, 2017**	Technical comments distributed to the Proponent for response	
	NIRB	**June 2, 2017**	Circulation of *final* agenda	Agenda revised based on comments received by May 31 from: KIA, Canadian Northern Economic Development Agency (*on behalf of participating federal departments*), and TMAC.
	TMAC	**June 7, 2017**	Responses to technical review comments submitted to the NIRB	TMAC's response to technical comments included draft List of Commitments.
Technical Meeting	**NIRB**	**June 12-14, 2017**	Technical Meeting in Cambridge Bay	Parties in attendance included: TMAC, NWB, KIA, GN, ECCC, DFO, HC, INAC, NPMO, NRCan, TC, and the general public.
Pre-hearing Conference	**NIRB**	**June 15-16, 2017**	Community Roundtable and PHC in Cambridge Bay	Parties in attendance included: TMAC, NWB, KIA, GN, ECCC, DFO, HC, INAC, NPMO, NRCan, TC, as well as community representatives from seven (7) Nunavut communities in the Kitikmeot region and the general public.

Assessment Step	Party	Timeline	Process Step	Notes[a]

NOTES: Draft Environmental Impact Statement (DEIS), Environment and Climate Change Canada (ECCC; *previously* Environment Canada, EC), Fisheries and Oceans Canada (DFO), Government of Nunavut (GN), Health Canada (HC), Hope Bay Mining Ltd. (HBML), Indigenous and Northern Affairs Canada (INAC; *previously* Aboriginal and Northern Affairs Canada, AANDC), Information Request (IR), Kitikmeot Inuit Association (KIA), Natural Resources Canada (NRCan), Northern Projects Management Office (NPMO), Nunavut Impact Review Board (NIRB), Nunavut Water Board (NWB), Pre-hearing Conference (PHC), TMAC Resources Inc. (TMAC), Transport Canada (TC).

1.2. NIRB/NWB Coordinated Process

In 2011-2012, the NIRB and the Nunavut Water Board (NWB) developed a Detailed Coordinated Process Framework to meet legislative requirements for coordination, and to address project specific requests from Proponents to better integrate the NWB's licensing phase with the NIRB's impact assessment phase. The Detailed Coordinated Process Framework was introduced to provide clarity, transparency, and timelines for a coordinated approach to impact assessment and water licensing for the NIRB, the NWB, Proponents and other parties participating in these processes. By allowing for the initial steps in the NWB's water licencing process to run concurrently with the NIRB's Review process for major developments, the Detailed Coordinated Process Framework was designed to reduce the overall timeline for impact assessment and water licensing and also limit duplication and overlap, resulting in more timely, coordinated and efficient assessment and licensing.

This Framework was recently updated by the Boards to reflect an increased emphasis on coordination and the ability of the Boards to consider the conduct of joint hearings in accordance with the amended Article 13, Section 13.5.2 of the *Nunavut Agreement* that states:

> *Where the project proposal is referred for review under Article 12, the NWB and the review body shall coordinate their efforts to avoid unnecessary duplication in the review and processing of the proposal. Legislation may provide for joint hearings or authorize the NWB to forego public hearings on any water application where it has participated in a public review of the relevant proposal pursuant to Article 12.*

Hope Bay Mining Ltd.'s (HBML; *then* Proponent) initial project proposal filed with the NIRB included a Type "A" Water Licence application to initiate the regulatory process. Following the Minister of Aboriginal Affairs and Northern Development's (as the Department was known then, now Indigenous and Northern Affairs Canada) referral of the Phase 2 Hope Bay Belt Project (the Project) on May 30, 2012 to the NIRB for a Review pursuant to Part 5, Article 12 of the *Nunavut Agreement*, HBML noted in correspondence to the NIRB on June 8, 2012 that it did *not* wish to continue with a NIRB/NWB coordinated process in the assessment of the Project. The NIRB subsequently conducted the Project Scoping and EIS Guidelines development stages of the Review, culminating in the NIRB's issuance of the EIS Guidelines to HBML on December 14, 2012.

In 2013, TMAC Resources Inc. (TMAC or the Proponent) acquired the Doris North Project and associated infrastructure from HBML and became the Proponent of the Phase 2 Hope Bay Belt Project. On December 28, 2016 TMAC Resources Inc. submitted a Draft Environmental Impact Statement (DEIS) and a Draft Type "A" Water Licence Application for the Project to the NIRB and NWB and indicated that it wished to proceed with a NIRB/NWB coordinated process. On February 16, 2017 TMAC submitted correspondence to the NIRB and the NWB clarifying the

level of coordination it was seeking between the NIRB Review and NWB Application process for the Project; and upon initiating the technical review period on March 24, 2017, the NIRB and the NWB released the anticipated coordinated process for the assessment.

The NWB reviewed the Draft Water Licence Application (Application) accompanying the DEIS and determined that the Application was deficient. The Application and supporting information contained in the DEIS covered many of the issues that are critical to the water licensing process; however, as identified in the NWB's review and in the comments provided by interested parties, considerable deficiencies remained in the information required to complete and support the Application. The NWB noted that these deficiencies were substantive and must be addressed in TMAC's proposed resubmission of the Water Licence Application(s) as a "stand-alone" appendix to the Final Environmental Impact Statement (FEIS) in order for the water licencing process to proceed.

Further, it was noted by the NWB at the PHC, having considered the information received to date and the circumstances in this case, and reflecting the regulatory approach the NWB has recently taken in respect of a similar application by Agnico Eagle Mines Limited for a water licence to authorize the water uses and waste deposit activities associated with the Whale Tail Pit Project Proposal (NIRB File No. 16MN056), that the NWB has reached the view that it is reasonable for TMAC to provide two (2) applications to regulate the expanded scope of activities as requested in the Project as follows:

1. An application to amend the current scope of the existing Doris North Type "A" Water Licence to include the additional water use and waste disposal activities at the Doris site associated with the Madrid North and Madrid South components of the Project and the processing at the Doris site of the additional volumes of ore originating from the Madrid North, Madrid South, and Boston components of the Project; AND
2. An application for a new and separate Type "A" Water Licence to govern the water use and waste deposit activities associated with the construction, operation and reclamation of the mining undertaking at the Boston site.

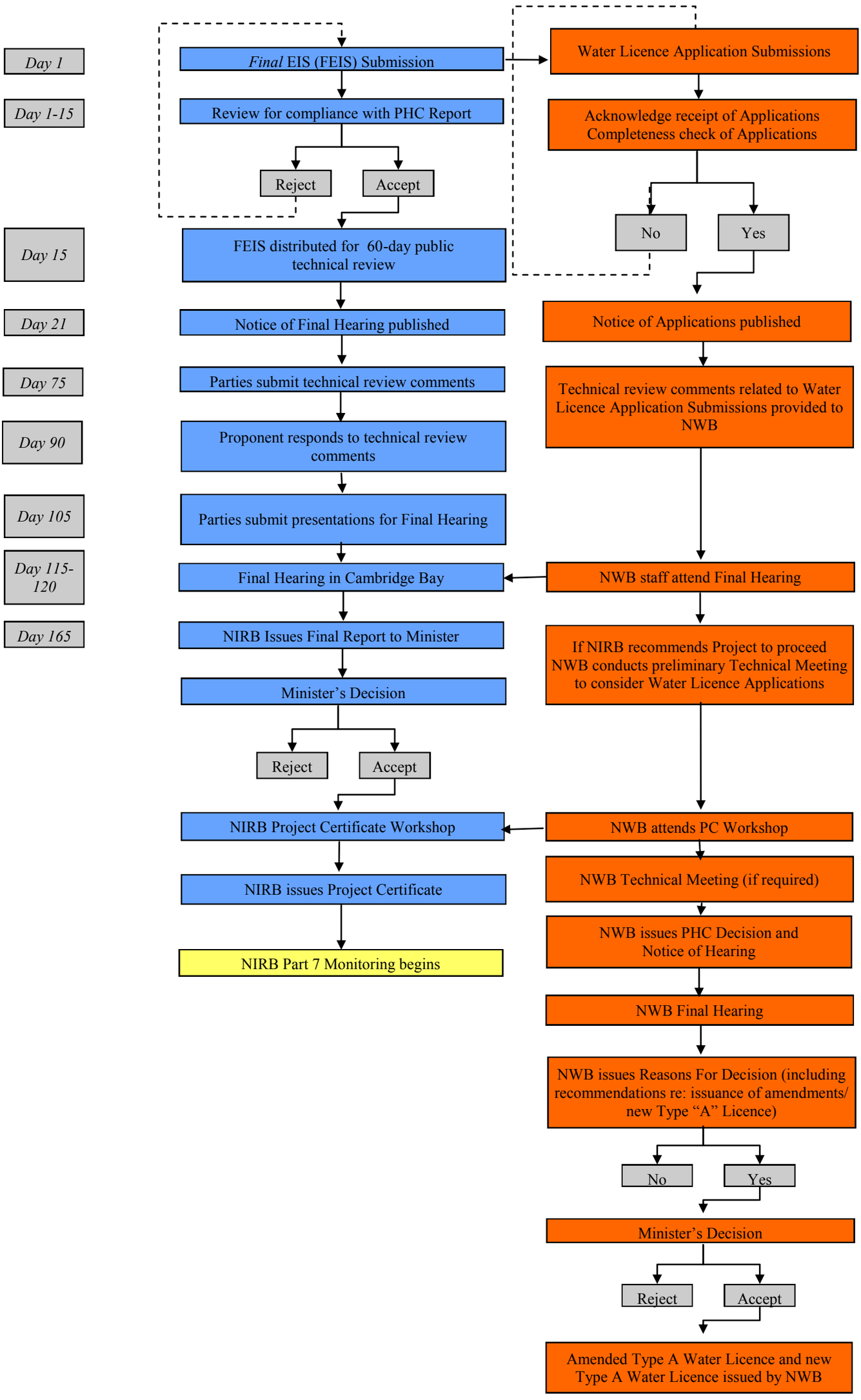
The NWB noted that this approach was in tandem with the approach taken by the NIRB to reviewing the Phase 2 Hope Bay Belt Project Proposal as a related but separate project proposal from the existing Doris North Project (NIRB File No. 05MN047). The proposed NIRB/NWB coordinated process to be implemented following TMAC's submission of an FEIS and revised Water Licence Applications for the Phase 2 Hope Bay Belt Project is illustrated in Figure 1. The Boards continue to refine the process and procedures for the coordination of their activities in respect of the Project. It should be noted that, in future, both Boards reserve the right to issue additional and/or modified process and procedural directions to the Proponent and the parties as the Boards consider may be necessary to reflect the specific circumstances of the Project.

In the event that the Water Licence Applications submitted with the FEIS address these outstanding deficiencies, as discussed at the Pre-hearing Conference, and follow the NWB's direction regarding water licensing for the Project (see Appendix E), the NWB anticipates being in a position to hold a technical meeting in relation to the finalized Water Licence Application following the NIRB's Final Hearing.

Figure 1: Process Map and Anticipated Timeline for NIRB/NWB Coordinated Review of TMAC's Phase 2 Hope Bay Belt Project

Anticipated process and timeline for NIRB's/NWB's Coordination of TMAC Resources Inc.'s Phase 2 Hope Bay Belt Project Proposal Review and Water Licence Application — NIRB File No. 12MN001 & NWB File No. 2AM-HOP - - - -; updated *July 21, 2017*

PHASE 3 = Receipt of *Final* EIS, Water Licence Applications, Technical Review, Public Hearings, Project Certificate and Water Licences



2. Project Proposal before the Nunavut Impact Review Board

The Phase 2 Hope Bay Belt Project (the Project) is a proposed mine project located in the Kitikmeot region, and is approximately 150 kilometres (km) southwest of Cambridge Bay, 60 km east of Umingmaktok (Bay Chimo), 130 km northeast of Kingaok (Bathurst Inlet), and 700 km northeast of Yellowknife, Northwest Territories (see Figure 2) as proposed by TMAC Resources Inc. (TMAC or the Proponent). The Project would include mining for gold at the Madrid North, Madrid South and Boston mineral deposits in the approximately 1,600 square-kilometre Hope Bay Greenstone Belt. The total mineral reserves at the Madrid North, Madrid South, and Boston sites, based on a cut-off grade of 4.5 grams per tonne, is approximately 4.8 million ounces of gold. Mining methods proposed for the Project include box cuts and stoping for near-surface deposits, and sublevel long-hole retreat and drift and fill for deeper deposits.

As part of the mining activities for the Project, the Proponent would use and expand specific infrastructure at the Doris site and the Roberts Bay site in addition to the construction and operation of new infrastructure at the Madrid and Boston sites.

Development of the Project would require the following facilities and activities:

- Underground mine workings;
- Ore, waste rock pads and laydown areas;
- Ore processing facilities;
- Quarries;
- Tailings management facilities;
- Site water management infrastructure;
- Infrastructure to support land, air and marine transport;
- On-site accommodations;
- Shipping to and from site of supplies via barge, and personnel, and gold bars by aircraft;
- Shipping of fuel to the Project site via tanker vessels;
- Sealifting or airlifting of all hazardous waste generated at the Project site;
- Bulk fuel storage;
- Explosives storage;
- Other mine support facilities; and
- Decommissioning and closure.

The maximum workforce at the Project site at any time would be 600, with 400 and 200 to be housed at the Doris and Boston sites, respectively. The proposed life of the Project, from mobilization and construction to operation, closure and post-closure, would be 19 years.

The complete project description can be accessed from the Board's online public registry at www.nirb.ca using any of the following search criteria:

- Project Name: Phase 2 Hope Bay Belt Project
- NIRB File No.: 12MN001
- Application No.: 124148

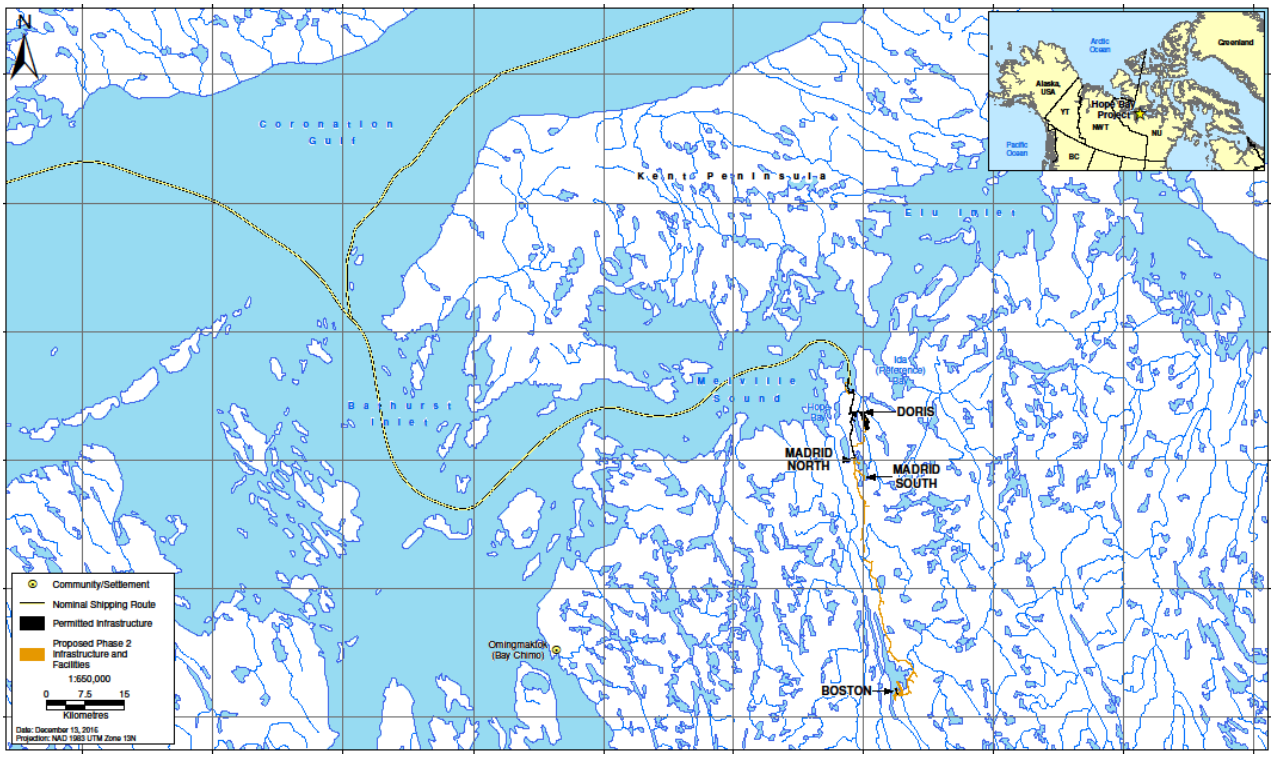


Figure 2: Location of the proposed Project (adapted from the Phase 2 Hope Bay Belt Project DEIS, Volume 3, Figure 1-1)

2.1. Doris

Facilities and activities proposed include: expansion of accommodations from 280 to 400 beds; increasing the capacity for sub-aerial deposition at the existing Doris Tailings Impoundment Area by raising the existing south dam by eight (8) metres (m) and constructing a five (5) m high west dam to support belt-wide activities associated with the Project; sourcing of water for domestic and industrial use from Windy Lake and Doris Lake, respectively; and use of other existing facilities at the Doris site, including the 7.5 million litres (ML) fuel storage facility and explosives magazines.

2.2. Madrid North

Facilities and activities proposed include: development of underground workings to access the ore deposits at Madrid North to support a 1,200 tonnes per day processing plant on the site;

hauling of concentrate and excess mined ore to existing processing plant at Doris for gold extraction; storage of ore and waste rock on dedicated pads; construction and operation of an all-weather access road and tailings line from Madrid North to the south end of the Doris Tailings Impoundment Area; establishment of quarries for construction and for use as backfill material; trucking of domestic waste to existing waste management facilities at Doris site; construction and operation of site water management infrastructure, and other support facilities; sourcing of water for domestic and industrial use from Windy Lake and Doris Lake, respectively; establishment and operation of three (3) 1.2 megawatt (MW) power plants and a standby/emergency plant; and construction and operation of a 4.5 ML fuel tank farm.

2.3. Madrid South

Facilities and activities proposed for Madrid South include: development of underground workings to access ore deposits at Madrid South; construction and operation of a 4.7 km extension of the Doris-Windy all-weather road to the Madrid South site; haulage of mined ore for processing at the Madrid North and existing Doris processing plants; establishment of quarries for construction and for use as backfill material; construction and operation of fuel storage facilities; storage of ore and waste rock on dedicated pads; construction and operation of site water management infrastructure, and other support facilities; sourcing of water for domestic and industrial use from Windy Lake and Doris Lake, respectively; trucking of domestic waste to existing waste management facilities at Doris site; and establishment and operation of two (2) 725 kilowatt power plants and a standby/emergency plant.

2.4. Boston

Facilities and activities proposed include: development of underground workings to access ore deposits at Boston; storage of ore and waste rock on dedicated pads; construction and operation of site access and haul roads; haulage of mined ore to a new 2,400 tonne per day processing plant at the Boston site; haulage of ore and concentrate to the existing plant at Doris for processing and gold extraction; construction and operation of a dry-stack Tailings Management Area; construction of accommodations with a 200-bed capacity; establishment and operation of water supply, sewage treatment, and incinerator facilities; construction and operation of site water management infrastructure; construction and operation of a power plant and a 4.5 ML fuel tank farm; construction and operation of a two (2) km all-weather airstrip; sourcing of water for domestic and industrial use from Aimaokatalok Lake; establishment and operation of a wastewater treatment plant with a discharge outfall to Aimaokatalok Lake; and establishment and operation of eight (8) 1.2 MW power plants and a standby/emergency plant.

