



**12.10.2(b) DETERMINATION REPORT  
NIRB FILE NO.: 08MN053**

NWB File No.: 2BE-MRY----  
QIA File No.: LUA-2008-008  
AANDC File No.: N2008T0014  
NRCan File No.: NT-056  
TC File No.: 7184-17-5

March 5, 2012

To:

The Honourable John Duncan  
Minister of Aboriginal Affairs  
and Northern Development  
Government of Canada  
Executive Offices, 10 Wellington St  
Gatineau, QC K1A 0H4

The Honourable Keith Ashfield  
Minister of Fisheries and Oceans  
Government of Canada  
520 Exmouth Street  
Sarnia, ON K1A 0E6

The Honourable Denis Lebel  
Minister of Transport, Infrastructure  
and Communities  
Government of Canada  
330 Spark St., 29th Floor  
Ottawa, ON K1A 0N8

The Honourable Joe Oliver  
Minister of Natural Resources  
Government of Canada  
580 Booth St., 3<sup>rd</sup> Floor

Ms. Okalik Eegeesiak  
President  
Qikiqtani Inuit Association  
P.O. Box 1340  
Iqaluit, NU

Mr. Thomas Kabloona  
Chairperson  
Nunavut Water Board  
P.O. Box 119  
Gjoa Haven, NU

*Sent via email and regular post*

**Re: NLCA Section 12.10.2(b) Determination for Baffinland Iron Mines Corporation's  
"Mary River Project 2012 Work Plan" Project Proposal, NIRB File No. 08MN053**

Dear Honourable Ministers, Ms. President and Chairperson:

On January 3, 2012 the Nunavut Impact Review Board (NIRB or Board) received an application from Baffinland Iron Mines Corporation (Baffinland or the Proponent) seeking exception from Review for specified exploration and/or development activities (“the application”) related to the NIRB’s ongoing Review of Baffinland’s Mary River Project (NIRB File No. 08MN053). This report shall serve as the NIRB’s determination on this application and is provided to the respective Ministers for their consideration.

## LEGAL FRAMEWORK

The NIRB is governed by the provisions of the Nunavut Land Claims Agreement (NLCA), which was negotiated based on and reflecting the following objectives<sup>1</sup>:

- *to provide for certainty and clarity of rights to ownership and use of lands and resources, and of rights for Inuit to participate in decision-making concerning the use, management and conservation of land, water and resources, including the offshore;*
- *to provide Inuit with wildlife harvesting rights and rights to participate in decision-making concerning wildlife harvesting;*
- *to provide Inuit with financial compensation and means of participating in economic opportunities; and,*
- *to encourage self-reliance and the cultural and social well-being of Inuit.*

The primary objectives of the NIRB are set out in Section 12.2.5 of the NLCA as follows:

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

Part 10 of Article 12 of the NLCA states:

*12.10.1 No licence or approval that would be required in order to allow a proposed project to proceed shall be issued in respect of a project that is to be screened by NIRB until the screening has been completed and, if a review pursuant to Part 5 or 6 is to be conducted, until after that review has been completed and a NIRB project certificate has been issued by NIRB pursuant to these provisions.*

### ***Exceptions***

---

<sup>1</sup> Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty The Queen in Right of Canada

- 12.10.2 *Notwithstanding Section 12.10.1, where a project proposal has been referred for review pursuant to Part 5 or 6, approvals or licences for exploration or development activities related to that project may be issued if:*
- (a) the activity falls within Schedule 12-1; or*
  - (b) the activity can, in the judgement of NIRB, proceed without such a review.*

Accordingly, upon accepting the application pursuant to NLCA Section 12.10.2(b), the NIRB conducted a thorough review of the technical matters pertaining to the proposal, and is now expected to provide a determination to the respective authorizing agencies regarding whether they can proceed to issue the required approvals independently of the related project undergoing Review. A determination by the NIRB to allow specific exploration and/or development activities to proceed independently of the Review of the related project under NLCA Section 12.10.2(b) does not affect the requirement for the Proponent to obtain any licences, permits or approvals required to undertake the activities.

Further, the NIRB's consideration and determination in respect of a NLCA Section 12.10.2(b) exception application is in no way an indication of the likely outcome of the Review process associated with the project to which the exception application activities are related. Neither does the NIRB's determination in relation to the NLCA Section 12.10.2(b) exception application affect the Board's ultimate determination regarding whether the related project under Review should be allowed to proceed, nor the issuance of a NIRB Project Certificate following the final decision of the Minister of Aboriginal Affairs and Northern Development.

#### NIRB ASSESSMENT AND DECISION

After a thorough assessment of all material provided to the Board, in accordance with the primary objectives as described above, the determination of the Board pursuant to NLCA Section 12.10.2(b) is to approve, subject to the exclusion of one activity as described below, the exception of the exploration and/or development activities described within Baffinland's "Mary River Project 2012 Work Plan" from the NIRB's ongoing Review of Baffinland's "Mary River Project" (NIRB File No. 08MN053).

Although the NIRB has determined that all other proposed activities included in the application can proceed as exceptions to the NIRB's Review of the Mary River Project under NLCA Section 12.10.2(b), the NIRB has determined that the overwintering of a 10 Million Litre (ML) fuel barge at Steensby Inlet cannot proceed as an exception from the ongoing Review pursuant to NLCA Section 12.10.2(b). The significant level of public concern, the lack of a clear regulatory authorization process and security bonding for this activity and questions regarding the need for this activity to support the advanced exploration and geotechnical work as opposed to the construction of the related project under Review, combined with the fact that support was expressed for the alternative to this activity of increased land storage of fuel (subject to appropriate additional security and mitigation), has led the NIRB to conclude that the activity of overwintering the 10 ML fuel barge at Steensby Inlet should not be permitted outside of the ongoing Review.

Other than the proposed activity of overwintering a 10 ML fuel barge at Steensby Inlet, which is **not** included in the activities approved for exception from Review, this determination applies to the exploration and/or development activities as described within the application and is subject to the implementation of the Board's recommendations as set out in this report.

#### PROCEDURAL HISTORY: BACKGROUND

On September 13, 2011 the NIRB received an application from Baffinland in support of its Mary River project proposal, for consideration of the proposed activities as an allowable exception to the NIRB's Review of the Mary River project, pursuant to NLCA Section 12.10.2(b). On September 22, 2011, the NIRB requested that interested parties provide comments regarding Baffinland's application package by October 28, 2011 (deadline later extended to November 4, 2011).

During the Technical Meeting held in Iqaluit and Community Roundtable and Pre-Hearing Conference (PHC) meetings held in Igloolik and Pond Inlet as part of the NIRB's Review of the Mary River Project, specific sessions were scheduled to allow for discussion of Baffinland's application by parties, community representatives and members of the public. During these meetings, parties and members of the public raised a number of questions and comments for the Board's consideration.

On November 14, 2011 the NIRB requested that Baffinland provide a response to the written comment submissions received and the additional questions as raised by the Board, on or before November 24, 2011. The NIRB also requested that Transport Canada (TC) and the Qikiqtani Inuit Association (QIA) respond to several specific points to aid in the Board's consideration of Baffinland's application. On November 24, 2011 the Board received responses from Baffinland, TC and the QIA as requested.

In its November 24, 2011 response to comment submissions, Baffinland indicated that it considered the perceived risk associated with seeking approval for all of the works proposed within its original application as too significant and that it was therefore contemplating a reduction to the scope of works as originally presented. Baffinland further stated its intention to submit an addendum to its original application by December 15, 2011 which would present a reduced scope of proposed works and a detailed response to the comments provided by parties on the application package.

On December 14, 2011 the NIRB received correspondence from Baffinland formally requesting a withdrawal of its September 13, 2011 application, noting that a new application would be forthcoming and would include a more limited scope of exploration and development activities to be considered in accordance with NLCA Section 12.10.2(b) for approval in 2012.

#### PROCEDURAL HISTORY: CURRENT APPLICATION

On January 3, 2012 the NIRB received a new application package from Baffinland for the Board's consideration of the "Mary River Project 2012 Work Plan" proposal (known hereafter as the "application package") for works therein to be considered as an allowable exception to the NIRB's current Review of the Mary River project. On January 13, 2012, the NIRB and the

Nunavut Water Board (NWB) issued joint correspondence which invited interested parties to make submissions regarding Baffinland's application package on or before February 13, 2012 (later extended to February 27, 2012).

As activities approved for exception under NLCA Section 12.10.2(b) would be considered for approval separately from the NIRB's Review of Baffinland's Mary River project proposal, parties were asked to provide their comments and advice to the Board regarding the following issues:

- Determination of whether or not Parties agree/disagree with the conclusions in the NLCA Section 12.10.2(b) application package regarding the alternatives assessment, environmental impacts, proposed mitigation, significance of impacts, and monitoring measures – and reasons to support the determination;
- Determination of whether or not conclusions in the NLCA Section 12.10.2(b) application package are supported by the analysis – and reasons to support the determination;
- Determination of whether appropriate methodology was utilized in the NLCA Section 12.10.2(b) application package to develop conclusions – and reasons to support the determination, along with any proposed alternative methodologies which may be more appropriate (if applicable);
- Assessment of the quality and presentation of the information in the NLCA Section 12.10.2(b) application package; and
- Any comments regarding the expressed need for and required timing of the proposed exceptions as presented within the NLCA Section 12.10.2(b) application package – and reasons to support any comments made.