2.5. Madrid-Boston All-Weather Road

Facilities and activities proposed include: construction and operation of a new 55 km single lane Madrid-Boston all-weather road, including turnouts, and stream and wildlife crossings; and

establishment of quarries in proximity to the road alignment to support road construction and maintenance.

2.6. Roberts Bay

Facilities and activities proposed include: construction and operation of an off-loading cargo dock and a ten (10) ML tank farm in proximity to the existing marine infrastructure in Roberts Bay; extension of service and access roads to the new cargo dock; and annual marine shipment of fuel and other project supplies to Roberts Bay during open water season only.

2.7. Closure

The Proponent intends to progressively reclaim areas within the Project footprint that are no longer required for mining-related activities during the construction or operations phases. The proposed Project includes three (3) closure scenarios: short-term temporary closure (less than 1 year); long-term temporary closure (more than 1 year); and final closure.

Final closure activities proposed include: backfilling of underground workings and sealing mine portals; dismantling or demolition of buildings on site; measures to ensure physical stability of the Project site, including tailings management facilities, and any remaining surface structures such as roads, pads, and stream crossings; measures to ensure the chemical stability of the mine and other disturbed areas within the Project footprint; and monitoring the environmental performance of the Project post-closure.

3. Summary of Submissions from Parties

3.1. Kitikmeot Inuit Association

The Kitikmeot Inuit Association (KIA) submitted 218 information requests and 58 technical comments following its review of TMAC Resources Inc.'s (TMAC or the Proponent) Draft Environmental Impact Statement (DEIS), and participated in the Technical Meeting and Pre-hearing Conference (PHC). The KIA's technical comments focused on: wildlife, vegetation, and human health; socio-economic development and land use; water quality and hydrogeology; fisheries; and geotechnical engineering. TMAC made a number of commitments in respect of the KIA's issues raised during the Technical Review Period (see Appendix C). At the Technical Meeting, the KIA advised that TMAC committed to providing additional information in the Final EIS (FEIS), as well as during the future licensing phase for the Project. TMAC made a number of commitments in response to issues raised by the KIA during the Technical Meeting (see Appendix D).

During the PHC, the KIA noted that the following issues remained outstanding:

- the KIA's recommendations regarding snow clearing on all-weather roads (Technical Comment KIA-DEIS-07);
- the KIA's recommendations regarding vegetation sampling for food chain modelling (Technical Comment KIA-DEIS-22); and
- the KIA's comment regarding the exclusion of population and demographics as a valued socioeconomic component and the exclusion of an effects assessment on community wellbeing from the DEIS (Technical Comment KIA-DEIS-27).

The KIA committed to resolving these outstanding issues with TMAC and other parties before the Proponent's submission of the FEIS, or prior to the Final Hearing.

3.2. Government of Nunavut

The Government of Nunavut (GN) submitted 48 information requests and 32 technical comments following its review of TMAC's DEIS, and participated in the Technical Meeting and PHC. The GN's technical comments focused on: archaeological site classification; financial literacy programming; sexual health; socio-economic monitoring; community involvement planning; economic impact modelling; transportation to Project site for Kitikmeot residents; school-based initiatives; training and employee development; employment opportunities; migration and Local Study Area communities; housing; air and road traffic; air quality; blasting and noise disturbance; caribou; carnivores; marine shipping; muskox monitoring and mitigation; public access and wildlife harvesting; and raptors. TMAC made a number of commitments in respect of the GN's issues raised during the Technical Review Period (see Appendix C). At the Technical Meeting, the GN advised that TMAC committed to providing additional information

in the FEIS. TMAC made a number of commitments in response to issues raised by GN during the Technical Meeting (see Appendix D).

During the PHC, the GN noted that the following issues remained outstanding:

- the GN's recommendation that screening for sexually transmitted infections be made readily available at the Project site, and that TMAC commit to further communication with the GN Department of Health regarding the integration of sexual health and wellbeing information into employee orientation programming (Technical Comment GN-03);
- the GN's comment regarding project impacts on raptor nest occupancy and productivity (Technical Comment GN-19);
- the GN's recommendations regarding muskox mitigation measures (Technical Comment GN-21); and
- the GN's recommendations regarding public access and wildlife harvesting (Technical Comment GN-24).

The GN committed to resolving these outstanding issues with TMAC before the Proponent's submission of the FEIS, or prior to the Final Hearing.

3.3. Environment and Climate Change Canada

Environment and Climate Change Canada (ECCC) submitted 20 information requests and 22 technical comments following its review of TMAC's DEIS, and participated in the Technical Meeting and PHC. ECCC's technical comments focused on: air quality; wildlife; and water quality. TMAC made a number of commitments in respect of ECCC's issues raised during the Technical Review Period (see Appendix C). At the Technical Meeting, ECCC advised that TMAC committed to providing additional information in the FEIS, as well as during the future licensing phase for the Project. TMAC made a number of commitments in response to issues raised by ECCC during the Technical Meeting (see Appendix D).

During the PHC, ECCC noted that the following issues remained outstanding:

- ECCC's recommendation that TMAC provide treatment options for arsenic in the Tailings Impoundment Area, including potential triggers for treatment (Technical Comment ECCC 4.8); and
- ECCC's comment regarding the adequacy of the tailings cover thickness proposed by TMAC (*related to* Technical Comment ECCC 4.19).

ECCC committed to resolving these outstanding issues with TMAC before the Proponent's submission of the FEIS, or prior to the Final Hearing.

3.4. Fisheries and Oceans Canada

Fisheries and Oceans Canada (DFO) submitted seven (7) information requests and seven (7) technical comments following its review of TMAC's DEIS, and participated in the Technical Meeting and PHC. DFO's technical comments focused on: blasting; water crossings; water and load balance; conceptual freshwater and marine fisheries offsetting approaches; marine and environmental effects monitoring; and significance of adverse effects to marine mammals. TMAC made a number of commitments in respect of DFO's issues raised during the Technical Review Period (see Appendix C). At the Technical Meeting, DFO advised that TMAC committed to providing additional information in the FEIS, as well as during the future licensing phase for the Project. TMAC made a number of commitments in response to issues raised by DFO during the Technical Meeting (see Appendix D).

During the PHC, DFO noted that the following issue remained outstanding:

- DFO's recommendation that the Marine Environmental Effects Monitoring Program addresses monitoring for marine animals, including marine mammals, for all aspects of the Project and not only for the discharge of metal mining-related effluents (Technical Comment DFO 3.2.1).

DFO has committed to resolving this outstanding issue with TMAC before the Proponent's submission of the FEIS, or prior to the Final Hearing.

3.5. Health Canada

Health Canada (HC) submitted 28 information requests and eight (8) technical comments following its review of TMAC's DEIS, and participated in the Technical Meeting and PHC. HC's technical comments focused on: air quality effects and contamination of country foods. TMAC made a number of commitments in respect of HC's issues raised during the Technical Review Period (see Appendix C). At the Technical Meeting, HC advised that TMAC committed to providing additional information in the FEIS. TMAC made a number of commitments in response to issues raised by HC during the Technical Meeting (see Appendix D). HC stated during the PHC that it had no outstanding issues.

3.6. Indigenous and Northern Affairs Canada

Indigenous and Northern Affairs Canada (INAC) submitted 51 information requests and 35 technical comments following its review of TMAC's DEIS, and participated in the Technical Meeting and PHC. INAC's technical comments focused on: surface water quality and quantity; marine water quality; tailings management; waste rock management and acid rock drainage; closure planning; alternative assessment and spatial boundary approaches with respect to socio-economics; temporal overlap of the Project with other projects; exclusion of some valued socio-economic components from cumulative effects assessments; reporting mechanisms for

cumulative effects; confidence in socio-economic baseline data; population and demographics; country foods supply; household social structures; competition for labour; competition to other businesses; import/export of alcohol and prohibited substances; and integration of Inuit Qaujimajatuqangit into monitoring programs. TMAC made a number of commitments in respect of INAC's issues raised during the Technical Review Period (see Appendix C). At the Technical Meeting, INAC advised that TMAC committed to providing additional information in the FEIS, as well as during the future licensing phase for the Project. TMAC made a number of commitments in response to issues raised by INAC during the Technical Meeting (see Appendix D). INAC stated during the PHC that it had no outstanding issues.

3.7. Natural Resources Canada

Natural Resources Canada (NRCan) submitted 14 information requests and seven (7) technical comments following its review of TMAC's DEIS, and participated in the Technical Meeting and PHC. NRCan's technical comments focused on: baseline permafrost and ground ice conditions; design of the Doris Tailings Impoundment Area; configuration of taliks and permafrost; design of the Boston Tailings Management Area and associated contact water pond; mine inflow salinity; and uncertainties of groundwater model predictions. TMAC made a number of commitments in respect of NRCan's issues raised during the Technical Review Period (see Appendix C). At the Technical Meeting, NRCan requested that TMAC committed to providing additional information in the FEIS, as well as during the future licensing phase for the Project. TMAC made a number of commitments in response to issues raised by NRCan during the Technical Meeting (see Appendix D). NRCan stated during the PHC that it had no outstanding issues.

3.8. Transport Canada

Transport Canada (TC) submitted three (3) information requests and nine (9) technical comments following its review of TMAC's DEIS, and participated in the Technical Meeting and PHC. TC's technical comments focused on: navigation protection; marine safety and security; aviation safety; and transportation of dangerous goods. TMAC made a number of commitments in respect of TC's issues raised during the Technical Review Period (see Appendix C). At the Technical Meeting, TC advised that TMAC committed to providing additional information in the FEIS, as well as during the future licensing phase for the Project. TMAC made a number of commitments in response to issues raised by TC during the Technical Meeting (see Appendix D). TC stated during the PHC that it had no outstanding issues.

3.9. TMAC Resources Inc.

During the technical review of the DEIS, TMAC Resources Inc. (TMAC or Proponent) presented its response to Information Requests from parties, and, in advance of the Technical Meeting, provided the NIRB with a list of 130 commitments to address the DEIS Technical Review Comments from parties (see Appendix C). At the Technical Meeting, TMAC also made

172 commitments (see Appendix D) which, as the Board heard during the PHC, resolved most issues that were raised by parties during the technical review of the DEIS. TMAC also addressed questions posed by community representatives and local residents during the Community Roundtable and PHC.

3.10. Comment Summaries from the Community Roundtable

To facilitate the Community Roundtable portion of the PHC, the NIRB invited representatives from the Kitikmeot communities of Kugluktuk, Cambridge Bay, Bathurst Inlet (Kingaok), Umingmaktok (Bay Chimo), Gjoa Haven, Taloyoak, and Kugaaruk. The NIRB invited three (3) representatives from each of the Nunavut communities: one (1) representative appointed by each community's Hamlet, Hunters and Trappers Organization (HTO) and the Elders, Women, or Youth groups. The NIRB also invited two (2) representatives each from the seasonal communities of Umingmaktok (Bay Chimo) and Kingaok (Bathurst Inlet): one (1) each from the HTOs, and the Elders, Women, or Youth groups. With the exception of Gjoa Haven and Kingaok (Bathurst Inlet)[4], representatives from each of the Kitikmeot communities were present during the Community Roundtable and Pre-hearing Conference.

The oral format of the PHC allowed the community representatives to observe presentations delivered by TMAC and parties, and the results of discussions that occurred over the two (2) days of proceedings held June 15 and June 16, 2017 (see Appendix A). During the Community Roundtable, community representatives from each of the Kitikmeot communities present were invited to sit at the table with the NIRB to hear focused presentations by TMAC and parties explaining the Project components in detail. Community representatives were then invited to pose questions to TMAC and parties, and to address comments to the NIRB. In addition, community members from Cambridge Bay attended as an audience to the PHC and were invited to pose questions to the Proponent and parties. The Community Roundtable concluded with each community providing a summary of their views in respect of the Project in the form of a closing statement.

During the question and answer component of the Community Roundtable, a variety of questions were asked by community representatives and members of the public. Table 2 provides a general summary of the comments, issues and concerns expressed by community representatives and members of the public throughout the Technical Meeting, Community Roundtable and PHC.

[4] Representatives from Gjoa Haven were unable to attend the meetings as flights were cancelled due to inclement weather; representatives from Bathurst Inlet were unable to attend the meetings due to conflicts with summer camping period.

Table 2: Key issues as raised by community representatives

SUBJECT	ISSUES/CONCERNS/COMMENTS
ECOSYSTEMIC EFFECTS	
Air Emissions	Has TMAC done any testing of the air emissions coming out of the stack at the incinerator? And if so, what were the results?
Air Emissions	Does Environment and Climate Change Canada monitor for the effects of air emissions in Nunavut (including smoke and smog created by burning diesel fuel for power)? Does ECCC have any plans for preventing smoke and smog, by requiring TMAC to consider using alternative energy sources to provide power at the mine and camp?
All-weather access road	Does TMAC already have an all-weather access road constructed/routed down to the Madrid and Boston sites?
Caribou	The caribou have migrated right through the Boston site several times, if mining there goes ahead, will TMAC (or others) be responsible for monitoring the caribou migration and monitoring how close the caribou are near the mine sites on an on-going basis throughout the migration?
Caribou	To date have there been any studies of the caribou calves (especially whether the calves have picked up any diseases)?
Caribou	Has TMAC addressed concerns about the potential for caribou to drown if shipping takes place during freeze up in the Coronation Gulf at the same time as the Dolphin Union caribou herd migration is occurring? Will the GN be taking a position about this and finding a way to prevent shipping through the Coronation Gulf during this season?
Caribou	Communities have noted that there are little white balls in the caribou meat in this area and sometimes green material identified on the legs and back; has the Government of Nunavut noticed these effects on caribou and figured out what might be causing these impacts?
Country Food	Will there be any studies required of TMAC with respect to the potential for the project to have effects on country foods?
Climate Change Especially Permafrost Degradation	In the monitoring of this and other mine sites in the Arctic in general, has Natural Resources Canada noted effects of permafrost degradation?

Table 2: Key issues as raised by community representatives

SUBJECT	ISSUES/CONCERNS/COMMENTS
Climate Change Especially Permafrost Degradation	Has Natural Resources Canada made any suggestions or provided any direction regarding how TMAC should be deal with permafrost degradation?
Fish	Who is responsible for monitoring the fish health and fish tissue to see whether there will be potential for impacts to the fish as a result of the mine?
Fish	When fish sampling is conducted at Roberts Bay – has anyone identified any fish damage/disease in the sampling done to date?
Fish	In TMAC's studies, have they determined how far the fish can travel from and to Roberts Bay?
Fish	Has Fisheries and Oceans Canada contemplated potentially tagging char to figure out how far they are going?
Fish	It is important that freshwater fish and fish habitat around the mine and the marine environment around the Marine Laydown Area are carefully monitored to make sure that impacts are identified early and before they result in impacts in the ocean.
Groundwater	There are lakes in the area that are fed by underground rivers (groundwater) all year round and that water then flows out to the ocean; has TMAC assessed whether there are underground water courses adjacent to the mine that could be impacted by the mine or tailings in storage?
Hazardous Waste (Transportation)	Does Transport Canada have an opinion on the safest way to transport hazardous waste?
Marine Shipping	How does the Government of Nunavut monitor the movement of the ships?
Marine Shipping	Is there a mechanism for information about marine shipping near the communities to be provided by the Government of Nunavut, Transport Canada and the Coast Guard?
Marine Shipping	How long does it take to transit goods coming from the eastern coast? How long does it take to transit goods coming from the western coast?
Ore Processing	How many truckloads of ore will be going to the processing plant in a single day?

Table 2: Key issues as raised by community representatives

SUBJECT	ISSUES/CONCERNS/COMMENTS
Reclamation	Has existing contamination at sites near Roberts Bay been addressed (e.g. contaminated soils removed)?
Species at Risk	Does Environment and Climate Change Canada provide rationales and issue directions to other parties regarding the preparation of management plans for the Dolphin Union herds?
Tailings	At closure will the tailings storage facility at the Boston site be covered, and if so, with what material?
Tailings	Have you checked under the Tailings Storage Facility to determine whether there is the potential for underground water to flow under the Tailings Storage Facility and become contaminated by tailings?
Tailings	Once the minerals have been extracted, the tailings should be required to be removed, shipped and disposed of in southern Canada because I believe these tailings will contain chemicals that the company has added to extract the minerals.
Terrestrial Wildlife and Habitat	Have there been any bears or other wildlife that have been killed or had to be put down due to the mine development in the area?
Terrestrial Wildlife and Habitat	Have there been any diseases detected in the muskox calves in that area?
Underground Mining	How many metres below the surface will the underground mining be conducted?
Vegetation	Will TMAC be required to monitor effects/changes to vegetation that could affect the food available to terrestrial wildlife such as caribou?
Waste Rock Storage and Disposal	How much waste rock will go back underground (compared to how much material is extracted during mining)?
Water Quality	What is Environment and Climate Change Canada's role with respect to the operation of water quality monitoring stations in Nunavut (before the split of the Northwest Territories and Nunavut there were several stations that were operated in Nunavut, but it seems that these stations are no longer being monitored)?

Table 2: Key issues as raised by community representatives

SUBJECT	ISSUES/CONCERNS/COMMENTS
Winter Roads	Does TMAC have plans to construct a winter road to Roberts Bay?
Winter Roads	Does Fisheries and Oceans Canada and/or Transport Canada have construction and reclamation standards that would apply to the winter road construction?
SOCIO-ECONOMIC EFFECTS	
Archaeological and other cultural resources	Why aren't the archaeological resources that are being recovered by TMAC in the region being kept in the region, rather than going out of the region and being stored in Iqaluit or Yellowknife?
Economic Development & Self Reliance	How does TMAC propose to support employees in terms of planning to get their own housing and/or changes to their housing situation (rental increases due to increases in income)?
Education and Training	Will TMAC be flying workers in and out from their home communities rather than gathering in Yellowknife and traveling in and out of Yellowknife? The preference for most communities are direct flights from the communities as this ensures employees get more time at home on their days off with their families.
Education and Training	How does TMAC plan to support training, and short courses in particular, that would help Inuit to become ready to work at the mine, especially if people cannot complete training that takes months/years (many people start, but cannot finish because circumstances arise and they have to leave before finishing the program if it is too long).
Employment, Recruitment and Retention	Is there an age limit/range in terms of who TMAC can/will hire?
Employment, Recruitment and Retention	What is TMAC intending to do to increase awareness and potential recruitment at the high school level in respect of employment opportunities with TMAC specifically, and in the mining industry generally?
Human Health and Well-Being	What does TMAC have in place in terms of employee assistance programs for employees and their partners and families (and how can they access these programs when they are not at the mine site)?
Human Health and Well-Being	We all must remember the importance of preserving the social well-being of our people; they will not be able to take advantage of the economic benefits associated with these

Table 2: Key issues as raised by community representatives

SUBJECT	ISSUES/CONCERNS/COMMENTS
	mines if they are not healthy and their on-going well-being is not our focus.
Mine Life	What is the mine life at the Boston site?
Mine Life	Will construction, operation and reclamation be staggered for all three developments or concurrent?
Monitoring	Will KIA and Indigenous and Northern Affairs Canada require TMAC to have programs and monitoring in place to assess potential adverse effects on the communities' social structure associated with working at the mines (for example, effects caused by 2-week rotational work, shift work, participation in a wage economy and potential substance abuse issues)?
Safety	What is TMAC's policy with respect to "storm days"—do workers at site have to continue working until the new crew can get on-site? What happens to the workers who are trying to get to site but get weathered out?
Safety	What does TMAC do to support workers who are experiencing stress by being delayed leaving the site by a storm day or workers who are delayed in getting into the site and have to be on standby?
OTHER	
Accidents and Malfunctions	Who would be responsible for responding to a spill in the marine environment, is it the Government of Nunavut, Transport Canada, the Coast Guard?
Community Engagement	Very important that the mine should work closely with the community (for example the consultations with the mines and the Hunters and Trappers Organizations and communities that has been associated with caribou management—will that model be carried forward for other wildlife species, fish, habitat preservation, etc.).
Community Engagement	Site visits are very important, and community members should always have the ability to tour the mine to make sure that the mine is being operated as TMAC says it is.

3.11. Submissions on Procedural Issues

Prior to the close of the PHC, and in keeping with the NIRB procedures for the conduct of a PHC (*Rule 21* of the NIRB's Rules of Procedure[1]), the following matters were discussed with parties, including community representatives, in attendance at the PHC with a view to preparing for the next stage in the NIRB's review of the project proposal:

1. Anticipated date for submission of the Final Environmental Impact Statement (FEIS).
2. Date, time and location of the Final Hearing.
3. Timetable for the exchange of documents and information requests prior to the hearing.
4. Formulation of issues for the hearing.
5. Procedures to be followed in the hearing.
6. Equipment, language, interpretation, translation and transcript requirements.
7. Other matters that may aid in the simplification of the hearing.

TMAC advised the Board that it anticipates filing the FEIS for the Phase 2 Hope Bay Belt Project Proposal (the Project) in December, 2017. Parties in attendance at the PHC, including community representatives, expressed no issues with TMAC's anticipated date for submission of the FEIS.

With respect to the date, time and location of the Final Hearing, the Proponent, parties and community representatives agreed that the location of the Final Hearing should be Cambridge Bay, with opportunities for community representatives from Kugluktuk, Cambridge Bay, Umingmaktok (Bay Chimo), Kingaok (Bathurst Inlet), Kugaaruk, Gjoa Haven, and Taloyoak to attend in person.

With respect to the timetable for the exchange of documents and information requests prior to the Final Hearing, TMAC and parties were in agreement that a formal and separate information request/information exchange stage may not be required as the Proponent and parties should be able to exchange information during the 60-day technical review. TMAC requested that the Proponent be given an opportunity to provide a written response to the final written submissions from the parties, at least two weeks in advance of the commencement of the Final Hearing. Other parties, including Indigenous and Northern Affairs Canada (INAC) and the Kitikmeot Inuit Association (KIA), requested that additional time (at least 2 weeks) be provided for parties to review TMAC's response to parties' final written submissions prior to submission of presentation materials, including required translations, for the Final Hearing.

The Proponent and parties agreed that the formulation of issues for the Final Hearing should be based on the information requests and technical review comments provided by the parties on the Draft Environmental Impact Statement (DEIS), TMAC's response to the information requests

and technical comments, and the commitments developed at the Technical Meeting and included as Appendix C and Appendix D to this Decision.

The Proponent and parties agreed that the NIRB's existing Rules of Procedure should govern the Final Hearing; however, INAC requested that presentations at the Final Hearing for the federal agencies be grouped, not by the usual alphabetical order, but based on similar areas of expertise.

Regarding the equipment, language, interpretation, translation and transcript requirements, the PHC participants were advised that the NIRB would be following the Board's general practices in this regard unless a special request to deviate from these practices is received. Fisheries and Oceans Canada (DFO) noted that it may be unable to have all relevant specialists available to attend the Final Hearing in person, and subsequently requested that the Board consider allowing for a teleconferencing option as part of the Final Hearing.

With respect to other matters that may aid in the simplification of the Final Hearing, Environment and Climate Change Canada (ECCC) requested that an updated framework and timelines for the NIRB/NWB coordinated process for the Project be distributed to parties prior to commencement of the technical review of the FEIS. The NIRB acknowledged requests from community representatives that the Proponent include visual representations of gold processing and tailing management operations in its presentations at the Final Hearing, and that the Proponent use visual aids that clearly identify the extent of existing Doris North infrastructure as differentiated from the expansions and additions to existing infrastructure and site footprints necessary to carry out the Phase 2 Hope Bay Belt Project proposal.

4. Nunavut Impact Review Board Analysis and Decision

4.1. Jurisdiction of the Board

The NIRB conducted the Pre-hearing Conference (PHC) associated with the Board's Review of TMAC Resources Inc.'s (TMAC or the Proponent) Phase 2 Hope Bay Belt Project proposal (12MN001) under the authority of Article 12, Part 5 of the *Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada* (*Nunavut Agreement*).[5] The purpose of the PHC was to, in light of the commitments made and discussion of technical issues at the Technical Meeting and the input of Community Representatives provided at the Community Roundtable sessions, inform the NIRB's consideration of any additional Board direction to TMAC with respect to the preparation of the Final Environmental Impact Statement (FEIS). At the PHC the Board also:

[5] Section 12.5.3 states "*NIRB may conduct its review by means of correspondence, public hearings or such other procedures as it deems appropriate to the nature of the project and the range of impacts.*"

- Sought direction from TMAC regarding the anticipated date of submission of the FEIS;
- Provided an opportunity for the Nunavut Water Board to poll the parties regarding potential approaches to water licensing for the Project; and
- Facilitated discussion amongst all parties in respect of various process and procedural issues that support the efficient and effective use of time for all parties as the Review proceeds from receipt and review of the FEIS and Water Licence Application(s) and into a Final NIRB Hearing.

4.2. Final Environmental Impact Statement

4.2.1. Preparation of the Final Environmental Impact Statement

Following the Technical Meeting and with the confirmation of all the parties present at the PHC, the NIRB has concluded that TMAC will be in a position to submit an FEIS that addresses the outstanding technical issues raised by parties after their review of the DEIS by:

a. Complying with the specific direction and implied intention of the EIS Guidelines;

b. Fully meeting its commitments as set out in Appendix C and Appendix D of this Decision; and

c. Complying with the Board's additional requirements as set out below.

The Board accepts the Commitment Lists as set out in Appendix C and Appendix D and notes that TMAC's timely fulfilment of these commitments will be a key part of producing an FEIS that meets the expectations of the Board and all participants in the Board's Review. In preparing the FEIS, the Board encourages TMAC to continue to work collaboratively with parties to address the unresolved issues identified at the Technical Meeting and at the PHC.

The Board notes that TMAC's fulfillment of commitments to various interested parties as specified in Appendix C and Appendix D may also address some of the key questions and concerns raised by Community Representatives from the Kitikmeot communities in attendance at the Community Roundtable and members of the public in Cambridge Bay who participated during the Technical Meeting, Community Roundtable and PHC. However, it is the Board's expectation that in fulfilling its commitments and preparing the FEIS, TMAC will also take into consideration any of the issues highlighted at the Community Roundtable (abridged and summarized for the convenience of all parties in Table 2 in Section 3.10 of this Report) that may not be addressed by existing commitments.

Based on the submissions of the parties and the NIRB's consultation with potentially affected communities, in addition to the commitments as set out in Appendix C and Appendix D, the Board requires TMAC to address the following additional items within the FEIS:

1) Recognizing that the Inuit Impact Benefit Agreement (IIBA) for the Project will not be finalized until the conclusion of the NIRB's process, TMAC should nonetheless provide

in the FEIS an update of all relevant non-confidential information pertaining to the draft IIBA that is relevant to the Board's assessment of potential project-induced ecosystemic and socio-economic effects, including potential effects mitigation, management and monitoring measures that may be included.

2) Recognizing that TMAC has requested coordination of the Review with the Nunavut Water Board (NWB) water licensing process, the FEIS should also include water licence application(s) meeting the requirements specified by the NWB in Appendix E.

4.2.2. Anticipated date for submission of the Final Environmental Impact Statement

TMAC informed all parties that based on the Commitments Lists and discussions with the parties held during the Technical Meeting and PHC that TMAC anticipates submitting the FEIS in December 2017. The Board expects that the FEIS will be a fully revised and a stand-alone EIS document, not an addendum to the DEIS.

The Board reminds TMAC that, in accordance with Section 4.2 of the EIS Guidelines, the FEIS must contain a concordance table directing reviewers to the location where specific information addressing the Guidelines can be found in the FEIS. The Board also requests that TMAC provide a concordance table directing reviewers to the location where specific information addressing the commitments listed in Appendix C and Appendix D, as well as the Board's additional requirements as set out in the section above, may be found in the FEIS.

4.3. Procedures Following Submission of the Final Environmental Impact Statement

Within 15 days of filing the FEIS, the NIRB will undertake a review of the FEIS for compliance with the EIS Guidelines and this PHC Report. If the NIRB concludes that the FEIS does comply with the requirements, the NIRB will distribute the FEIS for a minimum 60-day technical review period and within 21 days of receipt of the FEIS, the Board will provide Notice of the Final Hearing. When polled at the PHC, the parties did not anticipate that they would require an additional Information Request (IR) stage to be included as part of the technical review of the FEIS. Accordingly, following the completion of the technical review period, TMAC will have 15 days to respond to the parties' final written submissions.

At the PHC it was requested by several Intervenors that a period of two weeks be added to the timeline for this phase of the Review proposed by the Board on March 24, 2017. The additional time would be added after TMAC files a response to parties' final written submissions and would allow for parties and TMAC to prepare and file their presentation materials and any other written materials that they wish to rely on in advance of the NIRB's Final Hearing. The Board finds that the parties' rationale for allowing parties to consider whether TMAC's responses may have resolved issues prior to having to file their presentation materials for the Final Hearing is

reasonable. The Board agrees that this time could result in more focused and up to date presentation materials being filed before the Final Hearing, which may simplify and streamline the Final Hearing. Consequently, as discussed at the PHC, the Board has agreed to add in this additional two-week period into the timeline leading up to the Final Hearing and has updated the process map in Figure 1 to reflect this addition. The revised timeline means that within 15 days from TMAC filing their response to parties' final written submissions all parties will be required to file their presentation materials and any other written materials they wish to rely on in advance of the NIRB's Final Hearing. The updated timeline also lays out that all written materials that Parties wish to file in advance of the Final Hearing must be filed at least 10 days prior to the commencement of the Final Hearing. By issuing the guidance in this Report and the updated process map in Figure 1, the Board is modifying the requirement under Rule 38.1 of the Board's Rules of Procedure (September 3, 2009) that all materials be filed at least 15 days in advance of the hearing.

However, the timeline for this phase of the Review is premised on the receipt of an FEIS that complies with the requirements set out in this decision and the meeting of commitments in accordance with the timelines set out in Appendix C and Appendix D. The NIRB reserves the right to extend any of the timelines proposed in this decision to reflect the specific circumstances of this Review; including additional time that may be required to hold additional technical review stages, additional time required for greater coordination with the water licensing processes, scheduling of an additional meeting of technical experts and/or the addition of another PHC prior to the Final Hearing.

4.3.1. Location of the Final Hearing

The NIRB notes that all parties present agreed that the community of Cambridge Bay would be the appropriate venue for the Final Hearing. As with the PHC, the Board is committed to taking steps to ensure that representatives from the seven (7) Kitikmeot communities most likely to be affected by the Project are brought to Cambridge Bay to participate in the Final Hearing.

4.3.2. Timing of the Final Hearing

The Board acknowledges that submission of the FEIS in December 2017 necessarily implies that the Final Hearing can be held no earlier than late spring 2018. At this time, the Board is not in a position to schedule the date of the Final Hearing, as it is highly dependent on the actual date of the filing and acceptance of a compliant FEIS submission from TMAC. The Final Hearing date will be scheduled following the NIRB's compliance review and acceptance of the FEIS and upon initiation of the technical review period.

At that time, the Board will also consider the scheduling of the Final Hearing in coordination with its other ongoing assessments. In determining the schedule for the Final Hearing, the Board understands that a later spring or early summer date for the Final Hearing may make it more

challenging to ensure full and active participation by potentially affected communities, as many community members may be engaged in traditional activities during this time. When determining the Final Hearing date the Board will take into consideration Article 12, Section 12.2.27 of the *Nunavut Agreement.*[6]

4.3.3. Formulation of issues for the Final Hearing

During the technical review of the FEIS, the Board will define the issues for the Final Hearing. When the technical review has concluded, the Board will provide further procedural directions regarding the issues of focus at the Final Hearing.

4.3.4. Procedures to follow for the Final Hearing

As agreed to by all parties at the PHC, subject to the procedural guidance in this section and such other subsequent procedural directions by the Board, the Final Hearing is currently planned to generally proceed in accordance with the NIRB Rules of Procedure, dated September 3, 2009. Specifically, the Board has decided to modify the following provisions of the NIRB Rules of Procedure for this Review:

- To vary Rule 18.2 so that the Board may give less than 60 days notice to the Proponent and project distribution list in advance of a meeting of technical experts, should one be required;
- To vary Rule 20.1(b) so that the Board may give less than 60 days notice to the Proponent and project distribution list before a PHC, should one be scheduled; and
- To modify Rule 38.1 to allow materials to be relied on at the Final Hearing to be filed less than 15 days in advance of the hearing.

The Final Hearing will be organized as set out in the Rules of Procedure, with formal technical presentations, organized by FEIS topics, scheduled to take place during the first part of the Final Hearing. Informal community roundtable sessions will follow the technical component of the Final Hearing. The Board wishes to emphasize to all parties that they are required to ensure that they have sufficient technical expertise available for the Community Roundtable portions of the Final Hearing.

4.3.5. Equipment, language, interpretation, translation and transcript requirements

The Board polled all parties during the PHC and no party made any special requests with respect to equipment, language, interpretation, translation or transcript requirements at the Final Hearing. On this basis, the Board will make available the normal sound and audio visual

[6] Section 12.2.27 states "*"All necessary steps shall be taken by way of notice, dissemination of information, and scheduling and location of hearings to provide and promote public awareness of and participation at hearings."*

equipment, simultaneous interpretation (English/Inuktitut/Inuinnaqtun) and transcript requirements (final transcript of the Final Hearing will be produced in English only and will be posted on the Board's public registry within four weeks from the close of the hearing). Parties are also required to ensure that presentation materials that they intend to rely on at the Final Hearing are provided to the Board in English, Inuktitut, Inuinnaqtun and French.

4.3.6. Other matters that may promote an effective Final Hearing

As discussed during the Community Roundtable session of the PHC, the Board strongly encourages TMAC to prepare visual aids that explain TMAC's plans for ore processing (including ore concentrating at the Boston site and processing at the mill) and that explain more fully TMAC's tailings deposition plans. In addition, visual aids that clearly identify the extent of existing Doris North infrastructure as differentiated from the expansions and additions to existing infrastructure and site footprints necessary to carry out the Phase 2 Hope Bay Belt Project proposal would greatly assist the participants at the Final Hearing to develop a more complete understanding of the proposal.

It was also noted by community representatives attending the Community Roundtable at the PHC that, to the extent possible it is advisable that the same community representatives who attended the PHC also attend the Final Hearing. This would allow community representatives to build on their familiarity with the Project, and their knowledge of the issues discussed at the Community Roundtable during the PHC, and may simplify the Final Hearing.

The Board also encourages each government reviewer involved in the NIRB's process to date to ensure that if new personnel are introduced during the technical review of the FEIS, that every effort be made to transition departmental knowledge, technical expertise and project understanding.

As always, the Board also urges all parties to maximize their efforts to collaborate with other parties during the remainder of the NIRB process. As noted by all parties during their closing statements at the PHC, the process to date has involved considerable collaboration and consultation, and the Board encourages all parties to continue with this approach as the Project proceeds to the next stage of the Board's assessment.

5. Conclusions of the Board

The Board facilitated a Pre-hearing Conference (PHC) in Cambridge Bay on June 15-16, 2017. The PHC was an opportunity for the Board to hear from the parties on outstanding issues with respect to the Draft Environmental Impact Statement (DEIS) filed by TMAC Resources Inc. (TMAC) for the Phase 2 Hope Bay Belt Project proposal (NIRB File No.: 12MN001). The PHC was also an opportunity to discuss various anticipated logistical, procedural and process issues associated with the Project if it proceeds to a Final Hearing in future. Prior to, and during the Technical Meeting that preceded the PHC, TMAC made a large number of commitments to the parties and the Board regarding additional information that would be provided during the preparation of the Final Environmental Impact Statement (FEIS) for the Project. The Board has accepted those commitments and, after considering the submissions from the parties, requires TMAC to meet the commitments as outlined in Appendix C and Appendix D, as well as the additional requirements set out in this report, during the preparation of the FEIS.

TMAC has advised the Board that it plans to submit its FEIS for the Phase 2 Hope Bay Belt Project proposal by December 2017. Although the Board reserves the right to modify the timelines outlined in this report as considered necessary to reflect the circumstances of the Review, at present, the Board anticipates that once the FEIS is submitted and considered to be in compliance by the Board, the FEIS will be subject to a 60-day technical review period, a 15-day period for TMAC to respond to parties' final written submissions, and a further 15-day period for all parties to prepare their presentation material and any other written material that the parties intend to rely on at the Final Hearing. The Board has decided that the Final Hearing will be held in Cambridge Bay, Nunavut, sometime in the late spring of 2018.

In this decision, the Board has made a series of recommendations to all parties to promote an effective Final Hearing, including the use of additional visual aids and ensuring continuity and effective transition for reviewers and community representatives. The Board will issue Public Notice and further procedural directions to all participants regarding the Final Hearing as required.

Signed this 21st day of July, 2017.

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Elizabeth Copland
Chairperson
Nunavut Impact Review Board

Appendix A: Technical Meeting and Pre-hearing Conference Agenda for the Phase 2 Hope Bay Belt Project

FINAL TECHNICAL MEETING AGENDA

NIRB File No.: 12MN001 – Phase 2 Hope Bay Belt Project
Proponent: TMAC Resources Inc.
Facilitator: Ryan Barry, NIRB Executive Director
Location: Pat Lyall Board Room (Fred R. Elias Centre), Cambridge Bay, NU
Dates & Times: June 12, 2017 9:00 am – 5:00 pm
June 13, 2017 9:00 am – 5:00 pm
June 14, 2017 9:00 am – 4:00 pm *(potential 6:30 pm–9:00 pm)*

Note: All times given are approximate. The order of discussion topics and times given are subject to change at the NIRB's discretion.

MONDAY, JUNE 12, 2017 – DAY 1 TECHNICAL MEETINGS

1. NIRB welcome and opening remarks
   - Objectives of technical meeting
   - Introduction of participants
   - Housekeeping items
   - Overview of agenda
2. Presentations by the Proponent - Note: time for questions by Parties will be provided following each presentation:
   i. Introduction & Overview and Response to Technical Comments *(60 minutes)*
   ii. Public Participation and Engagement *(30 minutes)*
   iii. Atmospheric Environment (*20 minutes*)
   iv. Terrestrial Environment *(60 minutes)*
   v. Freshwater Environment *(20 minutes)*
   vi. Marine Environment *(30 minutes)*

Close Day 1

TUESDAY, JUNE 13, 2017 – DAY 2

3. NIRB opening remarks
   - Day 1 recap, commitments list and deferred items
   - Overview Day 2 Agenda
4. Presentations by the Proponent continued - Note: time for questions by Parties will be provided following each presentation:
   vii. Human Health *(30 minutes)*
   viii. Accidents and Malfunctions, Effects of the Environment on the Project *(20 minutes)*
   ix. Socio-Economics *(30 minutes)*

5. Presentations from registered Parties – Summary of Technical Review Comments followed by time for questions by Parties and the Proponent.
    i. Kitikmeot Inuit Association *(50 minutes)*
    ii. Government of Nunavut *(30 minutes)*
    iii. Environment and Climate Change Canada *(30 minutes)*
    iv. Fisheries and Oceans Canada *(30 minutes)*

Close Day 2

WEDNESDAY, JUNE 14, 2017 – DAY 3

6. NIRB opening remarks
    - Day 2 recap, commitments list and deferred items
    - Overview of Day 3 Agenda
7. Presentations from registered Parties continued – Summary of Technical Review Comments, each Party is allotted 30 minutes for the presentation, followed by time for questions by Parties and the Proponent.
    v. Health Canada *(30 minutes)*
    vi. Indigenous and Northern Affairs Canada *(50 minutes)*
    vii. Natural Resources Canada *(30 minutes)*
    viii. Transport Canada *(30 minutes)*
8. Discussion and review of Proponent's list of commitments

Close Day 3

PRE-HEARING CONFERENCE AGENDA

NIRB File No.: 12MN001 – Phase 2 Hope Bay Belt Project
Proponent: TMAC Resources Inc.
Moderator: Elizabeth Copland, NIRB Chairperson
Location: Pat Lyall Board Room (Fred R. Elias Centre), Cambridge Bay, NU
Dates: June 15-16, 2017
Times: ***All times given are approximate. The order of presenters and time given for presentations are subject to change at the facilitator's discretion during the Pre-Hearing Conference:***

9:00 am–5:00 pm *(additional session 6:30 pm–9:00 pm, if required)*

Note: The order of presenters and timing of appearance on the agenda are subject to change at the moderator's discretion; parties should be prepared to present either earlier or later than currently scheduled.