On or before February 27, 2012 the NIRB received comments from the following parties:

- Qikiqtani Inuit Association;
- Government of Nunavut;
- Aboriginal Affairs and Northern Development Canada;
- Fisheries and Oceans Canada; and,
- Transport Canada.

On February 28, 2012 the NIRB also received a comment submission from Environment Canada and additional supporting materials from the Qikiqtani Inuit Association.

All materials received and pertaining to the current application are available from the NIRB's online public registry at the following link:

<http://ftp.nirb.ca/02-REVIEWS/ACTIVE%20REVIEWS/08MN053-BAFFINLAND%20MARY%20RIVER/2-REVIEW/14-12.10.2%20EXCEPTIONS/>.

#### PREVIOUSLY PROPOSED ACTIVITIES AND SCOPE OF CURRENT ASSESSMENT

A number of activities proposed by Baffinland in its January 3, 2012 application package have been previously screened by the NIRB and subsequently approved by various authorizing

agencies. These activities have been thoroughly assessed by the Board previously pursuant to screenings associated with the following:

- NIRB File No. 07EN004: “Mary River Geotechnical Drilling Project” Proposal
- NIRB File No. 07EN012: “Mary River Bulk Sample Project” Proposal
- NIRB File No. 07CA070: “Amendment to Mary River Geotechnical Drilling Project” Proposal

These works are not being considered by the Board pursuant to NLCA Section 12.10.2(b) as they are exempt from the requirement for further screening pursuant to NLCA Section 12.4.3. While the complete scope of project components and activities included within the previous screenings noted above has been included within **Appendix A**, a summary is provided as follows:

#### Milne Inlet

- Construction and use of a 1.5 million litre (ML) Jet A fuel tank and 5 ML diesel fuel tank (already constructed);
- Operation of existing 30 person camp and associated sewage treatment and solid waste management facilities, and incinerator; and
- Water supply from “Phillip’s Creek” or “32 km Lake”.

#### Mary River Site [*proposed mine site*]

- Operation of existing 100 person Mary River Camp, associated water supply, sewage treatment and solid waste disposal facilities, and incinerator;
- Installation and use of treated effluent discharge line to Sheardown Lake; and
- Operation of existing landfill site and fuel bladder farm.

#### Steensby Inlet

- Operation of existing 40 person tent camp, associated water supply, and incinerator;
- Storage of 2500 x 205 litre (L) barrels of fuel; and
- Temporary solid waste storage.

Following Screening by the NIRB, the activities noted above have previously been permitted to proceed through the following regulatory approvals:

- Nunavut Water Board
  - Water Licence No. 2BB-MRY1114
- Qikiqtani Inuit Association
  - File Nos. Q05L2C14, Q07L3C001
- Aboriginal Affairs and Northern Development Canada
  - File Nos. N2006C0036, N2007F0004, N2007QP0098, N2008QP0062, N2010QP0088
- Fisheries and Oceans Canada
  - File No. NU-06-0084

A number of the activities and facilities as proposed in Baffinland’s application package will require additional permits and licences from authorizing agencies. The activities proposed by

Baffinland and which were considered by the Board in accordance with NLCA Section 12.10.2(b) include:

#### General Marine-related

- Total of two ship fuel deliveries to Steensby site;
- Two sealifts to Steensby site for delivery and staging of equipment;
- Discharge of effluent into Steensby and Milne Inlets;
- One fuel delivery to Milne Inlet;
- One sealift for Jet A fuel tanks to Milne Inlet; and,
- Vessel-based marine geotechnical drilling and sampling in Steensby Bay.

#### Milne Inlet

Activities requiring a new Type B Water Licence, Transport Canada approval for OPEP associated with Fuel Handling Facilities, and work plan for QIA required by existing Commercial Lease for IOL (QIA File No. Q10C3001):

- Construction and operation of a landfarm as required for the decommissioning of existing fuel bladders and associated containment.

#### Mary River Site [*proposed mine site*]

Activities requiring a new Type B Water Licence, NRCan permission for storage and use of explosives, and updated work plan for QIA required by existing Commercial Lease for IOL (QIA File No. Q10C3001):

- Installation of two new 1.5 ML Jet A fuel tanks to be located within the previously permitted secondary containment area (possibility that this work would be delayed until 2013); and
- Advancement of waste rock characterisation program as discussed at the Technical Meetings in Iqaluit; expected that the 2012 characterisation program would consist of 3200 m of drilling.

#### Steensby Inlet

Activities requiring a new Type B Water Licence, NRCan permission for storage and use of explosives, Transport Canada approval for OPEP associated with Fuel Handling Facilities at Port site, work plan for QIA required by existing Commercial Lease for IOL (QIA File No. Q10C3001), and a Land Use Permit and Quarry Permit from AANDC:

- Installation and use of the 46 person hardwall camp (staging of camp was previously permitted in 2009);
  - Water supply from “3 km Lake”
- Construction and operation of a potable water and sewage treatment facilities to service both the existing camp and the new 46 person camp;
- Installation of a treated effluent outfall to Steensby Inlet;
- Temporary storage of solid wastes generated, for eventual transportation and disposal off-site;
- Installation of a pre-fabricated “wash trailer” facility to service the existing 40 person camp (including self-contained showers, wash basins and toilets);
  - Grey water and sewage from this facility to be trucked to the proposed sewage treatment facility;

- Installation and use of 7 x 100,000 L ISO-containers at Steensby for diesel and Jet A fuel storage onshore; Increased fuel storage to support the air transportation of personnel required to execute proposed activities from the Mary River site
- Expansion of the sea-based geotechnical investigation program at proposed dock locations, island causeway and in an area where dredging may be required, with the geotechnical program potentially conducted from a vessel from August-September;
- Staging of construction equipment and material required for development of the Mary River Project, including:
  - 4 crusher trains;
  - Mobile equipment (loaders, excavators, trucks etc.);
  - One mobile explosive mixing unit;
  - Four high explosives magazines and one detonator magazine; and
  - Up to 3,000 tonnes of ammonium nitrate stored in 1 tonne tote bags placed within Seacan containers;
- Use of a 10 ML fuel barge or vessel, that would anchor and overwinter in Steensby Inlet, to provide the necessary diesel fuel to carry out the 2012 Work Plan, and potential pioneer development work if NIRB Project Certificate is granted;
  - Barge specifications and details not available at time of application, to be finalized upon authorizing agencies' approval of 2012 Work Plan.

Baffinland has indicated that nearly all proposed project activities associated with the current application package would be completed between May and October 2012, but that some activities might be deferred until 2013.

#### SUMMARY OF COMMENTS RECEIVED

All Parties noted that the scale of the Proponent's January 2012 application to the NIRB for certain project activities to be excepted from review under NLCA Section 12.10.2(b) has been considerably reduced from what had been proposed by the Proponent in its original application provided in September, 2011 (subsequently withdrawn). As a result, concerns expressed by the Parties with respect to the unprecedented scale and scope of the activities proposed to be an allowable exception to the NIRB's Review in the original September, 2011 application and provided in the Parties' comments in November, 2011 were noted to have been addressed by the considerably reduced scale of project activities proposed in the January, 2012 application.

Overall the Parties did not identify objections to the activities proposed in the January, 2012 application being considered by the NIRB, but highlighted a number of technical review comments and concerns that should be taken into account by the Board. Parties also identified where the permanent or ongoing aspects of activities under consideration for exception from the Board's Review should continue to be included in the scope of the overall Project Review.

As this project proposal is being reviewed in accordance with the NIRB/NWB Detailed Coordinated Process Framework, Parties also provided comments with respect to the Type B water licence application associated with the activities in the NLCA Section 12.10.2(b) exception application. As this determination addresses only the exception of these activities from NIRB's



Review of the Mary River Project pursuant to NLCA Section 12.10.2(b), the NIRB has not included a summary of those comments specifically applicable to the NWB licensing process.

Accordingly, the following is only a *summary* of the comments and concerns received during the public commenting period for this file in relation to the NLCA Section 12.10.2(b) exception application; please note that the original comment submissions have been included in **Appendix B** of this determination:

**Oikiqtani Inuit Association (QIA):**

- Overall indicates that the amount and type of materials provided in Inuktitut are limited, and as a result QIA had to expend additional time to prepare Inuktitut materials in order to facilitate local Committee meetings; consequently QIA encourages the Proponent to interact prior to submission of materials to avoid the lack of Inuktitut materials becoming a barrier to community participation.
- Held numerous Mary River Project Committee meetings and identifies the following concerns in respect of key issues:
  - Advanced development activities occurring at Steensby Inlet (although conceding that a port site at Steensby Inlet may be the most viable option, but noting that this acceptance is contingent on the Proponent meeting all commitments in the PHC decision report associated with the main project, acceptable terms and conditions be developed for the potential project certificate to govern the main project and the conclusion of an IIBA and commercial lease);
  - The use of, and over-wintering of fuel storage barges in Steensby Inlet (noting that the greater land disturbance associated with fuel storage on land is preferred to the marine impacts associated with fuel barges, provided that impacts to archaeological resources are avoided in the development of land storage); and
  - Presence of, and, protection for, archaeological resources.
- Identifies the following technical review comments:
  - Notes that no updated conformity determination from the Nunavut Planning Commission (NPC) in respect of the land use in the vicinity of the undertaking has been provided and requests the opportunity to comment on any updated NPC conformity determination;
  - Questions regarding what is included in the scope of activities that have been “already permitted” (as described in the application), specifically:
    - Clarification regarding whether the July 25, 2011 screening included the addition storage of 8.5 million litres of fuel at the expanded Milne Inlet fuel storage area or only the installation of a 5 million litre fuel storage tank;
    - Clarification regarding the total fuel storage volume and the type of fuel to make up the aggregate volume at Milne Inlet that was included in the scope of the NIRB’s August 22, 2007 screening; and
    - Clarification regarding whether previous screenings included 2,500 barrel fuel storage at the Steensby site, and in any event, notes that fuel storage should be restricted to lined areas to provide secondary containment in the case of a spill/release of fuel from barrels.