Parties to present on technical review comment submissions, identification of issues addressed through Proponent commitments, with focus on outstanding issues which have yet to be addressed or resolved *(25 minutes per agency/organization)*

THURSDAY, JUNE 15, 2017 – Day 1 of Pre-hearing Conference (*including evening session*)

Community Roundtable Session

1. Mayor of Cambridge Bay opening remarks – *to be confirmed*
2. NIRB welcome and opening remarks
    - Objectives of presentations during Pre-hearing Conference
    - Overview of the NIRB process and status of Review
    - Introduction of participants
    - Overview of agenda
    - Housekeeping items
3. Summary Presentation by TMAC: **Introduction and Overview of Project**, including overview of impact assessment conclusions and engagement in NIRB process, general discussion of technical review comments, commitments, outstanding issues and how these will be addressed moving forward *(60 minutes)*
4. Questions from Community Roundtable representatives
5. Presentations by members of the public who have advised the Boards that they wish to speak on this topic
6. Presentations from registered Parties – each Party is allotted 25 minutes for the presentation, followed by time for questions by other Parties, the Proponent and Board staff. NOTE: Presentations should be presented in plain language and focus on issues of importance to communities and should NOT simply be a repeat of the presentation from the Technical Meeting.
    i. Kitikmeot Inuit Association

ii. Government of Nunavut
iii. Environment and Climate Change Canada
iv. Fisheries and Oceans Canada
v. Health Canada

7. Questions from Community Roundtable representatives
8. Presentations by members of the public who have advised the Boards that they wish to speak on this topic

Close Day 1

FRIDAY, JUNE 16, 2017 – DAY 2

Community Roundtable Session continued

9. NIRB opening remarks
    - Housekeeping items
    - Recap of previous day
10. Presentations from registered Parties
    vi. Indigenous and Northern Affairs Canada
    vii. Natural Resources Canada
    viii. Transport Canada
11. Closing statements from each community

Pre-hearing Conference

1. Identification of any issues preventing project from proceeding to a Public Hearing
2. Facilitation of the Hearing Process / Procedural Matters – parties and intervenors at the table will be given an opportunity to comment on the following:
    i. Anticipated date for submission of Final EIS
    ii. Date, time and location of Final Hearing
    iii. Timetable for the exchange of documents and information requests prior to the Hearing
    iv. Formulation of issues for the Hearing and identification of interested parties to attend the Hearing
    v. Procedures to be followed in the Hearing
    vi. Equipment, language, interpretation, translation and transcript requirements
    vii. Other matters that may aid in the simplification of the Hearing
3. Closing remarks from Parties
4. Closing remarks from the NIRB

Close of Day 2

Appendix B: Summary Listings of Attendees at Community Session, Technical Meeting and Pre-hearing Conference

TMAC representatives	**HC representative**
John Roberts	Graham Irvine
Oliver Curran	**DFO representatives**
Alex Buchan	Veronique D'Amours-Gauthier
Shelley Potter	Angie McLellan
Maritz Rykaart, Consultant	**INAC representatives**
Kelly Sexsmith, Consultant	Karen Costello
Andrea Bowie, Consultant	Sarah Forté
Mike Setterington, Consultant	David Zhong
Greg Sharam, Consultant	Felexce Ngwa
Mike Henry, Consultant	Rick Hoos
Zoe Mullard, Consultant	Vicki McCulloch
Nicole Bishop, Consultant	**NRCan representative**
Daniel Casanova, Consultant	Jennifer Dorr
NWB representative	**TC representatives**
Sonia Aredes	Adam Downing
KIA representatives	Garett Kolsun
John Roesch	**Canadian Northern Economic Development Agency representative**
Heather Bears, Consultant	Laurent Jonart
Neil Hutchinson, Consultant	**Community representatives**
Nicola Lower, Consultant	Chelsea Klengenberg, Bay Chimo Youth
John Donihee, Legal Counsel	Nancy Haniliak, Bay Chimo HTO
GN representatives	Jim Maceachern, Cambridge Bay Hamlet
Steve Pinksen	Jimmy Haniliak, Cambridge Bay HTO
Erika Zell	Kitty Taipagak, Cambridge Bay Women
Krista Johnson	Larry Adjun, Kugluktuk HTA and Hamlet
Stephen Atkinson, Consultant	Julianne Angulalik, Kugluktuk Youth
Sandhya Chari, Legal Counsel	Guido Tigvareark, Kugaaruk Hamlet
ECCC representatives	Marc Kutsiutikku, Kugaaruk HTA
Bradley Summerfield	Raymond Kayasark, Kugaaruk Elders
Brian Asher	Simon Qingnaqtuq, Taloyoak Hamlet
Anne Wilson	Fiona Neeveacheak, Taloyoak HTO

Appendix C: List of Commitments Generated during the Technical Review Period of the Environmental Impact Statement and the Water Licence Application

Draft List of Commitments for the Madrid-Boston Proposal

NIRB Technical Comment ID	Commitment
DFO-3.1.1	TMAC commits to engaging further with DFO to determine the most appropriate threshold limit to use to reduce the risk of serious harm to fish, including considerations of measures to avoid causing harm to fish.
DFO-3.1.3	TMAC commits to undertaking field studies (fish habitat, fish community and/or hydrological assessments) in spring and summer 2017 (see also Technical Comments KIA-DEIS-34, KIA-DEIS-37).
DFO-3.1.3	TMAC therefore commits to quantifying predicted habitat loss/alteration using area units (e.g., in m2) in the FEIS submission.
DFO-3.1.4	TMAC commits to working with Fisheries and Oceans Canada's Fisheries Protection Program to develop a freshwater fisheries offsetting plan.
DFO-3.1.4	Studies will be in waterbodies predicted to be affected by changes in water levels, based on predictions presented in Volume 5, Section 1.5 of the DEIS. These data will supplement existing data sets, and will help to evaluate the value of potentially lost or altered habitats. The FEIS will incorporate the newly-collected data and will adjust effects conclusions on the scale of potential habitat loss or alteration. TMAC therefore commits to quantifying predicted habitat loss/alteration using area units (e.g., in m2) in the FEIS submission.
DFO-3.2.1	TMAC will work with DFO to determine the necessary mitigation and monitoring required under the Authorization.
DFO-3.2.2	TMAC commits to working with Fisheries and Oceans Canada's Fisheries Protection Program to develop a marine fisheries offsetting plan for construction of the proposed ore dock.
ECCC-4.6	TMAC will work with ECCC to ensure that relevant updates for guidance to spill response for birds are addressed in the plan.
ECCC-4.10	TMAC is considering reviewing the source terms for runoff from the roads and pads to see if a more representative value could be supported in light of these results. Depending on the results, TMAC is considering pursuing site specific water quality objectives for these locations.
ECCC-4.11	A total component will be included in the FEIS. Further, any future model results will be presented solely in total concentrations.
ECCC-4.12	The correctly modeled TDS in the combined effluent from the water and load balance is presented below in Figure 4. This change will be carried forward to the FEIS water and load balance.
ECCC-4.14	Data will be augmented with baseline data that has been or will be collected in Windy, Patch, Doris, Wolverine, Aimaokatalok, Stickleback, and Reference Lake B in 2017
GN-02	As previously stated in TMAC's response to GN-IR-43, TMAC will reach out to third parties to deliver financial management programs such as financial literacy, financial planning and personal budgeting.
GN-02	In particular, TMAC will approach GN Family Services (or other GN department as appropriate) to solicit input and/or participate in the delivery of programming to Project workers. TMAC will also track statistics regarding the delivery of the programming. This may include the number and percentage of workers that have completed the training. TMAC will provide updates on program participation to the Kitikmeot Socio-economic Monitoring Committee during its annual meeting.
GN-04	The recommendations of the GN as stated above are consistent with the current practices and commitments of TMAC with respect to the Doris Project, and socio economic monitoring plans for the Phase 2 Project (see also responses to GN-IR-06 and GN-IR-08 as referenced above). TMAC is in agreement with the above statements.

Draft List of Commitments for the Madrid-Boston Proposal

NIRB Technical Comment ID	Commitment
GN-05	For the FEIS, TMAC will update the CIP to clarify communication with the GN and other stakeholders. The CIP update will identify key stakeholder issues/initiatives and outline a schedule of communication with stakeholders. TMAC will also include a list of key contacts in the CIP, where practicable (e.g., contact information for public agencies).
GN-06	TMAC will undertake additional work to refine its estimates of fuel use, and remuneration paid to workers (direct, indirect and induced) for work done in Nunavut, and develop separate estimates of Petroleum Tax and Payroll Tax payments. This information will be provided in the FEIS.
GN-07	TMAC confirms that all Kitikmeot residents, Inuit and non-Inuit, will be provided with transport from their home community to site if employed by the Project. The applicable wording in the Human Resources Plan (Volume 8, Annex 26) will be revised for the FEIS to be consistent with this statement.
GN-08	The Community Involvement Plan (see TMAC's response to Technical Comment ID #GN-05) will be updated for the FEIS to provide additional detail regarding the communication protocols for advancing these discussions.
GN-08	TMAC will participate in further discussions with the Department of Education and the Department of Family Services regarding its participation and support for the provision of training development and career-awareness information in Kitikmeot schools.
GN-09	NO2 emissions will be reassessed in the FEIS.
GN-11	TMAC will conduct additional encounter rate and residency time analyses for the Beverly and Ahiak subpopulations and will use these analyses to support the FEIS cumulative effects assessment for caribou (see response to Technical Comment ID #GN-14).
GN-11	Caribou collar analyses will be extended to examine the frequency and duration that caribou spend in the Project areas, including the PDA and ZOI areas; these results will be presented in the FEIS.
GN-11	TMAC assumes that the GN meant to request the degree of overlap between the subpopulation areas and the zone of influence used for the DEIS and TMAC will provide these data in the FEIS.
GN-11	TMAC will include the results of the analysis conducted in response to GN-IR-16 in the FEIS.
GN-11	TMAC will conduct additional encounter rate and residency time analyses for the Beverly and Ahiak subpopulations and will use these analyses to support the FEIS cumulative effects assessment for caribou (see GN-DEIS-14).
GN-12	The results from workshops described in Technical Comment GN-12 will be incorporated into the FEIS to present on potential impacts, mitigation and monitoring.
GN-12	TMAC will clarify in the FEIS the meaning of a group of caribou, including the context for input received from the GN and other parties during the review of the WMMP.
GN-12	TMAC will include additional rationale in the FEIS as to why caribou mitigation measures are implemented when a single caribou is observed , including the context for input received from the GN and other parties during the review of the WMMP.
GN-14	The FEIS will clarify that TMAC will be in compliance with the Nunavut Wildlife Act for the Phase 2 Project and obtain appropriate permits if necessary as related to carnivore dens.
GN-14	TMAC agrees to produce a habitat suitability map showing available suitable denning habitat for grizzly bears for the FEIS.
GN-14	TMAC will consider an additional grizzly bear and carnivore denning habitat model in the FEIS and will use the outcome of the assessment to inform mitigation.

Draft List of Commitments for the Madrid-Boston Proposal

NIRB Technical Comment ID	Commitment
GN-15	All projects, human activities and settlements included in the cumulative effects assessment in the FEIS for caribou will be clearly presented in a table .
GN-15	TMAC agrees to present the results of additional analyses conducted during the Information Request stage for the Dolphin and Union caribou in the FEIS (See GN-DEIS-16 and GN-DEIS-17) and present similar residency and encounter rate analyses for the Beverly and Ahiak subpopulations.
GN-15	TMAC agrees to present the results of supplementary analyses conducted for GN-IR16 within the FEIS (see GN-DEIS-10) and use these updated range analyses to define seasonal ranges for the Beverly and Ahiak subpopulations.
GN-15	TMAC will update the cumulative effects assessment to include the Meadowbank Project, and will consider other reasonable human activities and settlements in the FEIS
GN-16	The results from the workshops described in Technical Comment GN-12 will be incorporated into the FEIS to present on potential impacts, mitigation and monitoring.
GN-16	TMAC agrees to conducted additional encounter rate analyses.
GN-16	TMAC agrees to modify the Project WMMP in the FEIS to consider additional monitoring strategies for test impact predictions for caribou, including analysis of caribou collar data using techniques similar to those outlined in Wilson et al. (2016) and Blum et al. (2015).
GN-16	TMAC agrees to present these encounter rate analyses for Dolphin and Union caribou in the FEIS in terms of the number and proportion of collared caribou that entered and crossed the Project PDA, LSA, and RSA, as well as providing the number of times collared individuals crossed existing and proposed road routes.
GN-16	TMAC agrees to use all available and current collar data in the analysis described in Comment GN-12.
GN-17	TMAC agrees to present the results of the residency of analysis for Dolphin and Union caribou in the FEIS and will complete the requested analysis for the Project ZOIs, e.g., ZOIs surrounding Project roads.
GN-17	TMAC agrees to present the results of supplementary analyses presented in GN-IR-18 and GN-IR-21 in the FEIS.
GN-19	Given that the final results of the comprehensive analyses included in the 2016 WMMP indicated a small effect on raptor breeding, the FEIS will re-evaluate the characterization of the residual effect of disturbance on raptors.
GN-21	TMAC will address discussion for potential mitigation for muskox in the next wildlife working group and report the results in the FEIS.
GN-22	The modeling report includes the size of the blast used to produce the blast overpressure value. The size of the blast represents the standard size of blast used in Project quarries. Blasts for road work will generally be smaller.
GN-22	The noise modeling conducted for the DEIS was conducted based on the types of blasts conducted at the Doris site and which are planned for the Phase 2 Project. Details on the blasts proposed and used for the noise modeling will be listed in the DEIS.
GN-22	TMAC agrees to provide more justification in the FEIS on the use of a setback buffer for triggering mitigation activities at Project quarries, which will include a more in depth discussion of the literature and responses of wildlife to various sound levels and discussing any information gaps within the assessment.
GN-22	TMAC notes that the blast buffers and mitigation measures for caribou and other wildlife applies to all above-ground blasting. TMAC agrees to making this distinction within the FEIS .

Draft List of Commitments for the Madrid-Boston Proposal

NIRB Technical Comment ID	Commitment
GN-22	With regards to the methodology and timing of pre-blast surveys and their effectiveness at detecting caribou and other wildlife, TMAC agrees to provide a more thorough description of the methodology in the FEIS .
GN-28	As indicated in response to GN-22 additional justification will be included in the FEIS for the mitigation buffers used in the WMMP .
GN-28	TMAC will contact the GN for the available satellite collar data on the Dolphin and Union herd and investigate if there is sufficient data to conduct a ZOI analysis for the Doris site. If there is sufficient data, then the results of this analysis will be included in the FEIS.
GN-28	TMAC will include additional justification for its choice of ZOI in the FEIS.
GN-29	The Community Involvement Plan (see TMAC's response to Technical Comment ID #GN-05) will be updated for the FEIS to provide additional detail regarding the communication protocols to support these discussions on an ongoing basis.
GN-29	TMAC will participate in further discussions with the Department of Family Services and the Nunavut Arctic College regarding its participation and support for the provision of training.
GN-30	TMAC will provide an updated estimate of labour force needs and workforce schedule for each phase of the Project, to be included in the FEIS.
GN-30	To the extent that such communications are consistent with and not limited by TMAC's obligations under the 2015 Hope Bay IIBA, TMAC will provide the GN and the NIRB information regarding the labour force needs of the Phase 2 Project, should the Project receive regulatory approval and the decision is made by TMAC to proceed with the construction of the Project.
GN-32	For the FEIS, TMAC will update the CIP to clarify communication with the NHC and other stakeholders (see TMAC's response to GN-05). The CIP update will identify key stakeholder issues/initiatives and outline a schedule of communication with stakeholders. TMAC will also include a list of key contacts in the CIP, where practicable (e.g., contact information for public agencies).
HC-4.1.1	It is anticipated that incorporation of appropriate mitigation measures into the air quality model will decrease the predicted concentrations of these parameters and will lead to the same conclusions for land users as was reached in the DEIS, with no CACs carried forward for land user receptor locations. However, if CAC exceedances do occur, they will be assessed in the HHRA in the FEIS.
INAC-TRC1	TMAC will validate model-generated temperature profiles against in-situ measurements at multiple sites within Aimaokatalok Lake, including the 14 m depression near the proposed outfall.
INAC-TRC2	Attention will be paid to this feature within the calibrated hydrodynamic modelling exercise and this information will be presented clearly in the FEIS.
INAC-TRC3	TMAC is considering reviewing the source terms for runoff from the roads and pads to see if a more representative value could be supported in light of these results. Depending on the results, TMAC is considering pursuing site specific water quality objectives for these locations.
INAC-TRC8	TMAC acknowledges that the evaporation data utilised in the water and load balance model (DEIS Appendix V3-2D) differs from the data presented in DEIS Appendix V3-2B, as illustrated in Table 9. This will be updated in the water and load balance for the FEIS submission.
INAC-TRC9	TMAC will also be undertaking field studies (fish habitat, fish community, and hydrological assessments) in spring and summer 2017 in waterbodies predicted to be affected by changes in surface water quantity, based on predictions presented in Volume 5, Section 1.5 of the DEIS.

Draft List of Commitments for the Madrid-Boston Proposal

NIRB Technical Comment ID	Commitment
INAC-TRC10	TMAC will work with DFO to determine the necessary mitigation and monitoring required under the Authorization.
INAC-TRC16	TMAC acknowledges the contradiction in the DEIS documentation. To clarify; TMAC does not intend to segregate waste rock from Madrid North, Madid South or Boston based on mineralization classification, nor to use waste rock from Madrid North, Madid South or Boston for construction. The Waste Rock and Ore Management Plan will be updated for submission with the FEIS to reflect this intention.
INAC-TRC17	The Contact Water Ponds will be monitored as part of the SNP monitoring network and at a higher frequency than a bi-annual seepage survey. TMAC recommends that in lieu of a bi-annual seepage survey, that dissolved metals be included in the analytical suite for Contact Water Ponds water quality monitoring.
INAC-TRC18	TMAC agrees to include the use of revegetation as a possible reclamation measure for disturbed overburden surfaces when appropriate. The CCRP will be amended with an additional section (Section 5.4.14) containing the following text: "5.4.14 Disturbed Overburden Areas Where appropriate, consideration will be given to revegetate areas of overburden disturbed by excavation or other activities resulting in loss of natural vegetation. Depressions will be backfilled preferentially with suitable soils from the existing overburden piles to avoid ponding water resulting in permafrost degradation. Revegetation works may consist of application of seeds collected from the surrounding vegetation. Temporary erosion protection measures may also be implemented, as required."
INAC-TRC20	Any public comments applicable to the alternatives assessment, such as advantages or preferences for specific Project component alternatives, will be further considered in the alternatives assessment and documented in the FEIS.
INAC-TRC22	The following figure (Figure 1) will be included in the FEIS as a supplement to Table 3.6-1, to show the temporal overlap between the Phase 2 and Hope Bay Project and other projects and activities included in the CEA.
INAC-TRC24	TMAC confirms its participation in regional socio-economic monitoring, specifically the Kitikmeot Socio-Economic Monitoring Committee (Kit-SEMC).
INAC-TRC25	The FEIS will include a description of the rationale for the exclusion of past, existing and foreseeable future projects in NWT for the Land Use CEA.
INAC-TRC25	TMAC will include additional clarification regarding the selection of the temporal boundary in the CEA in the FEIS for the Socio-Economic and Land Use VSECs.
INAC-TRC26	TMAC will conduct additional community-level research in 2017 to update socio-economic and land use baseline information. This information will be presented in the FEIS and incorporated into the assessment, where appropriate. TMAC will continue to implement standard practices to collect qualitative data, in order to maximize the level of confidence in qualitative information. TMAC will identify any specific qualitative data limitations in the FEIS.
INAC-TRC27	Following the baseline data update, and as applicable, the FEIS will include a discussion of any socio-economic baseline data gaps and uncertainties created by these gaps.
INAC-TRC27	TMAC has committed to update socio-economic and land use baseline information. Data collection is planned for 2017. This information will be incorporated in the FEIS.
INAC-TRC31	TMAC has committed to update socio-economic baseline information. Data collection is planned for 2017, and updated information relating to food services will be included in the FEIS.

Draft List of Commitments for the Madrid-Boston Proposal

NIRB Technical Comment ID	Commitment
INAC-TRC31	TMAC will include a distinct section in the FEIS entitled "Food Services", which will present information on existing food services in the socio-economic Regional Study Area (RSA).
INAC-TRC32	TMAC is committed to ongoing participation in the Kitikmeot Socio-economic Monitoring Committee (Kit-SEMC).
INAC-TRC33	TMAC will work with the KIA and other stakeholders to enhance local business capabilities and the benefits realized by businesses within the region.
INAC-TRC35	For the FEIS, TMAC will clarify statements made in Volume 6, Section 4.5.3.3 regarding the use of IQ in monitoring.
INAC-TRC35	TMAC is planning a follow-up workshop with Elders and harvesters in August or September of 2017 to focus on the design of wildlife monitoring programs, and this information will be incorporated into the WMMP and the FEIS.
KIA-DEIS-01	As discussed with the KIA on May 10th, TMAC has reviewed the traffic levels used in the DEIS and will update the traffic rates for Project roads in the FEIS. If different traffic volumes are anticipated from what was presented in the wildlife assessments of disruption of movement, TMAC will re-evaluate potential effects on caribou, grizzly bear, muskox, and wolverine. TMAC will also review the required mitigation in light of any updated effects assessment in the FEIS.
KIA-DEIS-01	The results from these workshops will be incorporated into the FEIS to present on potential impacts, mitigation and monitoring.
KIA-DEIS-02	Nevertheless, as discussed with the KIA, TMAC agrees to produce a habitat suitability map showing available suitable denning habitat for grizzly bears for the FEIS. TMAC will consider the results of this mapping exercise in the FEIS.
KIA-DEIS-03	As discussed with the KIA on May 10th, TMAC will present and discuss the camera by date and caribou season in the FEIS. TMAC will consider the updated results from this analysis to determine whether changes in the assessment to caribou are warranted, including evaluation of potential effects and mitigation and monitoring strategies.
KIA-DEIS-04	Relevant information pertaining to wind turbines and their potential effects will be evaluated in the FEIS as requested by the KIA.
KIA-DEIS-05	TMAC will highlight additional information in the FEIS that describes the sensitivity and resilience of wildlife populations. This will include population size and trajectory and the species and population resiliency to disturbance.
KIA-DEIS-06	Mitigation measures were then discussed. Both potential effects and suggested mitigation measures were included in the DEIS effects assessment for caribou. Further information collected in 2017 will be included in the FEIS.
KIA-DEIS-08	As discussed with the KIA on May 10th, 2017, TMAC will include following items in the FEIS for the results of the ZOI analysis conducted for the Windy Camp in 2010: 1) Effect sizes when examining for a ZOI using the caribou aerial survey data, 2) power valued achieved, and 3) the alpha-value used.
KIA-DEIS-09	In regards to dustfall monitoring, the Phase 2 Air Quality Management Plan (AQMP) presented in the DEIS (Volume 8, Annex 19) will be updated as required to support project monitoring, post technical review. This will include a dustfall monitoring program that will measure the quantities of dust deposited at dustfall sampling locations. Establishing sampling locations perpendicular to the road to monitor dust generation will be considered.
KIA-DEIS-10	As one of the mitigation measures for invasive plant species, TMAC (in the invasive plant management plan) will consider using native plants in disturbed areas.
KIA-DEIS-10	TMAC will address the concern related to invasive species related to the Project by way of including a plan in the FEIS.
KIA-DEIS-11	The HHRA included in the FEIS will replace the consumption of Canada goose with the consumption of ptarmigan.

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NIRB Technical Comment ID	Commitment
KIA-DEIS-12	Additional baseline sampling for Arctic Char will be attempted this summer (2017) and that data will be included in the HHERA in the FEIS. The sample sizes collected will be in accordance with DFO permits for fish sampling.
KIA-DEIS-12	In the FEIS, the adult and toddler fish consumption rates will be adjusted to include a consumption rate for freshwater fish (i.e., Lake Trout) and for marine fish (i.e., Arctic Char) separately.
KIA-DEIS-17	As noted in the response to KIA-DEIS-12, a field program will be conducted this summer (2017) to attempt to collect marine fish (i.e., Arctic Char) for analysis and inclusion in the risk assessment for the FEIS.
KIA-DEIS-18	A literature search for BTFs applicable to country food species and ecological receptors was conducted prior to writing the risk assessment for the DEIS. An additional literature search will be conducted for BTFs prior to completing the FEIS.
KIA-DEIS-19	The additional Arctic Char data will be included in the risk assessment in the FEIS.
KIA-DEIS-21	As noted in comment responses KIA-DEIS-13, Whitefish will be removed from the HHRA entirely because the Lake Trout dataset (which is the highest trophic level fish) is more than adequate (n=69) to represent freshwater fish consumption.
KIA-DEIS-22	Since representative vegetation tissue metal concentrations appears to be a critical issue for KIA, surrogate or analogue data from other projects in Nunavut (e.g., Meliadine, Meadowbank, Back River) will be considered, assuming the baseline vegetation data for those projects is publicly available on the NIRB website.
KIA-DEIS-23	The soil ingestion rates for caribou and muskox will be updated in the FEIS, based on information from Bayer et al. (1994) and Macdonald and Gunn (2004).
KIA-DEIS-24	Additional fish (i.e., Arctic Char) captured for tissue metal analysis this summer (2017) will be included in the FEIS (assuming that the data is available in time).
KIA-DEIS-28	TMAC will update land use baseline information in 2017, the updated information to be incorporated in the FEIS. The approach to update the baseline data will engage Hunter and Trapper Organization (HTO) representatives to undertake additional interviews and/or focus groups, including resource mapping.
KIA-DEIS-29	TMAC will update land use baseline information in 2017, and the updated information will be incorporated in the FEIS. The approach to update the baseline data will engage Hunter and Trapper Organization (HTO) representatives to undertake additional interviews and/or focus groups, including resource mapping.
KIA-DEIS-34	As recommended/requested by DFO in their technical comments (refer to DFO-3.1.4 and DFO-3.2.2), TMAC will work as required with DFO as required to develop a freshwater fisheries offsetting plan.
KIA-DEIS-34	TMAC commits to quantifying predicted habitat loss/alteration using area units (e.g., in m2) in the FEIS submission.
KIA-DEIS-35	TMAC commits to working with DFO through the Fisheries Protection Program to determine the most suitable approach to estimating potential fisheries productivity losses.
KIA-DEIS-36	TMAC plans to undertake additional fish community and fish habitat baseline surveys in Imniagut Lake and Imniagut Outflow in spring and summer 2017.
KIA-DEIS-37	TMAC acknowledges the KIA's request to improve the clarity of Volume 5, Section 6.5.4.2 of the DEIS and commits to revising this section in the FEIS.
KIA-DEIS-37	TMAC commits to initiating additional field investigations (fish habitat, fish community and/or hydrological assessments) in spring and summer 2017 (see also Technical Comment ID #KIA DEIS 34)

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NIRB Technical Comment ID	Commitment
KIA-DEIS-37	TMAC therefore commits to quantifying predicted habitat loss/alteration using area units (e.g., in m2) in the FEIS submission.
KIA-DEIS-39	Uncertainty will be managed using a groundwater management plan, as per the existing Doris mine.
KIA-DEIS-44	The Air Quality Management Plan (AQMP; Annex 19 of the DEIS) contains air quality mitigation and adaptive management measures that were designed to protect ambient air quality during all phases of mining. While not referencing Greenhouse Gas (GHG) emissions explicitly, many of the measures in the AQMP are applicable to reduction of GHG emissions over the life of the mine. This will be clarified in the AQMP provided as part of the FEIS.
KIA-DEIS-46	Additional water quality data is being collected in Windy, Patch, Wolverine, Doris, Aimaokatalok, and Stickleback lakes in 2017.
KIA-DEIS-47	TMAC is considering reviewing the source terms for runoff from the roads and pads to see if a more representative value could be supported in light of these results. Depending on the results, TMAC is considering pursuing site specific water quality objectives for these locations.
KIA-DEIS-55	TMAC has noted in both the project documentation and the IR responses that additional site investigation work will occur in later design stages and that the stability analysis will be revisited and refined accordingly. The proposed additional works will be carried out in the detailed design stage. No further action is required for the EIS stage.
KIA-DEIS-56	TMAC has noted in both the project documentation and the IR responses that additional site investigation work will occur in later design stages and that the stability analysis will be revisited and refined accordingly. The proposed additional works will be carried out in the detailed design stage. No further action is required for the EIS stage.
KIA-DEIS-57	TMAC has noted in both the project documentation and the IR responses that additional site investigation work will occur in later design stages and that the stability analysis will be revisited and refined accordingly. The proposed additional works will be carried out in the detailed design stage. No further action is required for the EIS stage.
KIA-DEIS-58	TMAC has noted in both the project documentation and the IR responses that additional site investigation work will occur in later design stages and that the thermal and stability analysis will be revisited and refined accordingly. The proposed additional works will be carried out in the detailed design stage. No further action is required for the EIS stage.
NRCAN-2.1.2	The proposed additional works will be carried out in the detailed design stage. No further action is required for the EIS stage.
NRCAN-2.1.3	TMAC acknowledges the recommendations (see NRCAN-2.1.3 Recommendations/Request) provided by NRCan and will consider these in the future design and monitoring stages. No further action is required for the EIS stage.
NRCAN-2.1.4	TMAC also acknowledges the observations regarding the analysis provided by NRCan and will consider these in the detailed design stage. No further action is required for the EIS stage
NRCAN-2.1.5	The proposed additional works will be carried out in the detailed design stage. No further action is required for the EIS stage.
NRCAN-2.2.2	Groundwater management and monitoring plans are in place and will be further refined as the Project moves through the review and water licensing process. Where appropriate, groundwater management plans may consider mine water salinity trigger levels and thresholds.
NRCAN-2.2.4	Groundwater management and monitoring plans are in place and will be further refined as the Project moves through the review and water licensing process. Where appropriate, groundwater management plans may consider mine water salinity trigger levels and thresholds.

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NIRB Technical Comment ID	Commitment
TC-3.1.2	TMAC appreciates the information provided in Transport Canada's Technical Comment TC-3.1.2, and will indicate our intention to opt in or out in the FEIS.
TC-3.2.1	TMAC appreciates the clarity provided in Transport Canada's Technical Comment TC-3.2.1. The text will be updated in the FEIS as described within the recommendation.
TC-3.4.2	TMAC will include *The Transportation of Dangerous Goods Act (1992) and Regulations* to the list of Acts and Regulations that regulate the handling on explosive materials as required in the FEIS.
TC-3.4.3	TMAC will revise the wording as requested by Transport Canada's Technical Comment TC-3.4.3 in the FEIS.

Appendix D: List of Commitments Generated during the Technical Meeting and Pre-hearing Conference for the Phase 2 Hope Bay Belt Project Proposal and the Water Licence Application

List of Commitments for the Madrid-Boston Proposal

NIRB Technical Comment ID	Commitment	Timeline
DFO-3.1.1	TMAC commits to engaging further with DFO to determine the most appropriate threshold limit to use to reduce the risk of serious harm to fish, including considerations of measures to avoid causing harm to fish.	Prior to submission of DFO Application
DFO-3.1.2	TMAC will apply DFO's measures to avoid causing harm to fish and fish habitat, including monitoring, as necessary as it pertains to water crossing construction, operation, and decommissioning.	Prior to submission of DFO Application
DFO-3.1.3	TMAC commits to undertaking field studies (fish habitat, fish community and/or hydrological assessments) in spring and summer 2017 (see also Technical Comments KIA-DEIS-34, KIA-DEIS-37).	Pre-FEIS
DFO-3.1.3	TMAC therefore commits to quantifying predicted habitat loss/alteration using area units (e.g., in m2) in the FEIS submission.	FEIS
DFO-3.1.4	Studies will be in waterbodies predicted to be affected by changes in water levels, based on predictions presented in Volume 5, Section 1.5 of the DEIS. These data will supplement existing data sets, and will help to evaluate the value of potentially lost or altered habitats. The FEIS will incorporate the newly-collected data and will adjust effects conclusions on the scale of potential habitat loss or alteration. TMAC therefore commits to quantifying predicted habitat loss/alteration using area units (e.g., in m2) in the FEIS submission.	Pre-FEIS
DFO-3.1.4	TMAC will work with Fisheries and Oceans Canada's Fisheries Protection Program and local Inuit to develop a freshwater fisheries offsetting plan.	FEIS
DFO-3.2.1	TMAC will work with DFO to determine the necessary mitigation and monitoring required under the Authorization.	Prior to submission of DFO Application
DFO-3.2.2	TMAC will work with Fisheries and Oceans Canada's Fisheries Protection Program and local Inuit to develop a marine fisheries offsetting plan.	FEIS
DFO-3.2.2	TMAC commits to working with Fisheries and Oceans Canada's Fisheries Protection Program to develop a marine fisheries offsetting plan for construction, operation, maintenance and decomissioning of the proposed ore dock.	Prior to submission of DFO Application

List of Commitments for the Madrid-Boston Proposal

NIRB Technical Comment ID	Commitment	Timeline
ECCC-4.01	New equipment purchased for Phase 2 will comply with Canadian regulations for emission standards during the procurement period. TMAC will revise the air quality modelling study and air quality assessment for the FEIS. The model revision will include a revised emissions inventory (including revising mobile and stationary emissions) that will more accurately reflect the expected equipment fleet use for Phase 2 and the applicable Canadian regulations for mobile and stationary equipment emission rate standards. The revised emissions inventory will be documented in the revised Air Quality Modelling Study document for the FEIS. The inventory will include detailed information about the expected equipment emission Tiers or manufacture dates, and their associated emission factors from published sources. The emissions inventory used for the DEIS will be compared to the FEIS, in order to highlight and summarize the emissions inventory changes. These changes will be discussed with ECCC and documented in the FEIS Air Quality Modelling Study.	FEIS
ECCC-4.02	The need to implement ambient NO2 monitoring and adaptive management will be determined based on the revised model results of commitment to ECCC-4.1 and in discussion with ECCC. If NO2 monitoring is warranted, it will be described in an updated Air Quality Management Plan as part of the FEIS.	FEIS
ECCC-4.03	Incinerators will be stack tested within 6 months after commissioning. If an incinerator exceeds the emission regulatory requirements, TMAC will take corrective actions, including looking at the waste stream and the Incinerator Management Plan. The incinerator in question will be re-tested within 3 months after applying the corrective actions, to verify compliance. TMAC will maintain regular operational records available for review by the appropriate designated inspector.	Operations
ECCC-4.04	As part of the emissions inventory revisions, the number of surface vehicles will be revised to reflect the expected traffic rate on roads. The methods used for road dust suppression (e.g., suppression type and application frequency) will also be refined and reflected in the model. The revised FEIS Air Quality Modelling Study will include detailed justification of the methods used to determine the resulting expected road dust control efficiency.	FEIS
ECCC-4.06	TMAC will work with ECCC to ensure that relevant updates for guidance to spill response for birds are addressed in the plan.	FEIS
ECCC-4.07	As part of the FEIS, TMAC will provide contingency measures to manage mine water resulting from uncertainty associated with arsenic concentrations in the Madrid Mine.	FEIS
ECCC-4.07	Mine water sampling and testing will be completed as part of Bulk Sample development and mining at Madrid. As part of the FEIS, TMAC will provide contingency measures to manage mine water resulting from uncertainty associated with arsenic concentrations in the Madrid Mine.	FEIS

List of Commitments for the Madrid-Boston Proposal

NIRB Technical Comment ID	Commitment	Timeline
ECCC-4.08	To ensure that the TIA discharges meet MMER (including changes in the limits), TMAC will provide contingency measures and associated triggers in an adaptive management plan as part of the FEIS.	FEIS
ECCC-4.09	As part of the FEIS, TMAC will provide mine water inflow triggers and contingency measures in a Groundwater Management Plan for the Boston Mine.	FEIS
ECCC-4.10	TMAC anticipates presenting refined source terms and additional sensitivity estimates for loading from the road and pads to more clearly show the potential range in concentrations that can be anticipated under more realistic base case and upper bound scenarios.	FEIS
ECCC-4.11	Where they are not already included in the predictions, total concentrations will be included in the updated predictions of the Water and Load Balance model for the FEIS and used for comparison to objectives.	FEIS
ECCC-4.12	The correctly modeled TDS in the combined effluent from the water and load balance will be carried forward to the FEIS water and load balance.	FEIS
ECCC-4.13	British Columbia's sulphate water quality guideline for the protection of aquatic life will be used as an assessment threshold for the Freshwater Water Quality Indicators in the FEIS.	FEIS
ECCC-4.14	Data will be augmented with baseline data that has been or will be collected in Windy, Patch, Doris, Wolverine, Aimaokatalok, Stickleback, and Reference Lake B in 2017	FEIS
ECCC-4.15	Trucking of effluent to the Doris TIA will be evaluated, complete with a more comprehensive analysis of other contingencies should effluent predictions be unsuitable to release to freshwater, be as part of the FEIS. TMAC commits to review chloride predictions in light of options to reduce concentrations contributed to the brine.	FEIS
ECCC-4.22	TMAC will provide additional information on the expected performance of the proposed closure cover for the Doris TIA as part of the FEIS.	FEIS
GN-02	As previously stated in TMAC's response to GN-IR-43, TMAC will reach out to third parties to deliver financial management programs such as financial literacy, financial planning and personal budgeting.	Operations
GN-02	In particular, TMAC will approach GN Family Services (or other GN department as appropriate) to solicit input and/or participate in the delivery of programming to Project workers. TMAC will also track statistics regarding the delivery of the programming. This may include the number and percentage of workers that have completed the training. TMAC will provide updates on program participation to the Kitikmeot Socio-economic Monitoring Committee during its annual meeting.	Operations
GN-03	TMAC commits to have dialogue with the Government of Nunavut on the topic of sexual health, including education and awareness materials, sexual health data to consider in the FEIS, and sexually transmitted infections (STIs) testing.	FEIS