- Questions regarding the additional activities that were included in the application but are outside the scope of the activities that were previously screened by the NIRB:
  - Clarification regarding the extent to which decommissioning of fuel bladders at Milne Inlet is outside the scope of previous screening, as it was abandonment and reclamation planning was already included in the materials supporting the existing Type “B” water licence;
  - Requests that to limit environmental risk, the timeline for reclamation of the fuel bladders currently in use at Milne Inlet commence upon commissioning of the new fuel facility;
  - Requests that the NIRB consider the increase in the proposed volume of fuel storage at the mine site from that proposed in the May, 2007 screening (2.65 million litres of diesel and 550,000 of jet fuel) to that proposed in the January application, specifically 5.2 million litres of diesel fuel and two 1.5 million litre tanks for jet fuel within a new fuel storage facility;
  - Requests that to limit environmental risk, the timeline for reclamation of the fuel bladders at the mine site commence upon commissioning of the new fuel facility;
  - Clarification regarding whether the mine site waste rock characterization program developed under previous NIRB screenings is sufficient for the scale and scope of the proposed activity under this application;
  - Recommends that the NIRB consider the doubling of the Steensby camp size and the associated doubling of water use and sewage disposal over the amounts previously screened by the NIRB in August 22, 2007;
  - Notes that the proposed sewage discharge via an outfall to Steensby Inlet would need to be permitted prior to this activity and requests that such a permit application and any permit/licence granted be provided on the public record;
  - Requests that at the Steensby Site fuel dispensing areas occur only in areas with secondary containment;
  - Requests that as a large volume of materials is proposed to be staged at the Steensby site, the NIRB require environmental monitoring to limit the risk of release of contaminants into the environment associated with these activities;
  - Requests that the public concerns regarding impacts to archaeological resources at the Steensby site associated with the ground disturbances from proposed activities such as the development of laydown areas and drilling be given high priority in determining the significance and acceptability of such activities;
  - Requests that the applicable regulatory authority with responsibility to regulate overwintering of a ten million litre fuel barge in Steensby Inlet provide direction and approval of operations and spill response plans to support this activity and that any application and associated permit/licence be provided on the public record; and

- Requests that the significant public concern associated with overwintering of fuel in a barge within Steensby Inlet receive high priority in the assessment of significance associated with this activity.

**Government of Nunavut - Executive & Intergovernmental Affairs (GN):**

- Overall notes that the Government of Nunavut supports the project subject to the NIRB regulatory process as laid out in the NLCA and is further of the view that the approval of the application under Section 12.10.2(b) of the NLCA must be granted in a manner that provides the NIRB with the flexibility necessary to make any decision in respect of the main project.
- In the Appendix to the letter, the GN Department of Economic Development & Transportation reminds the Proponent of the GN's expectation that the Proponent use a Nunavut community as a logistical center for their operations in accordance with applicable policy and encourages the Proponent to hire and train local residents and to use local businesses whenever possible;
- In the Appendix to the letter the following specific technical review comments were provided by the GN Department of Environment (GN-DOE):
  - Notes that the updated proposed scope of work in the Proponent's January 2012 application is an appropriate level of work to be considered prior to the NIRB's decision in respect of the main project;
  - Notes that there is a lack of detail regarding management plans that have been developed to meet the Proponent's commitments with respect to the activities included in the application and requests that GN-DOE be able to review these plans prior to the start of the proposed activities;
  - Specifically the GN-DOE requests:
    - Clarification regarding the amount of fuel to be stored in the overwintering barge in Steensby Inlet (noting conflict between the amount set out in the application and the amount noted in the Oil Pollution Emergency Plan);
    - The addition of spill response procedures to plans for cleaning a potential spill from the iced in barge;
    - Additional questions be answered before the proposed activities commence in 2012, including: how fuel usage will be monitored, as well as how much fuel would have escaped, based on the manner in which fuel usage will be monitored, before the loss would be detected and a description of how the Proponent intends to respond to spills on and under ice;
    - Addition to the listing of legislated requirements for spill response in the Oil Pollution Emergency Plan and associated spill response plans and procedures of a reference to the requirements under the Nunavut Environmental Protection Act, Spill Contingency Planning and Reporting Regulations;
  - With respect to wildlife issues, the GN-DOE notes that the proposed activities in the January 2012 application are not likely to result in significant negative effects to wildlife, but requests more detail be provided prior to the commencement of these activities, as follows:

- More detail regarding the Effects Assessment related to the proposed activities in the January 2012 application;
- Clarification of the Marine Aquatic Environment Effects Assessment, for example, details regarding the basis for the conclusion that sealift and refuelling activities are predicted to have minimal effects on marine mammal activity because few mammals are present at the time of this activity;
- Reiterates that the Wildlife Management Plan be updated and agreed to by GN-DOE prior to the commencement of the proposed activities to:
  - incorporate species-specific mitigation measures that recognize seasonal sensitivity;
  - include a specific management plan for encounters with predators;
  - directly reference the Nunavut Wildlife Act, acknowledge the role of GN and demonstrate awareness of the applicable protection measures currently in place for wildlife and wildlife habitat

**Aboriginal Affairs and Northern Development Canada (AANDC):**

- Notes that the comments previously provided to the NIRB in AANDC's submissions of November 4, 2011 with respect to the suggested approach to the analysis of NLCA Section 12.10.2(b), the evaluation of public and Inuit concerns, enforceability of terms and conditions relating to mitigation and monitoring of excepted activities and bonding and security continue to apply, although noting that the scale and scope of the Proponent's January 2012 application package is considerably reduced from its previous application.
- On this basis, the following comments from AANDC's November 4, 2011 letter continue to be relevant:
  - With respect to the evaluation of public concerns, notes that activities that should be considered by the NIRB to be excepted from review under NLCA Section 12.10.2(b) should be limited to those that are unlikely to arouse significant concern having regard to the variables set out in NLCA Sections 12.2.5, 12.4.2 and 12.5.5 and further notes that public concern surrounding the proposed development at Steensby Inlet constitute an important consideration;
  - With respect to specific Inuit concerns, notes that as proposed activities may affect the rights of Inuit, the regulators responsible for granting specific authorizations or permits required to authorize any of the proposed activities excepted from review must ensure that sufficient engagement has occurred to fulfill the Crown's consultation obligations;
  - Requests that the NIRB consider its ability to impose terms and conditions (including mitigation and monitoring) on any of the activities excepted from review, and to also consider how terms and conditions related to longer-term use, maintenance and ultimate decommissioning of the activities proposed to be excepted from review could be included in the project certificate (if granted) to the main project; and
  - Notes that adequate reclamation security associated with the activities proposed to be excepted from review and that will take place on Crown land could be held under the AANDC land tenure instruments and/or any subsequent water licence.

- In addition, in the submission dated February 24, 2012, AANDC:
  - Recommends the NIRB consider whether the nature of the proposed excepted activities are that of a permanent core work, integral to the Project as a whole, or whether their character is ancillary, developmental and temporary, and recommends that the permanent or ongoing aspects of any activities excepted from review (including design upgrades, expansion, intensified use), long-term operation and reclamation should remain part of the scope of the main project undergoing review.
  - Provides the following technical review comments:
    - With respect to shipping activities it would be helpful if the Proponent could provide more specific information regarding the quantities of equipment, fuel and other chemical substances to be shipped to site, as well as quantities that will remain on-site after the 2012 activities cease;
    - In assessing the impacts associated with activities included in the January 2012 application package, the Proponent did not include the impacts associated with activities previously permitted that will also be undertaken within the same project temporal and spatial boundaries and this information is not included in the assessment of cumulative effects. In addition, the uncertainty level for the assessment of each Valued Environmental Component has not been provided, so it is not possible to understand the limitations and accuracy of the assessment results. Although AANDC notes that it does not believe that these deficiencies would change the results in terms of the assessment of magnitude of impacts, nonetheless, notes concern about these limitations in methodology due to a lack of cumulative impact assessment and discussion of uncertainty levels.

#### **Environment Canada (EC):**

- Indicates that EC does not consider bulk fuel storage on barges in landfast ice to be a best practice and notes that this type of fuel storage presents a higher degree of risk of accidents and could result in significant environmental effects if the integrity of the barge's tanks (which are designed for transport, not long-term storage in ice) are compromised by the surrounding ice.
- Recommends that if, despite these concerns, overwintering of the fuel barge is unavoidable, the Proponent be required to ensure safeguards comparable to land storage be put in place, including: secondary containment; a spill contingency plan; and ensuring appropriate spill response equipment is readily available. In addition, recommends that the Proponent ensure that the vessel chosen for overwintering be appropriate for that purpose and that the site selected for anchoring the barge must also be suitable (i.e. the applicable ice and current regimes should be understood).
- Also recommends that although the Shipboard Oil Pollution Emergency Plans are the responsibility of the ship's operators, the Proponent should also ensure that these Plans are applicable to the overwintering of the vessel and adequate to cover the conditions and risks the vessel is likely to encounter as a result.

- Notes various concerns and provides recommendations regarding impacts to “migratory birds” under the Migratory Birds Convention Act, 1994 (MBCA) and Regulations, including the following:
  - The implementation of measures to mitigate the disturbance or destruction of migratory bird nests and eggs by activities resulting in an “incidental take”, such measures to include, ensuring an awareness of the relevant provisions under the MBCA and Regulations, avoiding potentially destructive or disruptive activities during key periods (highlighting specifically that from May 31-August 4 migratory birds are expected to be incubating eggs and until August 28 young birds can be present in the nest) and identifying the presence of migratory birds and their nests in advance of carrying out activities;
  - Specifically with respect to conducting nest searches, EC recommends appropriate training for all crew members and ensuring that an appropriate buffer (as provided by EC in the comments submission) be used to avoid flushing nesting birds;
  - Recommends that food, domestic wastes and petroleum-based chemicals be inaccessible to wildlife so that these items do not become attractants to predators of migratory birds;
  - Reminds the Proponent that s. 5.1 of the MBCA applies to prohibit the deposit of substances harmful to migratory birds in waters or areas frequented by migratory birds or in a place from which a substance may enter such waters or areas;
  - Also notes that marine birds are vulnerable to oil spills and pollution of feeding areas and recommends that the Proponent’s emergency response and spill plans include measure to be used and equipment required to protect wildlife (including marine birds) in the event of a spill; and
  - EC recommends several measures to reduce aircraft disturbance to migratory birds, including: flying at times when few birds are present; planning flight paths away from habitat likely to contain birds and avoid known concentrations of birds such as colonies by a lateral distance of at least 1.5 km and/or maintain a minimum altitude of 1,100 m (3,500 feet) over such areas; maintain a minimum altitude of at least 650 m (2100 feet) at all times; minimizing flights during times (e.g. migration, nesting and moulting) when birds are particularly sensitive to disturbance; avoiding the seaward side of seabird colonies or migration areas for waterfowl by 3 km; avoiding excessive hovering or circling; and ensure pilots are aware of these recommendations and are aware of the areas known to have birds.
- Identifies inconsistencies with the Proponent’s Waste Management Plan, specifically:
  - Whether wastes generated at Steensby Inlet will be stored and transported off-site or whether such wastes will be incinerated; on this basis, EC request the Proponent clarify what types of containers/facilities will be used to store various categories of wastes at the Steensby Inlet site and how, at what frequency and where these wastes will be shipped for processing and whether an incinerator will be stored at the site in support of the 2012 program; and
  - The Plan continues to reference a floating camp at Steensby Inlet and should be updated to reflect the removal of that activity from the January 2012 application.

- Identifies that if incineration is to be used as a waste management option, recommends the Proponent follow the EC Technical Document for Batch Waste Incineration.
- Recommends the following measures under the Species At Risk Act, (SARA):
  - With respect to the assessment of project effects on listed wildlife species required under SARA recommends that species listed under Schedules 1-3 of SARA be considered during the environmental assessment, not just those listed on Schedule 1;
  - If the Proponent encounters or affects species at risk, that the Proponent note any potential adverse effects on the species, its habitat and/or residence;
  - The Proponent's primary mitigation measure should be avoidance for species at risk;
  - Monitoring meeting minimum information requirements as set out in the comments, should be undertaken by the Proponent to assess the effectiveness of mitigation and/or identify whether further mitigation measures and this should be submitted to the regulators and organizations with management responsibility for the species identified;
  - For species primarily managed by the Government of Nunavut, recommends the Proponent consult with GN regarding appropriate mitigation and/or monitoring to minimize effects to these species;
  - Mitigation and monitoring measures must be consistent with all applicable recovery strategies and action/management plans;
  - All project personnel (including contractors) must be aware of and have sufficient training to implement all mitigation measures;
  - Reminds the Proponent that implementation of mitigation measures to reduce or eliminate project effects on migratory birds or species at risk does not necessarily constitute compliance with the general regulatory requirements of the MBCA or SARA, and the Proponent must ensure they remain in compliance with those general requirements as well.
- Recommends secondary containment be used for the storage of ammonium nitrate in tote bags and seacan containers.
- With respect to the baseline sampling activities proposed in the application, recommends that:
  - The Proponent collect more baseline water and sediment quality data over the next two field seasons;
  - The Proponent identify and sample reference sites that will be compatible with each anticipated point of discharge proposed under the Metal Mining Effluent Regulations and further that the Proponent expand its baseline water and sediment quality collection to the marine environment; and
  - The Proponent expand and intensify sampling along the two transportation corridors (including sampling along the railway and road in locations outside the influence of the proposed camps);
- Recommends that back-up procedures to deal with a persistent interruption in sewage disposal due to plant inoperability be developed ahead of time and included in the Emergency Response and Spill Plan.

### **Fisheries and Oceans Canada (DFO):**

- Overall, notes that:
  - DFO has no issue with quality and presentation of the information in the current NLCA Section 12.10.2(b) application package;
  - The scope of the proposed activities has been greatly reduced from the September, 2011 application and accordingly does not have concerns regarding the permanence of the infrastructure or reversibility of the potential impacts; and
  - The exception of the activities proposed in the January 2012 application from review under NLCA Section 12.10.2(b) will not have the effect, or appearance of fettering the NIRB's further or final decision in relation to the main project under review.
- Identifies the following concerns with respect to the conclusions in the NLCA Section 12.10.2(b) application package regarding the environmental impacts, proposed mitigation, significance of impacts and the reasons supporting the determination:
  - There are no mitigation measures proposed for the installation and operation of a proposed new water intake at 3km Lake, accordingly DFO recommends:
    - The Proponent follow the DFO "Freshwater Intake End of Pipe Guidelines" (1995);
    - Incorporate specific measures into mitigation plans to reduce impact impacts to fish habitat, including managing the timing of the installation of the water intake to reflect Nunavut In-Water Construction Timing Windows; isolation of in-water trench work; implementation and maintenance of sediment and erosion control measures; leaving sediment and erosion controls in place until all disturbed areas have stabilized; completion of stabilization and re-vegetation of disturbed areas upon completion of work; and ensuring that only clean material free of fine particulate is placed in the water; and
  - As previously noted during the technical review of the DEIS, limited baseline data on marine mammals in the Foxe Basin and Hudson Strait has contributed to a higher level of uncertainty associated with the impact predictions associated with the project. On the basis of this limited data, notes that there are no mitigation measures or monitoring proposed for marine shipping (sealift and fuel delivery) and marine geotechnical drilling activities in the application. Given the uncertainty associated with the lack of data, recommends the following mitigation and monitoring elements be further developed and implemented for the marine shipping component of the application:
    - The inclusion of a monitor (i.e. Marine Mammal Observer) to observe for marine mammals along the shipping route;
    - Maintenance of a constant route that avoids known sensitive areas for marine mammals; and
    - Maintenance of a constant speed to reduce noise levels and the reduction of speeds to ten knots (18.5 km/hr) in areas found to have concentrations of marine mammals.
- Subject only to the technical review comments noted above, concludes that the appropriate methodology has been used in the NLCA Section 12.10.2(b) application package to develop conclusions



### **Transport Canada (TC):**

- Notes that there are currently no specific TC regulatory prohibitions on overwintering barges, however reminds the Parties that the vessel owner is bound by the general regulations under the *Canada Shipping Act, 2001* and the *Arctic Waters Pollution Prevention Act* that are designed to ensure fuel is stored and transported safely, regardless of whether the vessel is anchored or in transit.
- On this basis, TC advises the Proponent to take the following actions:
  - Share the above-noted information with permitting agencies;
  - Develop a risk-based case that addresses an alternate/temporary arrangement for authorizing government departments;
  - Consult with the GN, NIRB, any potentially impacted communities, NTI, EC, and AANDC in order to understand concerns and regulatory parameters applicable to this activity;
  - Carry out a spill risk analysis that includes consideration of any/all sensitive species and special environmental/oceanographic conditions in the area, as well as an engineering study that reviews ice movement, ice pressures, lateral hull strength and a mooring plan; and
  - Provide analysis on using either land-based or barge-based storage and identify, with justification, the form of storage chosen.
  - Identifies a number of “best practices” for the consideration of the Proponent, in the development of its plans and procedures including the following:
    - Development of an enhanced spill contingency plan that reflects that spill clean up may be conducted solely with materials on hand given the time for the Canadian Coast Guard response in mid-winter and the challenge of responding to oil released onto the sea ice;
    - Maintenance and tank monitoring plan;
    - Developing and adopting safe fuel transfer procedures designed to minimize spills from tanker trucks and pumping operations; and
    - Use of a double-hulled vessel designed to operate within the arctic environment.
- Advises that TC will require review and provide advice on the Oil Pollution and Emergency Plans as they are compiled to ensure that the regulatory guidelines reflect best practices of overwintering.