List of Commitments for the Madrid-Boston Proposal

NIRB Technical Comment ID	Commitment	Timeline
GN-05	For the FEIS, TMAC will update the CIP to clarify communication with the GN and other stakeholders. The CIP update will identify key stakeholder issues/initiatives and outline a schedule of communication with stakeholders. TMAC will also include a list of key contacts in the CIP, where practicable (e.g., contact information for public agencies).	FEIS
GN-06	TMAC will undertake additional work to refine its estimates of fuel use, and remuneration paid to workers (direct, indirect and induced) for work done in Nunavut, and develop separate estimates of Petroleum Tax and Payroll Tax payments. This information will be provided in the FEIS.	FEIS
GN-07	TMAC confirms that all Kitikmeot residents, Inuit and non-Inuit, will be provided with transport from their home community to site if employed by the Project. The applicable wording in the Human Resources Plan (Volume 8, Annex 26) will be revised for the FEIS to be consistent with this statement.	FEIS
GN-07	TMAC will update the Human Resources Plan to state that, as per the IIBA, Inuit and non Inuit Kitikmeot residents employed at Hope Bay will be provided air transportation from the home communities of Kugluktuk, Cambridge Bay, Gjoa Haven, Taloyoak and Kugaaruk to the project site. Non Kitikmeot residents employed at Hope Bay are provided transportation to and from the project site, as per the guidelines described in TMAC's Hope Bay Travel Policy.	Not Applicable
GN-08	The Community Involvement Plan (see TMAC's response to Technical Comment ID #GN-05) will be updated for the FEIS to provide additional detail regarding the communication protocols for advancing these discussions.	FEIS
GN-08	TMAC will participate in further discussions with the Department of Education and the Department of Family Services regarding its participation and support for the provision of training development and career-awareness information in Kitikmeot schools.	FEIS
GN-09	NO2 emissions will be reassessed in the FEIS.	FEIS
GN-10	TMAC will revise the noise and vibration study for helicopters to reflect more realistic scenarios for the flight paths, altitudes and flying hours of operation, including all Hope Bay activities, and incorporate this information into the wildlife effects assessment as appropriate.	FEIS

List of Commitments for the Madrid-Boston Proposal

NIRB Technical Comment ID	Commitment	Timeline
GN-11	Caribou collar analyses will be conducted using the most recent data (up to and including spring migration 2017) and extended to examine the indirect habitat loss (theoretical ZOI), encouter rate and residency time (of collars in the study area) that both Dolphin and Union (winter and both spring and fall migration) and Beverly/Ahiak (summer, fall and winter) caribou spend in the Project areas, including the PDA and ZOI areas; these results will be presented in the FEIS. To bracket the uncertainty in ZOI value, TMAC will include two additional possible ZOI scenarios (to extend from the outer edge of the Hope Bay PDA) in addition to those chosen from the literature or calculated from existing site data: 1) 14 km surrounding the mine and 4 km surrounding roads, and 2) 5 km from the mine and 1.5 km from the road. A map and explanation of the ZOI will be included for all analyses.	FEIS
GN-11	TMAC assumes that the GN meant to request the degree of overlap between the subpopulation areas and the zone of influence used for the DEIS and TMAC will provide these data in the FEIS.	FEIS
GN-11	TMAC will include the results of the analysis conducted in response to GN-IR-16 in the FEIS.	FEIS
GN-12	The results from workshops described in Technical Comment GN-12 will be incorporated into the FEIS to present on potential impacts, mitigation and monitoring.	FEIS
GN-12	TMAC will clarify in the FEIS the meaning of a group of caribou, including the context for input received from the GN and other parties during the review of the WMMP.	FEIS
GN-12	TMAC will include additional rationale in the FEIS as to why caribou mitigation measures are implemented when a single caribou is observed , including the context for input received from the GN and other parties during the review of the WMMP.	FEIS
GN-14	The FEIS will clarify that TMAC will be in compliance with the Nunavut Wildlife Act for the Phase 2 Project and obtain appropriate permits if necessary as related to carnivore dens.	FEIS
GN-14	TMAC agrees to produce a habitat suitability map showing available suitable denning habitat for grizzly bears for the FEIS and will use the outcome of the assessment to inform mitigation, including pre-construction surveys for dens.	FEIS
GN-15	TMAC agrees to present the results of additional analyses conducted during the Information Request stage for the Dolphin and Union caribou in the FEIS (See GN-DEIS-16 and GN-DEIS-17) and present similar residency and encounter rate analyses for the Beverly and Ahiak subpopulations.	FEIS
GN-15	TMAC agrees to present the results of supplementary analyses conducted for GN-IR16 within the FEIS (see GN-DEIS-10) and use these updated range analyses to define seasonal ranges for the Beverly and Ahiak subpopulations.	FEIS

List of Commitments for the Madrid-Boston Proposal

NIRB Technical Comment ID	Commitment	Timeline
GN-15	Indirect habitat loss (ZOI) calculations will be conducted as described in the commitment for GN-11.	FEIS
GN-15	TMAC will update the cumulative effects assessment to include the Meadowbank Project, and will consider other reasonable human activities and settlements and other active facilities that may affect caribou behaviour in the FEIS. This update will include a table of human features with estimated ZOIs.	FEIS
GN-16	The results from the workshops described in Technical Comment GN-12 will be incorporated into the FEIS to present on potential impacts, mitigation and monitoring.	FEIS
GN-16	TMAC agrees to modify the Project WMMP in the FEIS to consider additional monitoring strategies to test impact predictions for caribou, including analysis of caribou collar data using techniques similar to those outlined in Wilson et al. (2016) and Blum et al. (2015).	FEIS
GN-16	TMAC agrees to use all available and current collar data in the analysis described in Comment GN-12.	Pre-FEIS
GN-16	TMAC will conduct an analysis of the crossing rates and encouter rates of both Dolphin and Union and Beverly Ahiak caribou of the existing Doris road and proposed Boston road and the proposed ZOIs of those roads as described in GN-11.	FEIS
GN-17	Caribou residency analysis will be conducted as described in the commitment for GN-11. Direct (PDA) and Indirect (ZOI) habitat loss will be calculated for high quality and absolute habitat loss.	FEIS
GN-17	TMAC agrees to present the results of supplementary analyses presented in GN-IR-18 and GN-IR-21 in the FEIS.	FEIS
GN-19	Given that the final results of the comprehensive analyses included in the 2016 WMMP indicated a small effect on raptor breeding, the FEIS will re-evaluate the characterization of the residual effect of disturbance on raptors.	FEIS
GN-21	TMAC will address discussion for potential mitigation for muskox in the next wildlife working group and report the results in the FEIS.	FEIS
GN-22	The noise modeling conducted for the DEIS was conducted based on the types of blasts conducted at the Doris site and which are planned for the Phase 2 Project. Details on the blasts proposed and used for the noise modeling will be listed in the DEIS.	FEIS
GN-22	TMAC agrees to provide more justification in the FEIS on the use of a setback buffer for triggering mitigation activities at Project quarries, which will include a more in depth discussion of the literature and responses of wildlife to various sound levels and discussing any information gaps within the assessment.	FEIS
GN-22	TMAC notes that the blast buffers and mitigation measures for caribou and other wildlife applies to all above-ground blasting. TMAC agrees to making this distinction within the FEIS .	FEIS
GN-25	The FEIS will clarify that TMAC will be in compliance with the Nunavut Wildlife Act for the Phase 2 Project and obtain appropriate permits if necessary as related to raptors.	FEIS

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NIRB Technical Comment ID	Commitment	Timeline
GN-26	TMAC will provide estimates of the proportion of Doris and Phase 2 roads that will be greater than 3 m in height and will have a safety berm.	FEIS
GN-27	TMAC will provide estimates of the levels and types of traffic on the Project's all-weather road segments during years 1-4 of the Project.	FEIS
GN-28	As indicated in response to GN-22 additional justification will be included in the FEIS for the mitigation buffers used in the WMMP .	FEIS
GN-28	TMAC will contact the GN for the available satellite collar data on the Dolphin and Union herd and investigate if there is sufficient data to conduct a ZOI analysis for the Doris site. If there is sufficient data, then the results of this analysis will be included in the FEIS. TMAC will consult the GN regarding the selection and treatment of the data.	FEIS
GN-28	TMAC will include additional justification for its choice of ZOI in the FEIS.	FEIS
GN-29	The Community Involvement Plan (see TMAC's response to Technical Comment ID #GN-05) will be updated for the FEIS to provide additional detail regarding the communication protocols to support these discussions on an ongoing basis.	FEIS
GN-29	TMAC will participate in further discussions with the Department of Family Services and the Nunavut Arctic College regarding its participation and support for the provision of training.	Operations
GN-30	TMAC will provide an updated estimate of labour force needs and workforce schedule for each phase of the Project, to be included in the FEIS.	FEIS
GN-30	To the extent that such communications are consistent with and not limited by TMAC's obligations under the 2015 Hope Bay IIBA, TMAC will provide the GN and the NIRB information regarding the labour force needs of the Phase 2 Project, should the Project receive regulatory approval and the decision is made by TMAC to proceed with the construction of the Project.	Operations
GN-30	TMAC commits to have continued dialogue with the Government of Nunavut regarding anticipated labour force needs, employment schedules, and education and training requirements related to specific positions.	Ongoing
GN-32	For the FEIS, TMAC will update the CIP to clarify communication with the NHC and other stakeholders (see TMAC's response to GN-05). The CIP update will identify key stakeholder issues/initiatives and outline a schedule of communication with stakeholders. TMAC will also include a list of key contacts in the CIP, where practicable (e.g., contact information for public agencies).	FEIS

List of Commitments for the Madrid-Boston Proposal

NIRB Technical Comment ID	Commitment	Timeline
HC-4.1.1	The air quality model will be revised for the FEIS; for example, the camp locations for workers will be off-set from the emission sources when the air quality model is updated (in the current model they were on top of each other). In the FEIS, any air quality guideline exceedances identified in the new model results will result in classification of those parameters as COPCs and they will be carried through the HHRA and will have hazard quotients calculated and incremental lifetime cancer risks calculated, if applicable (if the COPC is a carcinogen).	FEIS
HC-4.1.2	For the FEIS, any parameters that exceed guidelines will be carried forward in the HHRA as COPCs and will have hazard quotients calculated and incremental lifetime cancer risks calculated, if applicable (if the COPC is a carcinogen). TMAC will describe those parameters that exceed guidelines under baseline/existing conditions to indicate that they are not a result of the Project. This will show quantitatively the incremental risks from the Project.	FEIS
HC-4.2.1	In the FEIS, country food calculations for Phase 2 Project-related HHRA will be conducted, in addition to the existing condition assessment, recognizing that Project-related COPC concentrations in environmental media will likely remain unchanged from baseline/existing conditions. This will show quantitatively the incremental risks from the Project.	FEIS
INAC-TRC 01	TMAC will validate model-generated temperature profiles against in-situ measurements at multiple sites within Aimaokatalok Lake, including the 14 m depression near the proposed outfall.	FEIS
INAC-TRC 02	Attention will be paid to this potential for effluent pooling in Aimaokatalok Lake within the calibrated hydrodynamic modelling exercise and this information will be presented clearly in the FEIS.	FEIS
INAC-TRC 03	TMAC anticipates presenting refined source terms and additional sensitivity estimates for loading from the road and pads to more clearly show the potential range in concentrations that can be anticipated under more realistic base case and upper bound scenarios.	FEIS
INAC-TRC 08	Inconsistencies in the Evaporation data will be resolved and the updated evaporation results will be used in the updated water and load balance for the FEIS.	FEIS
INAC-TRC 09	TMAC will also be undertaking field studies (fish habitat, fish community, and hydrological assessments) in spring and summer 2017 in waterbodies predicted to be affected by changes in surface water quantity, based on predictions presented in Volume 5, Section 1.5 of the DEIS.	Pre-FEIS
INAC-TRC 10	TMAC will work with DFO to determine the necessary mitigation and monitoring required under the Authorization.	Prior to submission of DFO Application

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NIRB Technical Comment ID	Commitment	Timeline
INAC-TRC 16	The DEIS documentation will be revised to clarify that TMAC does not intend to segregate waste rock from Madrid North, Madid South or Boston based on mineralization classification, nor to use waste rock from Madrid North, Madid South or Boston for construction. The Waste Rock and Ore Management Plan will be updated for submission with the FEIS to reflect this intention.	FEIS
INAC-TRC 17	TMAC commits to monitoring the Contact Water Ponds as part of the SNP monitoring network and at a higher frequency than a bi-annual seepage survey.	Water Licence
INAC-TRC 18	TMAC agrees to include the use of revegetation as a possible reclamation measure for disturbed overburden surfaces when appropriate. The CCRP will be amended with an additional section (Section 5.4.14) containing the following text: "5.4.14 Disturbed Overburden Areas Where appropriate, consideration will be given to revegetate areas of overburden disturbed by excavation or other activities resulting in loss of natural vegetation. Depressions will be backfilled preferentially with suitable soils from the existing overburden piles to avoid ponding water resulting in permafrost degradation. Revegetation works may consist of application of seeds collected from the surrounding vegetation. Temporary erosion protection measures may also be implemented, as required."	FEIS
INAC-TRC 20	Any public comments applicable to the alternatives assessment, such as advantages or preferences for specific Project component alternatives, will be further considered in the alternatives assessment and documented in the FEIS.	FEIS
INAC-TRC 20	TMAC will include the description of the process used to determine no applicable interactions between the alternative and excluded VSECs, as described in the June 5, 2017 response to Technical Comments.	FEIS
INAC-TRC 21	TMAC will include a statement in the FEIS outlining the role of the Kitikmeot Socio-economic Committee in understanding cumulative impacts in the area, and the role of regulators and industry in cumulative socio-economic monitoring.	FEIS
INAC-TRC 22	The following figure (Figure 1) will be included in the FEIS as a supplement to Table 3.6-1, to show the temporal overlap between the Phase 2 and Hope Bay Project and other projects and activities included in the CEA.	FEIS
INAC-TRC 23	In the FEIS, TMAC will describe the CEA methodology and provide readers with the rationale for inclusion or exclusion of Valued Socio-economic Components in this analysis.	FEIS
INAC-TRC 24	TMAC confirms its participation in regional socio-economic monitoring, specifically the Kitikmeot Socio-Economic Monitoring Committee (Kit-SEMC), and through this participation, will support understanding industry's role in cumulative effects in the region.	Operations

List of Commitments for the Madrid-Boston Proposal

NIRB Technical Comment ID	Commitment	Timeline
INAC-TRC 24	TMAC will describe mechanisms for monitoring/management of socio-economic or land use cumulative effects in the FEIS.	FEIS
INAC-TRC 25	The FEIS will include a description of the rationale for the exclusion of past, existing and foreseeable future projects in NWT for the Land Use CEA.	FEIS
INAC-TRC 25	TMAC will include additional clarification regarding the selection of the temporal boundary in the CEA in the FEIS for the Socio-Economic and Land Use VSECs.	FEIS
INAC-TRC 26	TMAC will conduct additional community-level research in 2017 to update socio-economic and land use baseline information. This information will be presented in the FEIS and incorporated into the assessment, where appropriate. TMAC will continue to implement standard practices to collect qualitative data, in order to maximize the level of confidence in qualitative information. TMAC will identify any specific qualitative data limitations in the FEIS. TMAC will provide the level of confidence for socio-economic quantitave data.	FEIS
INAC-TRC 27	Following the baseline data update, and as applicable, the FEIS will include a discussion of any socio-economic baseline data gaps and uncertainties created by these gaps.	FEIS
INAC-TRC 27	TMAC has committed to update socio-economic and land use baseline information. Data collection is planned for 2017. This information will be incorporated in the FEIS.	FEIS
INAC-TRC 28	TMAC will provide the justification for exclusion of the 'Regional Populations and Demographics' VSEC into the FEIS, as provided in the June 5, 2017 response to Technical Comments.	FEIS
INAC-TRC 29	In the FEIS, TMAC will describe the provision of country food supplied for Inuit mine workers, as provided in the June 5, 2017 response to Technical Comments.	FEIS
INAC-TRC 31	TMAC has committed to update socio-economic baseline information. Data collection is planned for 2017, and updated information relating to food services will be included in the FEIS.	FEIS
INAC-TRC 31	TMAC will include a distinct section in the FEIS entitled "Food Services", which will present information on existing food services in the socio-economic Regional Study Area (RSA).	FEIS
INAC-TRC 32	For the FEIS, TMAC will provide the additional rationale for conclusion of 'not significant' for potential effects on competition for local labour, as provided in the June 5, 2017 response to Technical Comments.	FEIS
INAC-TRC 32	TMAC is committed to ongoing participation in the Kitikmeot Socio-economic Monitoring Committee (Kit-SEMC).	Ongoing
INAC-TRC 33	TMAC will work with the KIA and other stakeholders to enhance local business capabilities and the benefits realized by businesses within the region.	Operations
INAC-TRC 33	For the FEIS, TMAC will provide information regarding business capacity trends in the FEIS, as provided in the June 5, 2017 response to Technical Comments.	FEIS

List of Commitments for the Madrid-Boston Proposal

NIRB Technical Comment ID	Commitment	Timeline
INAC-TRC 34	For the FEIS, TMAC will describe the Project's potential impacts on alcohol and prohibited substance import and/or export, as provided in the June 5, 2017 response to Technical Comments.	FEIS
INAC-TRC 35	For the FEIS, TMAC will clarify statements made in Volume 6, Section 4.5.3.3 regarding the use of IQ in monitoring.	FEIS
INAC-TRC 35	TMAC is planning a follow-up workshop with Elders and harvesters in August or September of 2017 to focus on the design of wildlife monitoring programs, and this information will be incorporated into the WMMP and the FEIS.	FEIS
INAC-TRC11	TMAC will include the response to INAC-TRC 11 in the FEIS	FEIS
INAC-TRC12	TMAC will include the response to INAC-TRC 12 in the FEIS	FEIS
INAC-TRC13	TMAC will include the response to INAC-TRC 13 in the FEIS	FEIS
INAC-TRC14	TMAC will include the response to INAC-TRC 14 in the FEIS	FEIS
INAC-TRC15	TMAC will include the response to INAC-TRC 15 in the FEIS	FEIS
INAC-TRC19	TMAC will include the response to INAC-TRC 19 in the FEIS	FEIS
INAC-TRC4	TMAC will include the response to INAC-TRC 4 in the FEIS	FEIS
INAC-TRC5	TMAC will include the response to INAC-TRC 5 in the FEIS	FEIS
INAC-TRC6	TMAC will include the response to INAC-TRC 6 in the FEIS	FEIS
INAC-TRC7	TMAC will include the response to INAC-TRC 7 in the FEIS	FEIS
KIA-DEIS-01	As discussed with the KIA on May 10th, TMAC has reviewed the traffic levels used in the DEIS and will update the traffic rates for Project roads in the FEIS. If different traffic volumes are anticipated from what was presented in the wildlife assessments of disruption of movement, TMAC will re-evaluate potential effects on caribou, grizzly bear, muskox, and wolverine including a consideration of the academic literature provided by the KIA. TMAC will also review the required mitigation in light of any updated effects assessment in the FEIS and discuss results with the KIA.	FEIS
KIA-DEIS-02	As discussed with the KIA, TMAC agrees to produce a habitat suitability map showing available suitable denning habitat for grizzly bears for the FEIS. TMAC will consider the results of this mapping exercise in the FEIS.	FEIS
KIA-DEIS-03	As discussed with the KIA on May 10th, TMAC will present and discuss the camera data by date, caribou season and caribou herd (where possible) in the FEIS. TMAC will consider the updated results from this analysis to determine whether changes in the assessment to caribou are warranted, including evaluation of potential effects and mitigation and monitoring strategies. These results will be considered in conjunction with collar data analaysis already in conjuction with the GN.	FEIS
KIA-DEIS-04	Relevant information pertaining to wind turbines and their potential effects will be evaluated in the FEIS as requested by the KIA. Results will be discussed with the KIA when available.	FEIS