### **ASSESSMENT OF THE APPLICATION IN ACCORDANCE WITH NLCA ARTICLE 12**

After a thorough assessment of all materials provided to the NIRB for this project proposal, it is the opinion of the Board that the proposed activities, namely Baffinland’s “Mary River Project 2012 Work Plan”, should not cause significant adverse impacts or public concern if allowed to proceed – provided the NIRB’s project-specific terms and conditions are applied and enforced.

The NIRB’s assessment included consideration of the following general items:

#### **1. Rationale, objective, implications of the proposed activities on the feasibility of the related project undergoing Review**

The Proponent has provided a rationale and justification for its current application for the 2012 work plan, including citations of the complications inherent to planning of project timing and execution due to the limited open-water shipping season and difficult access and logistics entailed in moving materials, equipment and workers to the various construction sites. The current application package would allow for ongoing development of those project activities previously approved by respective authorization agencies, as well as some new activities required to prepare various sites for further development. The rationale for this proposal includes the unique setting and isolation of the Mary River Project location as well as the absence of any existing and supportive infrastructure. The works consist primarily of the preparation of construction laydown areas, camp facilities, and fuel storage at the Milne Inlet, Mary River, and Steensby Inlet project sites.

During the 2012 field season, a number of programs are planned that would contribute to baseline integrity (terrestrial baseline studies) and future monitoring initiatives. All studies proposed to be conducted in 2012 and in future years would involve the collection of data and information that would inform the Proponent's future monitoring programs.

With respect to the proposed overwintering of a 10 ML fuel barge at Steensby Inlet, the Proponent has identified that fuel would be stored in support of both 2012 Work Plan activities as well as for the development of the Mary River Mine project, if approved. Within its application materials, the Proponent has provided inadequate alternatives analysis for using a land-based versus barge-based fuel storage option, and the desire for bulk fuel storage to support potential future development is insufficient justification to support approval for this activity. For these reasons, it is the NIRB's opinion that the rationale as provided for the Proponent's proposed storage of up to 10 ML fuel in an over-wintering fuel barge is insufficient to offset the potential implications of this activity.

From the application, it is unclear as to what amount of the 10 ML contained in the barge that is required to support the Work Plan activities and what portion of that amount is required to serve the related Mine project currently under Review. On this basis, it is the NIRB's opinion that the need for a 10 ML fuel barge to truly serve "exploration and development activities" rather than the related Mine project has not been clearly established. As discussed in more detail below, given the high level of concern expressed by the public, QIA, and Environment Canada with the significant potential for adverse environmental effects associated with this activity, the lack of regulatory oversight and security associated with the overwintering activity and the fact that more acceptable alternatives exist, the Board is unwilling to except this activity from Review pursuant to NLCA Section 12.10.2(b).

## **2. The permanence of proposed structures**

With the exception of certain mobile equipment and construction materials, permanent structures proposed within the current application include the camp and associated supporting facilities and fuel storage facilities which are planned to support those ongoing project activities which have previously received approval but have not yet been executed. The Proponent has indicated that all physical buildings, material and equipment would be removed from site at closure, and that

re-contouring of areas may be required to facilitate or improve natural drainage patterns. Throughout its application materials, the Proponent is clear regarding its intention to fully decommission and reclaim disturbed areas should the larger Mary River Mine Project not be permitted to proceed.

For these reasons, the NIRB is of the opinion that the structures and activities as proposed should not cause permanent or irreversible disturbance or impacts. If recommended mitigation measures are applied through all relevant legislation and the Proponent is required to adhere to its plans for abandonment and reclamation, the permanence of proposed structures should not cause adverse impacts to the ecosystemic or socio-economic environment.

However, the Board's confidence currently does not extend to the proposed overwintering of a 10 ML offshore fuel barge. This proposed fuel storage is, to the best of the Board's knowledge, unregulated through formal licences or approvals and, as terms and conditions recommended by the Board must be enforced through relevant legislation and/or regulatory instruments to be effective, it is the Board's opinion that no responsible authority is currently able to safely and effectively mitigate and monitor the potential impacts of such storage through the implementation of terms and conditions that might be recommended by the NIRB. Given this gap in the current regulatory authority applicable to this activity and where, as is the case here, such activity carries the risk of a large accidental fuel spill which could cause irrevocable harm to the local arctic marine environment, the Board has determined that this activity cannot proceed as an exception to the related Review of the Mary River project under NLCA Section 12.10.2(b).

In terms of the related Mary River project under Review by the Board, the QIA has indicated that discussion with communities continues to indicate the need to assess an alternative to the Proponent's proposed Steensby Inlet port-site. The Board notes that a final determination on the acceptability of a port site located at Steensby Inlet has not yet been made. As such, an alternate future port-site may become necessary for the Mary River project development and all works undertaken at Steensby Inlet or other sites as currently proposed may therefore require complete reclamation and would therefore be subjected to the abandonment and reclamation plans as submitted by Baffinland.

### **3. Alternative uses of proposed structures or materials if the related project under Review was not to be approved**

In the event of a failure to obtain the necessary approvals for the larger Mary River Project, Baffinland has indicated that it would reassess the decision to carry on with project activities as currently defined. Upon further consultations with the NIRB and land owners (QIA and AANDC), Baffinland would need to make a decision with respect to abandonment and reclamation of the 2012 work sites as per its Abandonment and Reclamation Plan provided in the application package, with consideration for any possible alternative uses that might be feasible. At this time, there are no proposed alternative uses for the proposed structures as presented.

### **4. Significance of potential ecosystemic and socio-economic impacts**

The Proponent has indicated in application materials that for the most part, interactions between the 2012 Work Plan components as planned and the ecosystem as planned are restricted in geographical scope, and are expected to be of short duration and fully reversible. The project activities are proposed to take place in a relatively undeveloped area, where new activities have the potential to disrupt the local environment. Where previous project activities have been permitted, any additional activities may increase pressures upon the ecosystemic environment, and may have some additive impacts within the areas of disturbance. Where the proposal makes use of existing infrastructure, the potential for additional impacts to result from air transportation and movement of project personnel and supplies are expected to be minimal. (see *new* recommended terms and conditions 27-37).

Concern was raised during the NIRB's Preliminary Hearing Conference meetings held in Igloolik and Pond Inlet regarding the potential impacts to the marine environment as a result of sealifts and shore-based project activities. Additional concerns were raised during the public commenting period for this proposal, with an indication that the Proponent should make specific efforts to avoid impacts to the marine environment. Recognizing the importance of the marine ecosystem and wildlife to the people of the Qikiqtani region, the NIRB has recommended a number of terms and conditions which were designed to mitigate potential impacts to the marine environment that may result from project activities (see *new* recommended terms and conditions 18-25, 34-36).

In addition to concerns regarding the potential impacts that project activities may have on components of the marine environment, additional concern was raised regarding potential impacts to water quality that may result from the accidental releases associated with planned storage of fuel and drilling additives, as well as from ongoing drilling activities. Where a number of fuel storage options have been presented in the 2012 Work Plan, the NIRB has only provided advice for those land-based fuel storage activities, noting specifically, that the overwinter storage of bulk fuel is not an allowable exception to the NIRB's Review of the Mary River Project. As such, no terms and conditions have been provided that would mitigate the potential impacts associated with this activity. The Proponent has provided a comprehensive Spill Contingency Plan and an Oil Pollution Emergency Plan, and will require a water license from the Nunavut Water Board. These measures, along with the Board's recommended terms and conditions should mitigate potential adverse impacts of the proposed project activities to water quality (see *new* recommended term and conditions 6-17).

Baffinland and the Qikiqtani Inuit Association (QIA) are reportedly in the final stages of negotiating an Inuit Impact and Benefit Agreement (IIBA) for the Mary River project. Specific clauses of the IIBA deal with contracting and business opportunities for qualified Inuit firms throughout the construction, operations, and decommissioning phases of the Mary River Project. Prior to the finalization of the IIBA, it is recognized that this NLCA Section 12.10.2(b) application may provide additional training and employment opportunities for associated work, if allowed to proceed.

## **5. Public concern**

The Board notes that, in recognition of public concerns of Northerners associated with the practice of over-wintering fuel barges in the Arctic, Transport Canada has recently undertaken a review of this practice and, to the NIRB's knowledge, Transport Canada has not yet publically reported on its findings.

In addition to the specific concerns of the public and commenting Parties with respect to the Proponent's proposed overwintering a 10 ML fuel barge in Steensby Inlet, the Board is mindful that in the past, when commenting in general on the practice of overwintering fuel barges in the Arctic, the public has expressed significant concerns. The focus of comments on the general practice echo the specific concerns associated with the Mary River Project, with significant concern expressed over the heightened potential for a large and undetected fuel spill and concerns over the difficulty of having effective spill response to address releases on and under sea ice.<sup>2</sup>

Given the significant public concern associated with potential spills resulting from the overwintering of fuel barges, the NIRB has excluded that activity from those to be allowed to proceed as exceptions to the Board's ongoing Review of the Mary River project.

## **6. Posting of security/performance bonds**

The Board notes that Baffinland has indicated that the previously issued Commercial Lease for Inuit Owned Land (QIA File No. Q10C3001) addresses the required security deposit for work to be completed. No further bonding has been requested by either land owner (QIA or AANDC), though the NIRB would recommend that these agencies consider requesting an increase to amounts held in trust for these works to be undertaken.

However, with respect to the proposed overwinter offshore storage of a 10 ML fuel barge, the Board notes that there appears to be no land owner or regulator in a position to require any security bonding in place prior to the storage of such fuel. In the Board's view, without proper bonding in place or regulators to hold the Proponent liable in the event of an incident, the risks to the marine and on-shore environments are too great for the Board to consider authorizing the proposed marine-based fuel storage activity to proceed as an exception from Review under NLCA Section 12.10.2(b).

### ***PREVIOUSLY APPROVED PROJECT-SPECIFIC TERMS AND CONDITIONS***

The following project-specific Terms and Conditions are an excerpt from the complete listing of those that were previously approved by the NIRB for File Nos. 07EN004, 07EN012, and 07CA070 in Screening Decision Reports dated March 26, 2007, May 4, 2007, and February 22, 2008 respectively. The Proponent is advised that these Terms and Conditions continue to apply to relevant components and activities associated with the January 3, 2012 NLCA Section 12.10.2(b) exception application, and that all previously issued Terms and Conditions continue to apply to previously assessed activities.

---

<sup>2</sup> See for example the summary of concerns included in the April 25, 2008 edition of Nunatsiak News, available online: [http://www.nunatsiaqonline.ca/archives/2008/804/80425/news/nunavut/80425\\_1132.html](http://www.nunatsiaqonline.ca/archives/2008/804/80425/news/nunavut/80425_1132.html)

The complete Screening Decision Reports with comprehensive listings of all previously issued Terms and Conditions for NIRB File Nos. 07EN004, 07EN012, and 07CA070 are available online from the NIRB's public registry using the following link: <http://ftp.nirb.ca/SCREENINGS/COMPLETED%20SCREENINGS/>:

**March 26, 2007, NIRB File No.: 07EN004**

1. The Proponent shall ensure that the Wastewater Treatment Plan Design and Operations/Maintenance (O/M) Report to be submitted to the NWB for approval, must address design criteria such as:
  - a. Identification of control parameters (COD/BOD5, TSS, heavy metals);
  - b. Corresponding discharge limits;
  - c. Emergency/O&M failure measures;
  - d. Identification of the water bodies where effluent will be discharged; and
  - e. Potential impacts to aquatic life from effluent discharge.
2. The Proponent shall consult Transport Canada's Canadian Aviation Regulations to ensure compliance where appropriate.
3. Prior to any ground disturbance activities, the Proponent shall submit an Archaeological Assessment Report to NIRB and the Government of Nunavut Department of Culture, Language, Elders and Youth (GN-CLEY). Any subsequent direction provided by the GN-CLEY the Archaeological Plan must be forwarded to NIRB.
4. The Proponent shall adhere to conditions stated in attached Appendix D Archaeological and Palaeontological Resources – Terms and Conditions for Land Use Permit Holders.
5. The Proponent shall ensure that the disposal of combustible camp wastes comply with the Canadian Wide Standards for Dioxins and Furans, and the Canadian Wide Standards for Mercury.
6. The Proponent shall not conduct any activity associated with the land use operation if critical periods of wildlife cycles are observed (e.g. caribou migration, calving, fish spawning, raptor nesting, polar bear movement).

**May 4, 2007, NIRB File No.: 07EN012**

1. The Proponent must ensure that shipping contractors do not incinerate any wastes or deposit any sewage or bilge water while in Milne Inlet.
2. If a formal Approval is required under the *Navigable Waters Protection Act* (NWPA) regarding works along the Milne Inlet Tote Road potentially interfering with navigation the Proponent shall make all reasonable efforts to communicate this information to the community of Pond Inlet.
3. The Proponent shall be prohibited to allow aircraft take-offs and landings if caribou monitoring indicates presence within 1 km of the airstrip or helipad.

4. If snow sampling activities indicate adverse environmental impacts resulting from dust arising from project activities, the Proponent must employ dust suppression methods approved of by the Government of Nunavut – Department of Environment.

***NEW* RECOMMENDED PROJECT-SPECIFIC TERMS AND CONDITIONS**  
(pursuant to Section 12.10.2(b) of the NLCA)

Notwithstanding those Terms and Conditions previously issued by the Board in accordance with NLCA 12.4.4(a) as set out above and within the complete Screening Decision Reports for NIRB File Nos. 07EN004, 07EN012 and 07CA070, the Board is recommending that the following or similar *additional* project-specific Terms and Conditions be imposed upon the Proponent by authorizing agencies through all relevant legislation that may apply to components and activities associated with the January 3, 2012 NLCA Section 12.10.2(b) exception application:

**General**

1. Baffinland Iron Mines Corp. (the Proponent) shall maintain a copy of the Project Terms and Conditions at each site of construction and/or operations at all times.
2. The Proponent shall forward copies of all permits obtained and required for this project to the Nunavut Impact Review Board (NIRB) prior to the commencement of the project.
3. The Proponent shall operate in accordance with all commitments and project-specific protocol as outlined in its January 3, 2012 application package(s) to the NIRB and other authorizing agencies, including the following documents:
  - Type B Water Licence Application – Nunavut Water Board (NWB);
  - Class A Land Use Permit Application – Aboriginal Affairs and Northern Development Canada (AANDC); and
  - 2012 Work Plan – Qikiqtani Inuit Association (QIA).
4. The Proponent shall operate in accordance with all applicable Acts, Regulations and Guidelines.
5. The Proponent shall ensure that all project personnel and contractors are made aware of the Project Terms and Conditions and are provided with training and/or advice on how to implement these measures.

**Water Use and Waste Water Discharge**

6. The Proponent shall not extract water from any fish-bearing water body unless the water intake hose is equipped with a screen of appropriate mesh size to ensure that there is no entrapment of fish. Small lakes or streams should not be used for water withdrawal unless approved by the Nunavut Water Board.
7. The Proponent shall not use water, including constructing or disturbing any stream, lakebed or the banks of any definable water course unless approved by the Nunavut Water Board.

8. The Proponent shall not discharge any waste water into the marine environment unless it has been treated to meet or exceed discharge standards as set by the Nunavut Water Board for freshwater.

### **Transport, Handling and Storage of Hazardous Materials**

9. The Proponent shall ensure that all land based storage, handling, transfer and distribution facilities and equipment for fuel, explosive, chemical and hazardous materials are located at a minimum of thirty-one (31) metres away from the high water mark of any water body and in such a manner as to prevent their release into the environment.
10. The Proponent shall store all fuel and chemicals in such a manner that they remain inaccessible to wildlife.
11. The Proponent shall use adequate secondary containment or a surface liner (e.g. self-supporting insta-berms and fold-a-tanks) when storing barrelled fuel, chemicals and hazardous materials at all locations. Appropriate spill response equipment and clean-up materials (e.g., shovels, pumps, barrels, drip pans, and absorbents) must be readily available during any transfer of fuel or hazardous substances, as well as at fuel caches, vehicle-maintenance areas and drill sites.
12. The Proponent shall inspect and document the condition of all fuel tanks and fuel caches on a regular basis. All fuel and chemical storage containers must be clearly marked with the Proponent's name and examined for leaks immediately upon delivery.
13. The Proponent shall remove and treat any soils, snow and waters contaminated by fuel and/or hazardous materials on site or transport them to an approved disposal site for treatment.
14. The Proponent shall ensure that all personnel are properly trained in fuel and hazardous waste handling procedures, as well as spill response procedures. All spills of fuel or other deleterious materials of any amount must be reported immediately to the 24 hour Spill Line at (867) 920-8130.

### **Waste Management and Disposal**

15. The Proponent shall implement appropriate waste segregation and disposal practices following the "Reduce, Reuse and Recycle" principles at all sites. All food waste and hazardous wastes shall be kept inaccessible to wildlife at all times.
16. The Proponent shall ensure all non-combustible inert wastes and ashes from incineration operation are disposed of in approved landfill facilities.

### **Marine Shipping and Associated Fuel Transfers**

17. The Proponent shall provide notice of the project shipping schedule to the communities of the North Baffin region which utilize Milne Inlet and Steensby Inlet in order to inform residents and avoid interactions with and interruptions to Inuit wildlife harvesting or traditional land/marine use activities.
18. The Proponent shall deploy adequate personnel, equipment and tools, and spill kits during transfer of than fuel from barges/ships to land based facilities to mitigate the risks of a potential fuel spill.



19. The Proponent shall conduct daily inspections of all marine-based bulk fuel systems for potential leakage and shall keep a log with detailed amounts of fuel in tank/vessel(s), and a record of the transfer of fuel from barges/ships to land based facilities.