List of Commitments for the Madrid-Boston Proposal

NIRB Technical Comment ID	Commitment	Timeline
KIA-DEIS-05	TMAC will highlight additional information in the FEIS that describes the sensitivity and resilience of wildlife populations. This will include population size and trajectory and the species and population resiliency to disturbance. The EIS methodology will be updated to describe how for wildlife the resilence will be used to infrom the determination of significance.	FEIS
KIA-DEIS-06	TMAC will include in the FEIS further information on managing harvester access and information from the Wildlife Working Group collected in 2017.	FEIS
KIA-DEIS-08	As discussed with KIA on May 10, 2017, TMAC will include following items in the FEIS for the results of the ZOI analaysis conducted for the Windy Camp in 2010: 1) Effect sizes when examining for a ZOI using the caribou aerial survey data. 2) power valued achieved, and 3) the alpha-value used.	FEIS
KIA-DEIS-09	In regards to dustfall monitoring, the Phase 2 Air Quality Management Plan (AQMP) presented in the DEIS (Volume 8, Annex 19) will be updated as required to support project monitoring, post technical review. This will include a dustfall monitoring program that will measure the quantities of dust deposited at dustfall sampling locations. Establishing sampling locations perpendicular to the road to monitor dust generation will be considered. Updated atmospheric modelling and other potential impacts to vegetation, health and diversity will be considered in the FEIS to reexamine the predicted extent of the impacts to vegetation and required mitigation and monitoring will be discussed with the KIA.	FEIS
KIA-DEIS-10	As one of the mitigation measures for invasive plant species, TMAC (in the invasive plant management plan) will consider using native plants in disturbed areas.	FEIS
KIA-DEIS-10	TMAC will address the concern related to invasive species related to the Project by way of including a plan in the FEIS.	FEIS
KIA-DEIS-11	The HHRA and associated modelling included in the FEIS will replace the consumption of Canada goose with the consumption of ptarmigan.	FEIS
KIA-DEIS-12	Additional baseline sampling in Roberts Bay for Arctic Char tissue metal concentrations and age will be conducted this summer (2017) and those data will be included in the HHERA in the FEIS. The sample sizes collected will aim to meet Health Canada Guidance of at least 20 fish and will be in accordance with DFO permits for fish sampling.	Pre-FEIS
KIA-DEIS-12	In the FEIS, the adult and toddler fish consumption rates will be adjusted to include a consumption rate for freshwater fish (i.e., Lake Trout) and for marine fish (i.e., Arctic Char) separately. The overall risk to human health will still include the total fish consumption taken into account these relative proportions.	FEIS
KIA-DEIS-17	As noted in the response to KIA-DEIS-12, a field program will be conducted this summer (2017) to collect marine fish (i.e., Arctic Char) for analysis and inclusion in the risk assessment for the FEIS.	FEIS

List of Commitments for the Madrid-Boston Proposal

NIRB Technical Comment ID	Commitment	Timeline
KIA-DEIS-18	A literature search for BTFs applicable to country food species and ecological receptors was conducted prior to writing the risk assessment for the DEIS. An additional literature search will be conducted for BTFs prior to completing the FEIS to identify more relavent values if available or methods of deriving values for inclusion in the FEIS.	FEIS
KIA-DEIS-19	The additional Arctic Char data will be included in the risk assessment in the FEIS.	FEIS
KIA-DEIS-21	As noted in comment responses KIA-DEIS-13, Whitefish will be removed from the HHRA entirely because the Lake Trout dataset (which is the highest trophic level fish) is more than adequate (n=69) to represent freshwater fish consumption.	FEIS
KIA-DEIS-22	Since representative vegetation tissue metal concentrations appears to be a critical issue for KIA, surrogate or analogue data from other projects in Nunavut (e.g., Meliadine, Meadowbank, Back River) will be considered, assuming the baseline vegetation data for those projects is publicly available on the NIRB website.	FEIS
KIA-DEIS-23	The soil ingestion rates for caribou and muskox will be updated in the FEIS, based on information from Bayer et al. (1994) and Macdonald and Gunn (2004).	FEIS
KIA-DEIS-24	Additional fish (i.e., Arctic Char) captured for tissue metal analysis this summer (2017) will be included in the FEIS.	FEIS
KIA-DEIS-28	TMAC will update land use baseline information in 2017, the updated information to be incorporated in the FEIS. The approach to update the baseline data will engage Hunter and Trapper Organization (HTO) representatives to undertake additional interviews and/or focus groups, including resource mapping.	FEIS
KIA-DEIS-29	TMAC will update land use baseline information in 2017, and the updated information will be incorporated in the FEIS. The approach to update the baseline data will engage Hunter and Trapper Organization (HTO) representatives to undertake additional interviews and/or focus groups, including resource mapping.	FEIS
KIA-DEIS-34	As recommended/requested by DFO in their technical comments (refer to DFO-3.1.4 and DFO-3.2.2), TMAC will work as required with DFO and KIA as required to develop a freshwater and marine fisheries offsetting plan.	FEIS
KIA-DEIS-34	TMAC commits to quantifying predicted habitat loss/alteration using area units (e.g., in m2) in the FEIS submission.	FEIS
KIA-DEIS-35	TMAC commits to working with DFO through the Fisheries Protection Program to determine the most suitable approach to estimating potential fisheries productivity losses.	FEIS
KIA-DEIS-36	TMAC plans to undertake additional fish community and fish habitat baseline surveys in Imniagut Lake and Imniagut Outflow in spring and summer 2017.	Pre-FEIS
KIA-DEIS-37	TMAC acknowledges the KIA's request to improve the clarity of Volume 5, Section 6.5.4.2 of the DEIS and commits to revising this section in the FEIS.	FEIS

List of Commitments for the Madrid-Boston Proposal

NIRB Technical Comment ID	Commitment	Timeline
KIA-DEIS-37	TMAC commits to initiating additional field investigations (fish habitat, fish community and/or hydrological assessments) in spring and summer 2017 (see also Technical Comment ID #KIA DEIS 34)	Pre-FEIS
KIA-DEIS-37	TMAC therefore commits to quantifying predicted habitat loss/alteration using area units (e.g., in m2) in the FEIS submission.	FEIS
KIA-DEIS-38	The potential effects to aquatic habitat from changes in water level and flow predicted in the sensitivity analysis on high groundwater inflows in the Madrid mines will be evaluated in the FEIS.	FEIS
KIA-DEIS-39	Uncertainty will be managed using a groundwater management plan, as per the existing Doris mine.	FEIS
KIA-DEIS-40	If the FEIS assumes treated sewage will be discharged to the tundra during operations, the effects of those discharges will be evaluated in the FEIS.	FEIS
KIA-DEIS-44	The Air Quality Management Plan (AQMP; Annex 19 of the DEIS) contains air quality mitigation and adaptive management measures that were designed to protect ambient air quality during all phases of mining. While not referencing Greenhouse Gas (GHG) emissions explicitly, many of the measures in the AQMP are applicable to reduction of GHG emissions over the life of the mine. This will be clarified in the AQMP provided as part of the FEIS.	FEIS
KIA-DEIS-46	Additional water quality data, including winter under ice sample, is being collected in Windy, Patch, Wolverine, Doris, Aimaokatalok, and Stickleback lakes in 2017.	Pre-FEIS
KIA-DEIS-47	TMAC will review the modeling methodology for modeling smaller lakes where cryoconcentration is resulting in an excessively high modelled baseline concentration, and adjust as necessary to reduce this artefact. TMAC anticipates presenting refined source terms and additional sensitivity estimates for loading from the road and pads to more clearly show the potential range in concentrations that can be anticipated under more realistic base case and upper bound scenarios.	FEIS
KIA-DEIS-48	TMAC will further evaluate this historical dataset to assess bathymetric and hydrological data, and if warranted will include it in the FEIS. TMAC will also revisit the historical geodetic data and complete survey work to provide geodetic data for Windy Lake in 2017.	FEIS
KIA-DEIS-55	TMAC will be conducting additional geotechnical site characterization studies after completion of the FEIS as part of detailed engineering. Data collected as part of these characterization studies will be used to update any engineering design analysis.	Post Water Licence
KIA-DEIS-56	TMAC will be conducting additional geotechnical site characterization studies after completion of the FEIS as part of detailed engineering. Data collected as part of these characterization studies will be used to update any engineering design analysis.	Post Water Licence

List of Commitments for the Madrid-Boston Proposal

NIRB Technical Comment ID	Commitment	Timeline
KIA-DEIS-57	TMAC will be conducting additional geotechnical site characterization studies after completion of the FEIS as part of detailed engineering. Data collected as part of these characterization studies will be used to update any engineering design analysis.	Post Water Licence
KIA-DEIS-58	TMAC will be conducting additional geotechnical site characterization studies after completion of the FEIS as part of detailed engineering. Data collected as part of these characterization studies will be used to update any engineering design analysis.	Post Water Licence
NRCAN-2.1.2	TMAC will be conducting additional geotechnical site characterization studies after completion of the FEIS as part of detailed engineering. Data collected as part of these characterization studies will be used to update any engineering design analysis.	Post Water Licence
NRCAN-2.1.3	TMAC will be conducting additional geotechnical site characterization studies after completion of the FEIS as part of detailed engineering. Data collected as part of these characterization studies will be used to update any engineering design analysis.	Post Water Licence
NRCan-2.1.4	Uncertainty will be managed using a Groundwater Management Plan, and will include triggers and mitigation measures similar to the approved Doris Mine Groundwater Management Plan. The GWMP will be submitted part of the FEIS.	FEIS
NRCAN-2.1.5	TMAC will be conducting additional geotechnical site characterization studies after completion of the FEIS as part of detailed engineering. Data collected as part of these characterization studies will be used to update any engineering design analysis.	Post Water Licence
NRCan-2.2.2	Uncertainty will be managed using a Groundwater Management Plan, and will include triggers and mitigation measures similar to the approved Doris Mine Groundwater Management Plan. The GWMP will be submitted part of the FEIS.	FEIS
NRCan-2.2.3	Uncertainty will be managed using a Groundwater Management Plan, and will include triggers and mitigation measures similar to the approved Doris Mine Groundwater Management Plan. The GWMP will be submitted part of the FEIS.	FEIS
NRCan-2.2.4	Uncertainty will be managed using a Groundwater Management Plan, and will include triggers and mitigation measures similar to the approved Doris Mine Groundwater Management Plan. The GWMP will be submitted part of the FEIS.	FEIS
TC-3.1.2	TMAC appreciates the information provided in Transport Canada's Technical Comment TC-3.1.2, and will indicate our intention to opt in or out in the FEIS.	FEIS
TC-3.2.1	TMAC appreciates the clarity provided in Transport Canada's Technical Comment TC-3.2.1. The text will be updated in the FEIS as described within the recommendation.	FEIS
TC-3.2.3	TMAC will work with Transport Canada to obtain a letter of compliance for its occasional use marine facility.	FEIS
TC-3.4.2	TMAC will include *The Transportation of Dangerous Goods Act (1992) and Regulations* to the list of Acts and Regulations that regulate the handling on explosive materials as required in the FEIS.	FEIS
TC-3.4.3	TMAC will revise the wording as requested by Transport Canada's Technical Comment TC-3.4.3 in the FEIS.	FEIS

List of Commitments for the Madrid-Boston Proposal

NIRB Technical Comment ID	Commitment	Timeline
TM GN-01	TMAC will conduct a workshop that will include the KIA and the GN to discuss monitoring mitigation and management measures for the Phase 2 project prior to submission of the FEIS.	Pre-FEIS
TM- NIRB-01	TMAC will provide additional clarity on how pipelines will be managed under a Care and Maintenance Scenario in the FEIS as part of an updated Closure and Reclamation Plan.	FEIS
TM-HC-01	TMAC will update the spill contingency plan to include notification to the KIA in the event of the spill potentially impacting drinking water sources	Ongoing
TM-NIBR-02	TMAC commits to providing in the FEIS a more parcelled out cumulative effects assessment to show Phase 2 impacts, and how that adds to existing Doris project, and then how other exploration and projects in the area would affect the results as presented.	FEIS

Appendix E: Nunavut Water Board direction regarding Water Licence and Concordance

On December 28, 2016 the Nunavut Impact Review Board and the Nunavut Water Board received the Draft Environmental Impact Statement (DEIS) for the Phase 2 Hope Bay Belt Project from TMAC Resources Inc. (TMAC). At that time, TMAC requested that the Nunavut Impact Review Board's (NIRB) assessment of the Project Proposal be coordinated with the Nunavut Water Board's (NWB) consideration of the water licensing aspects of the Project.

TMAC included within the DEIS submission a draft water licence application for a new Type "A" Water Licence. The scope of the new Type "A" Water Licence Application submitted with the DEIS (the Application) included the activities related to the additional uses of water and the deposit of waste associated with the Phase 2 Hope Bay Belt Project at three sites; changes at the existing Doris site and the new activities at the Madrid and Boston sites. Subsequently, in TMAC's correspondence responding to the NIRB's queries regarding the level of NIRB and NWB coordination being requested by TMAC, TMAC stated that:

> If approved, Phase 2 would rely in part on the use of existing infrastructure at the Doris Site (Doris), which is permitted pursuant to Doris Project Certificate No. 003 as well as Type "A" Water Licence 2AM-DOH-1323 (the Doris Water Licence). It is expected that if Phase 2 is approved by NIRB, a new Project Certificate would be issued for Phase 2. The Coordinated Process should consider how potential consequential amendments to Doris Project Certificate No. 003, as well as the potential for consequential amendments to the Doris Water Licence could be administered simultaneously without requiring additional process steps after the issuance of a new Project Certificate and Water Licence. The NWB may ultimately determine that an amended Type "A" Water Licence be issued for Doris and Phase 2 as the preferred licensing option over a stand-alone Phase 2 Type "A" Water Licence and an amended Doris Water Licence. TMAC wishes to avoid duplication of Terms and Conditions in Project Certificates and Water Licences, and would like to ensure that processes to issue and or amend a Project Certificate and Water Licence address consequential amendments (if required) within the coordinated process.[7]

TMAC also indicated they planned to include a final water licence application as an appendix to the Final Environmental Impact Statement that will be filed by TMAC in December 2017. To facilitate the water licensing process proceeding without delays, at the NIRB's Pre-hearing Conference associated with the DEIS, the NWB committed to providing direction as an appendix to the NIRB's PHC Decision. The purpose of this Appendix is to provide clear direction to TMAC and all the parties regarding the type(s) of final water licence application materials and

[7] Correspondence of O. Curran, TMAC to T. Arko, NIRB Re: Response to NIRB's request for clarification on level of NIRB-NWB Coordination for the Madrid-Boston (Phase 2) Project, February 16, 2017 at p. 1.

additional information that the NWB requires TMAC to submit in the water licensing application materials filed by TMAC as an appendix to the Final Environmental Impact Statement.

As discussed amongst the parties at the PHC, the scope of water uses and waste deposits associated with the Phase 2 Hope Bay Belt Project includes both increases and expansions to existing water uses and waste deposits at the existing Doris North mine site, as well as a transition from water uses and waste deposits associated with exploration activities to mining activities at the Madrid and Boston deposits. From a water licensing perspective, this creates the question as to how best to licence the undertakings and activities proposed for the Phase 2 Hope Bay Belt Project.

In terms of changes to the currently licenced activities at the Doris site, TMAC is seeking, amongst others, an increase in water use and an expansion of the Tailings Impoundment Area (TIA). With respect to the Madrid site, the proximity of the Madrid area to the Doris site means that the Madrid component of the Phase 2 Hope Bay Belt Project relies heavily on using the infrastructure at the Doris site. Wastewater, tailings and domestic waste will all be sent from the Madrid site to the Doris site. In addition, there will be no accommodations or camp at the Madrid site as people working at Madrid will be housed at the camp facilities located at the Doris site. Both the existing Doris mine and the activities proposed at the Madrid site are located within and draw water from the same watersheds, the Doris and Windy Watersheds.

With respect to the Boston site, the Boston water source is the Aimaokatalok Lake which is within the Aimaokatalok watershed, and TMAC intends to discharge treated wastewater into Aimaokatalok Lake. The tailings produced at the Boston processing plant will be dry-stacked and will remain at the Boston site. The Boston site will also have a camp facility (smaller than the Doris site). The volume of water used and the scale of waste deposit activities solely associated with the mining undertaking at the Boston site are sufficient to trigger the requirements for a Type "A" Water Licence.

In assessing the approach to licensing for this Project, the NWB also considered the following:

- The management of water resources based on management by individual watersheds is the accepted approach in most developed countries. The central purposes of this approach include: facilitating water quality assessment, including cumulative effects assessment; and the establishment of water quality management objectives and effluent criteria based on the individual watershed. Licensing undertakings on the basis of the relevant watershed, as opposed to licensing on the basis of the full scope of a Project as defined by an individual Proponent, facilitates assessment, planning, management and protection of watersheds by more readily tracking licenced and otherwise Board-approved water uses and waste deposits in a given watershed.

- The Boston site is geographically separated from the Doris-Madrid sites and the Boston site would require major mine infrastructure that is operationally distinct from the existing Doris North site, including: a mine; ore concentrating/processing plant; a camp (and all related water use and waste management infrastructure); a landfill; and a tailings storage facility. Although the final 10% of the processing of ore mined at the Boston site will take place at the existing Doris North site, most of the processing will take place at the Boston site.

Based on this understanding of the scope of the undertakings, linkages between existing and planned water use and waste deposits and the location of the respective facilities, and the NWB's general watershed management approach, at the PHC, the NWB indicated that two applications would likely be required. An application for amendments to the existing Doris North Type "A" Water Licence, No.#2AM-DOH1323 (the Doris Licence) to authorize the increased water use and waste deposit associated with the additional operations at the Madrid site and the processing of concentrate from the Boston site and an application for a new Type "A" Water Licence to authorize the water uses and waste deposits associated with the mining undertaking at the Boston site. The NWB's basis for this approach is the recognition that the Boston site is largely a stand-alone mine site with its own proposed processing plant and tailing storage facility, located in a different watershed than the existing Doris north site, and if approved by the NIRB to proceed, this site may be governed by a separate Project Certificate.

During the PHC and in follow up correspondence to the NWB, TMAC indicated a strong preference for all of the Phase 2 Hope Bay Belt Project activities to be authorized by amending the existing Doris Licence only. TMAC's preference was largely based on efficiency, avoiding overlap and administrative convenience for TMAC, the NWB, the intervenors and Indigenous and Northern Affairs Canada (the authority responsible for enforcing the terms and conditions of water licences). In TMAC's submissions, they noted that satisfying the conditions of an amended Doris Licence, coupled with the requirements arising under a new and separate Type "A" water licence for the Boston site, would require additional administrative work, i.e. "more paper work". The Kitikmeot Inuit Association supported TMAC's preference for a single licence in the interests of administrative efficiency.

While other parties were polled at the PHC regarding their views, these parties did not generally express a preference regarding how the NWB should approach this issue. Indigenous and Northern Affairs Canada (INAC) stated that while it recognized that having two Type "A" Licences for the Phase 2 Hope Bay Belt Project could create complexity for INAC's enforcement officers; they also recognized that an amendment to the existing Doris North Licence to authorize water uses and waste deposits for mining along the entire Hope Bay Belt would constitute a major amendment and could result in a fairly complex single licence for the entire Project At the PHC, INAC also pointed out that licensing based on distinguishing between the

Watershed Management Areas (WSMA), as proposed by the NWB at the PHC, was a rational approach to delineating the scope between two possible licences. In subsequent correspondence to the NWB,[8] INAC stated a preference for a single water licence to govern the whole Project noting the common use of infrastructure by the Madrid and Boston sites, the facilitation of unified site inspections by INAC's Water Resource Inspectors and operational efficiencies.

While the NWB understands TMAC's and INAC's concerns about creating administrative complexity, this convenience must be balanced against the NWB's mandate to regulate water use and waste deposit activities on the basis of Watershed Management Areas (WSMA). As noted above, the NWB considers the WSMA approach to be an important mechanism to protect waters from sources of contamination in areas that are well-defined by watershed boundaries and allows the NWB to establish watershed specific water use and waste deposit limits that reflect the circumstances of each WSMA. Regulation of water uses and waste deposits in a given WSMA allows the Board to take into consideration all the activities that could influence the quality and quantity of surface and groundwater in that geographic context and is a manner of:

> …managing water resources within specific watersheds by knowing how much water is in the system, where it comes from, who is using it, how it is being contaminated and where it is ends up. Watershed management takes into consideration all the outside activities that can influence the quality and quantity of our surface and groundwater.[9]

The NWB believes that implementing a watershed management approach in this case is reasonable and is consistent with the Board's overriding objectives of protecting freshwater resources in Nunavut.

With respect to the additional work required by TMAC, the NWB, INAC's Inspectors and others in the administration of two (2) separate Type "A" Licences, the NWB wishes to emphasize that TMAC is free to propose an integrated reporting, management planning and monitoring approach for both the Doris and Madrid sites and the Boston site and all water licences, including existing Type "A" and Type "B" Licences that already govern these sites. Specifically, the NWB notes that to date, some of the Hope Bay Project's Management Plans (i.e. Waste Rock and Ore Management Plans, Spill Contingency Plans, etc.) have been structured with a main document and modules. The main document outlined key procedures and general policy for the Hope Bay Project, while the modules provided specific details for the individual

[8] See the July 17, 2017 correspondence from K. Costello, Director, Resource Management, INAC Water Resources Division to K. Kharatyan, NWB, Manager of Licensing, RE: INAC comments on Type "A" water licensing process for TMAC Resources Inc.'s Hope Bay Phase 2 Project.
[9] Conservation Ontario, 2017, *Watershed Management and Watershed Planning*, available online: http://conservationontario.ca/what-we-do/what-is-watershed-management.

sites within the Hope Bay Project, Doris, Boston, Madrid, addressing particular requirements of the specific site's water licences.

The existing approach by TMAC with respect to submitting Management Plans structured in this way is regarded by the NWB as appropriate. The NWB sees no impediment to TMAC continuing with the same approach if the Doris and Boston sites would be governed by separate Type "A" Licences in future. The NWB is committed to working with TMAC and the other participants in the NWB's water licensing process to streamline and integrate the administration of the two licences, in order to limit the potential for duplication, overlap and inconsistency, and an unnecessary administrative burden.

Having considered the discussion of the parties at the PHC, the correspondence submitted subsequently by TMAC and the location of the Boston site within a separate watershed, the Board considers it appropriate that the scope of the additional water use and waste deposit activities that would be associated with the construction, operation and reclamation of the Boston site mining undertaking (if it is approved to proceed by the NIRB and Minister) should be governed by a separate Type "A" Water Licence. The Board notes that this approach is consistent with the regulatory approach the NWB has recently taken in respect of a similar application by Agnico Eagle Mines Limited for a water licence to authorize the water uses and waste deposits associated with the Whale Tail Pit project proposal in conjunction with their Meadowbank Gold Mine.

The NWB has concluded that it is reasonable for TMAC to provide two applications to regulate the expanded scope of activities as requested in the Hope Bay Belt Phase 2 Project Proposal:

1. an application to amend the current scope of the existing Doris North Type "A" Water Licence to expand the scope to include the additional water use and waste deposit activities at the Doris site associated with the Madrid Project and the processing at the Doris site of the additional volumes of ore originating at Madrid and the concentrate from the Boston; AND

2. an application for a new and separate Type "A" Water Licence to govern the water use and waste deposit activities associated with the construction, operation and reclamation of the mining undertaking at the Boston site.

The NWB wishes to emphasize that recognizing the linkage of these two licences and the benefits of a streamlined regulatory review, the NWB proposes to deal with both the application to amend and the application for the new Type" A" Water Licence in a single unified technical review, Pre-hearing Conference, public hearing and Board decision. Reflecting this licensing approach, the NWB has reviewed the DEIS supporting information provided during the NIRB technical review that is relevant to the water licensing aspects of the Phase 2 Hope Bay Belt Project proposal. Accordingly, the NWB recommends that TMAC address the following in the

Final Type "A" Water Licence Amendment Application and Application for a new Type "A" Water Licence, to be provided along with the Final Environmental Impact Statement (FEIS):

1. All Weather Road (AWR) Extension: an AWR will connect Madrid to Boston, and an AWR will connect the proposed marine dock at Roberts Bay to the laydown area at Roberts Bay. An access road will connect the southern end of the TIA with the Madrid North Infrastructure. The construction and maintenance of the existing AWR at Doris is included under the existing 2AM-DOH1323 Water Licence. Consequently, TMAC is advised that all the information related to the construction of the extension of the AWR from Madrid North to the South end of the Doris TIA and the AWR linking Madrid and Boston sites, should be included under the scope of the Amendment Application for the existing 2AM-DOH1323 Water Licence. The NWB has taken this approach so that the AWR in its entirety would be governed by the terms and conditions in a single licence, rather than being divided between the existing Doris Licence and a possible future Boston Type "A" Licence.

2. Boston Treated Domestic Wastewater: it is unclear the fate of the treated domestic wastewater at Boston as it appears that treated wastewater could be discharged either to the tundra or into the Aimaokatalok Lake. The final Application submission for a new Type "A" Water Licence at the Boston site should confirm the approach to domestic wastewater treatment and the handling of effluent proposed for the Boston site (i.e., treated wastewater discharge location);

3. Water Management at Boston: purge water from the mill will be sent to the water treatment plant prior to discharge to Aimaokatalok Lake. A more detailed description of the water treatment plant (methods, volume to be treated, anticipated effluent quality etc.) is required in the final Application submission for a new Type "A" Water Licence at the Boston site;

4. Construction of Landfill at Boston: the final Application submission for a new Type "A" Water Licence at the Boston site should include a landfill management plan with preliminary design drafts of the facility; and

5. Management Plans: most of the submitted management plans included with the DEIS do not address the components of the Phase 2 Hope Bay Project. The final application submissions for the amendment to the existing 2AM-DOH1323 Water Licence and for a new Type "A" Water Licence at the Boston site should provide updated monitoring and management plans such as Water Management Plan, Waste Management Plan, Spill Contingency Plan, etc. Site-specific study reports must also be provided to support design and management plans.

In addition to these final Application submissions, the following is a summary of relevant comments related to the use of water and deposit of waste, submitted by interested parties during the technical review of TMAC's DEIS submission (when relevant, TMAC's preliminary response to the comments is also included). The NWB provides this listing, noting that these issues will likely remain relevant during the technical review of the final Application submissions provided by TMAC with the FEIS, and the NWB expects these issues are likely to require further discussion during the licensing process associated with the Phase 2 Hope Bay Belt Project proposal.

The NWB also wants to emphasize that although there are a number of items identified in the attached table where TMAC has responded that the outstanding issues can be deferred until post-licensing, the NWB has not necessarily accepted that it is appropriate for all of these issues to be deferred until after the licensing stage is completed. Consequently, the NWB may require that TMAC provide additional detail during the NWB's consideration of the Applications submitted by TMAC with the FEIS. The NWB may also determine that information to address some of these issue may also be required to be submitted with the final Application submissions by TMAC in advance of the technical review, and TMAC is encouraged to discuss these outstanding issues further with the NWB while preparing the Application submissions.

Subject	Review Comment No.	Summary	Recommendation / Request
Lake volume/ water level/ reduction	KIA-DEIS-36	*The reduction in the annual lake volume for Imniagut Lake has potential to affect the fish and fish habitat. The supporting field assessment states that additional effort would be needed to confirm whether large bodies are present in this lake.* *Further to this, the maximum reduction in annual lake volume for the Lake is estimated around 51.8%*	NWB recommendation is to include water level and flow monitoring stations in the Surveillance Network Program aimed to monitor water level and flows of the water bodies that would be impacted by the Project.
	KIA-DEIS-39	*Higher values of hydraulic conductivity (k) for the fractured bedrock, permeable fault and lake sediments need to be considered to adequately assess the likely range of lake infiltration flows to the Madrid North and South mines.*	
	DFO-3.1.3	*The impact on each water body due to Project activities is described as follow (Appendix V3-2D, Water and Load Balance):* *Wolverine Lake: 35% reduction in outflow during operations;* *Imniaqut Lake: Drawdown of up to 4cm;* *Patch Lake: 27% reduction in outflow during operations;* *Doris Lake: 43% reduction in flow during operations and drawdown of up to 50 cm;* *Windy Lake: 7% reduction in outflow during operations;* *Little Roberts Creek: The maximum withdrawal of 2,190,000 m3/year from Doris Lake would result in a reduction of up to 18% of the flow in Little Roberts Creek during the August and September period.*	
	INAC-TRC9	*The Proponent anticipates that the Project could lead to moderate to high impact to lake surface water quantity and outflows*.	
Groundwater management	NRCan-2.2.2 2.2.3 & 2.2.4	*There is uncertainty in groundwater flow and salinity predictions form groundwater modeling. Consequently, groundwater flow and or salinity could be higher than expected. Appropriate monitoring, groundwater management plans (with mitigation measures) and follow-up needs to be in*	NRCan recommendation is that groundwater management plans – with well-defined mitigation measures and monitoring- should be developed for the Madrid North, Madrid South and Boston mines with appropriate thresholds

Subject	Review Comment No.	Summary	Recommendation / Request
		place to ensure that potentially problematic groundwater conditions can be avoided promptly identified and addressed.	for each mine. If appropriate, groundwater management plans should consider mine water salinity thresholds. TMAC response is that although it is considered very unlikely that consistently high flow rates would be associated with high concentrations, groundwater management and monitoring plans are in place and will be further refined and "*where appropriate, ground water management plans may consider mine water salinity trigger levels and thresholds*."
	ECCC-4.7	*No Madrid-specific groundwater data was available so Madrid groundwater quality was inferred based on the Doris groundwater sample*.	ECCC recommendation is that: The proponent collects groundwater quality data at the Madrid deposit and update the Water and Load Balance document in accordance with this data; The proponent provides a plan for groundwater sampling and testing at Madrid. TMAC response regarding this issue is that *the uncertainty related to the groundwater quality will be managed through a groundwater management plan (GWMP)*. And that part of this plan will specifically include water quality testing of any groundwater inflow.
	ECCC-4.9	*The current proposal includes limited capacity for mine water management at the Boston site because it assumes that no mine water inflow will occur*. *If groundwater is encountered at Boston, additional water management capacity would be required.*	ECCC recommendation is that *The Proponent complete a sensitivity analysis on flows to evaluate the potential effects on water storage and treatment at Boston.* *The Proponent provide contingency water*

Subject	Review Comment No.	Summary	Recommendation / Request
			management options at Boston.
Wastewater from Boston	KIA-DEIS-40	*The DEIS is unclear on the fate of wastewater from the Bosto Camp.*	Recommendation made by KIA is: 1. *Confirm the discharge location for treated domestic effluent for the Boston site.* 2. *If treated sewage will be discharged to the tundra, provide the discharge quantity, duration and location* NWB's recommendation is to include this information in the Water Licence Application.
Site runoff from Boston area	KIA-DEIS-43	*There is uncertainty regarding runoff from Boston Area. The Applicant stated that the site runoff collected in contact water ponds will be treated in the wastewater treatment plant to remove metals.*	NWB recommendation on this topic is to include in the Water Licence Application a more detailed description of the water treatment plant
Boston Water treatment plant	ECCC-4.15	Site and mine contact water will be intercepted during the Construction and Operation phases at the Boston area and treated prior to discharge to Aimaokatalok Lake (Volume 5 Section 4 of DEIS). *Based on the effluent quality predictions provided in Table 4.5.8, several constituents of the proposed discharge into Aimaokatalok Lake raise concern. ECCC requested that the Proponent confirm that effluent at the end of pipe effluent would be non-acutely toxic, and discuss potential management options.*	ECCC recommendation is that: *The Proponent discusses information on the feasibility of trucking effluent to the Doris TIA, the impacts to the TIA capacity if this occurs and identify other contingency measures which could be used.* *The Proponent provides information discussing mitigation for the potential end of pipe toxicity.* *The Proponent implements mine practices to minimize the concentration of sulfate and chloride discharged.*
Water quality due to uncontrolled	ECCC-4.10	*Based on the Water and Load Balance document, the water quality at Wolverine Lake and Stickleback Lake is expected to exceed numerous CCME guidelines during operations and*	ECCC recommendation is that: *The Applicant provides alternative water*

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runoff		*into closure.* *The only source of loadings to Wolverine Lake is through disturbed runoff, however, no information is provided on mitigation measures to manage this runoff to minimize or eliminate impacts to Wolverine Lake. Stickleback Lake water quality is similarly expected to deteriorate over the life of the mine and into closure period due to uncontrolled runoff.*	*management strategies to control runoff reporting to Wolverine and Stickleback Lakes in order to prevent water quality impacts.* TMAC response is that *it believes that the sources terms for runoff may be overly conservative. TMAC anticipates presenting refined source terms and additional sensitivity estimates to more clearly* *Show the potential range in concentrations that can be anticipated under more realistic base case and upper bound scenarios.*
Waste rock and ore management plan	INAC-TRC17	*The Proponent indicates that seep surveys will be conducted once per year at freshet in order to characterize metal leaching and confirm appropriate capture of waste runoff.* *Consistent with current practice at other northern mines, a biannual audit is recommended to be completed once during freshet and once during late fall to capture variability in characterization of metal leaching from waste rock runoff*	TMAC response to this request is: *Water from the wasterock piles and ore stockpiles will be collected in Contact Water Ponds (CWP); the water in the CWP will be monitored as part of the SNP monitoring network. TMAC recommends that metals be included in the analytical suite for CWP water quality monitoring.* (TMAC Commitment related to the Water Licence)
Arsenic concentrations in the TIA and Marine Mixing Box	ECCC-4.8	*The levels of arsenic in the TIA are of environmental concern as they approach and exceed the MMER limits. The increased concentrations of arsenic in the TIA have implications for both, marine environment from the discharge during operations and for fresh water closure when the runoff from the TIA will discharge to Doris Creek.*	ECCC recommendation on this topic is: *The proponent provides treatment options for the arsenic in the TIA, including potential triggers for treatment*; *The proponent provides potential mitigation measures to reduce arsenic concentrations*. TMAC response is: *An adaptive water management plan will be included as part of the FEIS which will require ongoing monitoring of the Doris TIA. If arsenic*

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			concentrations in the Doris TIA reach the trigger concentrations outlined in the plan, mitigation and /or treatment measures will be taken as required.
Cyanide concentration in the TIA	ECCC-4.18	A maximum concentration of total cyanide of 0.41 mg/L is expected in the TIA. *Increased cyanide in the TIA presents an environmental risk for groundwater transport, spill potential and closure planning.*	NWB recommendation is that Water management / monitoring plans to include monitoring of the cyanided levels in the TIA, including potential triggers for TIA water treatment.
Configuration of taliks and permafrost in the Project Areas	NRCan-2.1.4	*Knowledge of the extent of taliks is important to determine whether mining will take place in frozen or unfrozen conditions and to determine mine inflows and whether mining operations will have an effect on water quantity and quality in the Project area*	NRCan recommendation is that *during final design further considerations be given for the potential of a portion of the Boston underground mine to intersect a talik beneath the Aimokatalok Lake.*
Doris TIA – South and West Dam Stability Assessment	KIA-DEIS-55	*There is a lack of information regarding site-specific ground conditions at the West Dam and expanded footprint of the South Dam, considerable uncertainty remains. TMAC has noted that additional site investigation work will occur in later design stages and that the stability analysis will be revisited and refined accordingly.*	KIA agrees with the need for additional information and recommends that *the site-specific ground information and updated stability analysis be reviewed during later stages of regulatory review.* (TMAC's commitment post water licence)
Doris – TIA design	NRCan-2.1.3	*An understanding of the characteristics of the subsurface materials that will underlie all structures required for the expanded facility is required to inform the design and stability assessments required to ensure the facility operates as intended and to ensure impacts on the environment will be minimized.*	NRCan recommendation is: *Continue to utilize the data generated through the North Dam monitoring program to update thermal analysis, to improve characterization of the thermal evolution of the dam and its foundation and to determine if mitigation is required should actual conditions deviate from those predicted.*

Subject	Review Comment No.	Summary	Recommendation / Request
			Conduct additional site investigations to better characterize foundation conditions for structures required for the Phase 2 TIA (West Dam and South Dam raise) and to support the thermal seepage and stability analysis required for their detailed design. *Revisit the thermal modelling for the tailings during detailed design to confirm the potential for differential movements that may have impact on the cover integrity.* *Adopt an approach similar to that taken for the North Dam with respect to monitoring of the dams required for Phase 2 TIA, and use the data collected to update the thermal analysis and to determine if mitigation is required should actual thermal conditions deviate from those predicted.*
Boston TIA Dry Stack Stability	KIA-DEIS-56	*The stability assessment completed for the dry stack tailings deposit at Boston has used a conservative approach regarding ground conditions, despite the lack of site-specific information in the foundation of the proposed facility*	TMAC has noted that *additional site investigation work will occur in later design stages and that stability analysis will be revisited and refined accordingly.* KIA agrees with that and *recommends that an updated stability analysis be reviewed during the later stages of the regulatory review.* TMAC's commitment post water licence
Boston tailings management area stability analysis	INAC-TRC11	INAC have *concerns about the long term / creep stability of the tailings and water management structure* at Boston.	INAC requests that *the Proponent reconsider and provide further justification for the use of the proposed strength parameters.*

Subject	Review Comment No.	Summary	Recommendation / Request
Boston Tailings Management Area and Associated Contact Water Pond	NRCan-2.1.5	*The Boston Tailing Management Facility and associated contact water pond must be designed to limit seepage of contact water to the surrounding environment. Adequate knowledge of foundation materials is required to ensure stability of the facility, including contact water pond berms during operations. Long term physical stability of the TMA is required to meet closure objectives and to ensure that long-term water management is not required.* *The Applicant indicated that additional site investigation will be conducted to support detailed design and to refine the engineering analysis.*	NRCan recommendation is that *additional site investigation be conducted to support detailed design and final closure plans for the Boston tailing management area.* TMAC's commitment post water licence
Madrid North and South Waste Rock Piles Stability	KIA-DEIS-57	*The stability assessment completed for the waste rock piles at Madrid has used a conservative approach regarding ground conditions, despite the lack of site-specific information in the foundation of the proposed facility*	TMAC has noted that *additional site investigation work will occur in later design stages and that stability analysis will be revisited and refined accordingly.* KIA agrees with that and recommends that an *updated stability analysis be reviewed during the later stages of the regulatory review.* TMAC's commitment post water licence
Contact Water Ponds – Stability and Thermal Performance	KIA-DEIS-58	*No stability analysis has been completed for the contact water pond berms*	TMAC has noted that *additional site investigation work will occur in later design stages and that stability analysis will be revisited and refined accordingly.* KIA agrees with that and recommends that *a site specific ground information and updated thermal and stability analysis be reviewed during the later stages of the regulatory review.* TMAC's commitment post water licence

Subject	Review Comment No.	Summary	Recommendation / Request
Baseline permafrost and ground ice conditions in the Madrid and Boston Project areas along the all-weather road	NRCan-2.1.2	*Surface disturbance associated with infrastructure construction or extraction of borrow resources can lead to alteration of the ground thermal regime which can lead to thawing of permafrost. Where sediments are ice-rich, ground instability, ponding of water and changes in drainage can occur which can have implications for infrastructure performance and terrain conditions is therefore required for appropriate design of project infrastructure.*	NRCan recommendation is that the *Applicant conduct further site specific investigations (i.e. geotechnical boreholes) to better characterize ground ice conditions and identify sensitive terrain in the project area.* TMAC response is that *it expects to carry out that additional work during the detail design stage of the project.* TMAC's commitment post water licence.