## **Wildlife**

20. The Proponent shall ensure that there is no damage to wildlife habitat in conducting project activities.
21. The Proponent shall not harass wildlife. This includes persistently worrying or chasing animals, or disturbing large groups of animals. The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired.
22. The Proponent shall ensure that aircraft maintain a vertical distance of 1000 metres and a horizontal distance of 1500 metres from any observed groups (colonies) of migratory birds, unless aircraft operations are for the express objective of conducting aerial wildlife surveys to support baseline data collection and/or project monitoring. Aircraft should avoid critical and sensitive wildlife areas at all times by choosing alternate flight corridors.
23. The Proponent shall not disturb or destroy the nests or eggs of any birds. If nests are encountered and/or identified, the Proponent shall take precaution to avoid further interaction and or disturbance (e.g., a 100 metre buffer around the nests). If active nests of any birds are discovered (i.e. with eggs or young), the Proponent shall avoid these areas until nesting is complete and the young have left the nest.
24. The Proponent shall cease activities that may interfere with the migration or calving of caribou, until the caribou have passed or left the area.
25. The Proponent shall not block or cause any diversion to caribou migration. When caribou are observed within the project area, the Proponent shall cease project activities likely to interfere with migration including road transportation, drilling or movement of equipment or personnel, until such time as the caribou have passed.
26. The Proponent shall ensure that Project staff reduce travel speed when wildlife are within the line of sight of the all-weather road so as to prevent wildlife disturbance.
27. The Proponent shall at all times ensure that wildlife are given the right of way when encountered on or near any road surface(s).
28. The Proponent shall ensure that shipping routes to Milne Inlet and Steensby Inlet used by its shipping contractors avoid sensitive areas known to be frequented by sensitive marine wildlife species, and shall ensure that project-related shipping keeps constant speeds to mitigate noise levels and avoid impacts to marine mammals. When ships are approaching areas with large concentrations of marine mammals, ship speed should be reduced to 18.5 km/h (10 knots) to minimize noise and avoid potential collisions with marine mammals.
29. The Proponent shall not harass wildlife. This includes persistently worrying or chasing animals, or disturbing large groups of wildlife.

## **Marine Based Geotechnical Drilling**

30. The Proponent shall suspend drilling activities if large concentrations of marine birds and/or marine wildlife move within the proximity of marine based geotechnical drilling. Activities shall only resume once marine birds and/or marine wildlife have left the project area.
31. The Proponent shall follow Fisheries and Oceans Canada's guide where noise and vibration generated from drilling activities in marine environment may have potential impacts on marine wildlife.
32. The Proponent shall implement measures designed to minimize disturbance to seabed sediments and benthic communities and marine wildlife when carrying out project activities within the marine environment.

#### **Aggregate Removal within Existing Quarries**

33. The Proponent shall use water or other non-toxic and biodegradable additives for dust suppression at quarries as necessary to maintain ambient air quality without causing water to pool or runoff.
34. The Proponent shall not remove any material from below the ordinary high water mark of any lake or stream unless otherwise authorized by the Nunavut Water Board.

#### **Establishment of New Quarries**

35. The Proponent shall clearly stake and flag pit and quarry boundaries so they remain visible to other land users during all seasons.
36. The Proponent shall locate quarry/pit facilities so as to avoid areas frequented by other land users, and to protect unique geographical features and natural aesthetics.
37. The Proponent shall ensure there is no obstruction of natural drainage, flooding or channel diversion from quarry/pit access, stockpiles, or other structures or facilities.
38. The Proponent shall ensure that silt fences/curtains are installed down gradient of any quarry activities.
39. The Proponent shall maintain an undisturbed buffer zone of at least 100 metres between quarry sites and the high water mark of any water body, unless otherwise authorized by the Nunavut Water Board.
40. The Proponent shall locate screening and crushing equipment on stable ground, at a location with ready access to stockpiles.

#### **Erosion Suppression and Restoration of Disturbed Areas**

41. The Proponent shall implement suitable erosion and sediment suppression measures on disturbed areas before, during and after construction in order to prevent sediment from entering any water body. The Proponent shall give specific attention to prevention of shoreline disturbance from land-based activities.
42. The Proponent shall ensure that all disturbed areas are restored to a stable or pre-disturbed state as soon as possible after the completion of work and/or upon termination of the exploration program.
43. The Proponent shall complete all clean-up and restoration of the lands used prior to abandonment of site(s).

## Other

44. The Proponent should, to the extent possible, hire and train local people and utilize local businesses.

### MONITORING AND REPORTING REQUIREMENTS

The Board has previously recommended a number of monitoring and reporting requirements be applied to project activities as previously screened. While not re-iterated here, all recommended requirements can be obtained from the original Screening Decision Reports for NIRB File Nos. 07EN004, 07EN012 and 07CA070. The Proponent is advised that all previously issued monitoring and reporting requirements will continue to apply to activities previously assessed and allowed to proceed.

In addition to the NIRB's previously issued monitoring and reporting requirements, the Board is recommending the following **additional** monitoring and reporting requirements as each applies to components and activities associated with the January 3, 2012 NLCA Section 12.10.2(b) exception application:

1. The Proponent shall submit to the NIRB, upon completion of proposed activities, a follow-up report which contains the following information, at a minimum:
  - a. A summary of those project activities which have been completed and those project components which remain under construction;
  - b. As-built drawings and site plans and any proposed modifications and associated rationale for such changes;
  - c. Annual monitoring results for water quality, air quality, vegetation, and road fill and quarry sampling, as well as an analysis of observed impacts against those predicted in the original project submission and a discussion of planned modifications to prevent or mitigate related future impacts;
  - d. Results from marine wildlife baseline studies undertaken during shipping operations, and discussion of any plans for continuation of further work or similar studies;
  - e. A summary of socio-economic monitoring activities undertaken for the year, including where possible, a description of how the Proponent has worked to align its efforts with those of the Qikiqtaaluk Regional Socio-Economic Monitoring Committee;
  - f. A description of local labour hired and contract opportunities awarded to local and Inuit owned firms; and
  - g. A record of terrestrial and marine wildlife observations recorded while operating within the project area, to include:
    - i. Locations of observed wildlife with specific GPS coordinates or qualitative description of position relative to project infrastructure or activities;
    - ii. Species and number of animals;

- iii. A description of the animal activity and the gender and age of animals if possible; and
  - iv. A description of the interactions between wildlife and project activities, including interactions between shipping activities and marine birds and/or marine mammals.
- 2. Prior to commencing any project activities, the Proponent shall revise/update the following management plans and provide other reporting as outlined, taking into account those concerns and comments included in Appendix B to this Report. The following revised/updated plans and responses shall be submitted to the NIRB prior to the commencement of any project activities associated with the January 3, 2012 NLCA 12.10.2(b) application:
  - a. Emergency Response and Spill Contingency Plan updated to include back-up procedures to deal with potential persistent interruptions in sewage disposal due to plant inoperability.
  - b. Oil Pollution Emergency Plans for Steensby Inlet and Milne Inlet, and Emergency Response and Spill Contingency Plan shall be updated to include, where relevant, clarification and specifications for quantity of fuel to be shipped to, and stored at each project site (Milne Inlet, Mary River, Steensby Inlet).
  - c. Emergency Response and Spill Contingency Plan and Site Surface Water and Aquatic Ecosystem Plan shall be updated to include a description of plans for fuel tank maintenance and monitoring.
  - d. Update and revise Waste Management Plan to include:
    - i. Clarification of plans for solid waste disposal, including the provision of detailed information regarding the types of containers to be used for various categories of waste storage; confirmation of whether these wastes generated at Steensby Inlet will be stored and transported off-site or whether such wastes will be incinerated; and how, at what frequency and where these wastes will be shipped for processing;
    - ii. Clarification regarding whether an incinerator will be stored and utilized at one or more project site in support of the 2012 program; and
    - iii. Removal of references to a floating camp at Steensby Inlet from the currently proposed works.
  - e. Provide specific information regarding the quantities of equipment, fuel and other chemical substances to be shipped to site, as well as quantities that will remain on-site after the planned 2012 activities cease.
- 7. Provide an updated plan for wildlife monitoring which includes the following:
  - a. Incorporation of all relevant baseline terrestrial data collected by the Proponent from previous baseline research activities;
  - b. Predicted impacts to wildlife from project activities (wildlife assessment report);

- c. Proposed site-specific and species-specific mitigation measures designed to reduce anticipated adverse impacts to wildlife, including adaptive management measures which recognize seasonal sensitivities and reference specific management plans for human-carnivore interactions;
- d. Proposed measures for wildlife monitoring; and
- e. Indication of any incorporation of data collected by the Pisikik Inuit Qaujimagatuqangit Working Group into the wildlife assessment report, measures to reduce adverse impacts to wildlife and proposed measures for wildlife monitoring.

The Proponent shall also ensure that any subsequent advice or direction provided by the Government of Nunavut regarding the Wildlife Mitigation and Monitoring Plan is forwarded to the NIRB.

#### OTHER NIRB CONCERNS AND RECOMMENDATIONS

In addition to the NIRB's previously recommended project-specific Terms and Conditions associated with screening File Nos. 07EN004, 07EN012, and 07CA070, the Board has previously recommended a number of additional considerations which would continue to apply to previously assessed activities. In addition, the NIRB is including the following list of relevant concerns and recommendations for the consideration of regulatory agencies as each applies to the current January 3, 2012 Section 12.10.2(b) NLCA application:

#### **From NIRB File No. 07EN004, Screening Decision Report:**

1. Indian and Northern Affairs Canada (INAC; now Aboriginal Affairs and Northern Development Canada) impose similar mitigation measures and/or conditions pursuant to the Federal Land Use Permits as previously issued and in regards to:
  - a. Location and Area
  - b. Time
  - c. Equipment
  - d. Methods and Techniques
  - e. Type, Location, Capacity and Operation of Facilities
  - f. Control or Prevention of Flooding, Erosion and Subsidence of Land
  - g. Use, Storage, Handling and Disposal of Chemical or Toxic Material
  - h. Wildlife and Fisheries Habitat
  - i. Objects and Places of Recreational, Scenic and Ecological Value
  - j. Petroleum Fuel Storage
  - k. Matters Not Consistent with the Regulations
2. The Qikiqtani Inuit Association (QIA) impose mitigation measures and/or conditions pursuant to the Inuit Owned Lands License upon the Proponent in regard to:
  - a. General Standards

- b. Fuel and Chemical Storage
  - c. Drilling
  - d. Campsites
  - e. Fisheries
  - f. Ground Disturbance
  - g. Other General
  - h. Any other conditions recommended by the appropriate Community Lands and Resource Committee (CLARC)
3. The QIA require the Proponent to follow the QIA Code of Conduct for Land Users.

**From NIRB File No. 07EN012, Screening Decision Report:**

- 1. INAC consider the importance of conducting regular Land Use Inspections, pursuant to the authority of the Federal Land Use Permit and the Quarry Permit, while the project is in operation. The Land Use Inspections should be focused on ensuring the Proponent is in compliance with the conditions imposed through the Federal Land Use Permit.
- 2. The Qikiqtani Inuit Association consider the importance of conducting regular Land Use Inspections of the project.

**From NIRB File No. 07CA070, Screening Decision Report:**

- 1. The Government of Nunavut Department of Environment (GN) should assist the Proponent with revisions to its Wildlife Mitigation and Monitoring Plan as necessary.

In addition to those recommendations as previously issued with the NIRB's Screening Decision Reports for File Nos. 07EN004, 07EN012, and 07CA070, the Board is currently also recommending the following:

**Change in Project Scope**

- 1. All Authorizing Agencies shall notify the NIRB of any changes in operating plans or conditions associated with this project prior to any such change.

**Bear and Carnivore Safety**

- 2. The Proponent review the bear/carnivore detection and deterrent techniques outlined in "Safety in Grizzly and Black Bear Country" which can be down-loaded from this link: [http://www.enr.gov.nt.ca/live/documents/content/Bear\\_Safety.pdf](http://www.enr.gov.nt.ca/live/documents/content/Bear_Safety.pdf). Note that some recommendations in this manual are also relevant to polar bears. There is a DVD about polar bears and safety available from Nunavut Parks at the following link <http://www.nunavutparks.com/english/visitor-information/suggested-resources.html> and a "Safety in Polar Bear Country" pamphlet from Parks Canada at the following link <http://www.pc.gc.ca/eng/pn-np/nu/auyuittuq/visit/visit6/d/i.aspx>.
- 3. Any problem wildlife or any interaction with carnivores should be reported immediately to the local Government of Nunavut, Department of Environment Conservation Office.

### **Species at Risk**

4. The Proponent review Environment Canada's "Environment Assessment Best Practice Guide for Wildlife at Risk in Canada", available at the following link: <http://www.ec.gc.ca/Publications/default.asp?lang=En&xml=5407909E-10F6-4AFE-ACDF-75B9E820B4A1>. The guide provides information to the Proponent on what is required when Wildlife at Risk, including Species at Risk, are encountered or affected by the project.

### **Water Intake**

5. The Proponent shall review and follow Fisheries and Oceans Canada's "Installation of the water intake according to the Nunavut In-Water Construction Timing Windows", available at the following link: <http://www.dfo-mpo.gc.ca/regions/central/habitat/os-eo/provinces-territories-territoires/nu/os-eo21-eng.htm>.
6. The Proponent shall review and follow: "DFO Freshwater Intake End of Pipe Guidelines, (1995)" to mitigate fish mortality which may be caused by impingement or entrainment of fish on the intake structure. These guidelines can be found at the following link: <http://www.dfo-mpo.gc.ca/library/223669.pdf>.

### **Incineration**

7. The Proponent shall review Environment Canada's "Technical Document for Bath Waste Incineration", available at the following link: <http://www.ec.gc.ca/gdd-mw/default.asp?lang=En&n=F53EDE13-1>.

### **Fuel storage**

8. The Proponent shall implement the recommendations found in the 2003 CCME Guidance Document PN 1326 entitled "Environmental Code of Practice for Above Ground and Underground Storage Tank Systems containing Petroleum Product and Allied Petroleum Products".

### **Land Managers**

9. Land managers (QIA, AANDC) should perform routine and regular land use inspections and consider the importance of requiring the Proponent to perform environmental monitoring, particularly as it pertains to the prevention of the release of contaminants into the environment. Regulators are encouraged to communicate the results of such inspections to the NIRB and other interested agencies.

### **Ship Based Marine Monitors**

10. The Proponent should consider hiring local Inuit marine wildlife monitors to observe marine mammals along the shipping route(s), including routing into Steensby Inlet.

## **REGULATORY REQUIREMENTS**

The Proponent has previously applied for and obtained the following authorizations for the proposed exploration and/or development activities:

- Baffinland currently holds Commercial Lease for IOL with QIA (Q10C3001): 2012 Work Plan is still subject to submitting an amended Work Plan for approval by the QIA as landlord.
- Baffinland currently holds land permits for Crown Land along a 10 km length of the Tote Road (LUP #N2007F004), and for the existing Steensby and Midrail Camps (N2006C0030);
- Baffinland currently holds a quarry permit on Crown Land adjacent to the Tote Road (2011QP0079); and
- Baffinland holds quarry concession agreements under the Commercial Lease for a quarry/borrow pit at Milne Inlet, a quarry/borrow pit at the Mary River Mine Site, and along the Tote Road.

In addition to those previously issued authorizations and permits as listed above, the Proponent will be required to obtain, at a minimum, the following authorizations and/or to meet submission requirements for those components and activities associated with the January 3, 2012 NLCA Section 12.10.2(b) exception application as listed:

- Milne Inlet
  - Submission of 2012 Work Plan to QIA (per Section 4 of QIA Permit No. Q10C3001)
  - NWB Type B water license – *application pending*
  - Transport Canada OPEP for Milne Port – *application pending*
- Mary River Site
  - Submission of 2012 Work Plan to QIA (per Section 4 of QIA Permit No. Q10C3001)
  - NRCan Certificate for Storage of Explosives – *application pending*
  - NWB Type B water license – *application pending*
- Steensby Site
  - AANDC Land Use Permit for Steensby Site – *application pending*
  - Transport Canada OPEP for Steensby Port – *pending*
  - NRCan Certificate for Storage of Explosives – *application pending*
  - NWB Type B water license – *application pending*

The Proponent is also advised that the following additional legislation may apply to the proposed exploration and/or development activities associated with the January 3, 2012 NLCA Section 12.10.2(b) exception application:

1. The *Fisheries Act* (<http://laws.justice.gc.ca/en/showtdm/cs/F-14///en>).
2. The *Arctic Waters Pollution Prevention Act* (<http://laws-lois.justice.gc.ca/eng/acts/A-12/>).
3. The *Canada Shipping Act* (<http://www.tc.gc.ca/eng/acts-regulations/acts-2001c26.htm>).



4. The *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (<http://www.canlii.org/ca/sta/n-28.8/whole.html>).
5. The *Migratory Birds Convention Act* and *Migratory Birds Regulations* (<http://laws.justice.gc.ca/en/showtdm/cs/M-7.01>).
6. The *Species at Risk Act* (<http://laws.justice.gc.ca/en/showtdm/cs/S-15.3>). Attached in **Appendix C** is a list of Species at Risk in Nunavut.
7. The *Nunavut Wildlife Act* which contains provisions to protect and conserve wildlife and wildlife habitat, including specific protection measures for wildlife habitat and species at risk.
8. *Nunavut Act* (<http://laws.justice.gc.ca/en/showtdm/cs/N-28.6>). The Proponent must comply with the proposed terms and conditions listed in the attached **Appendix D**.
9. The *Navigable Waters Protection Act (NWPA)* (<http://laws.justice.gc.ca/en/N-22/index.html>).
10. The *Nunavut Mining Safety Ordinance* and the *Territorial Quarrying Regulations* (<http://www.canlii.org/en/ca/laws/regu/crc-c-1527/latest/crc-c-1527.html>) or equivalent.

## **Validity of Land Claims Agreement**

### *Section 2.12.2*

Where there is any inconsistency or conflict between any federal, territorial and local government laws, and the Agreement, the Agreement shall prevail to the extent of the inconsistency or conflict.

Dated March 5, 2012 at Sanikiluaq, NU.



Lucassie Arragutainaq, Chairperson

Attachments: Appendix A: Scope of Previously Screened Activities  
Appendix B: Public Comment Submissions  
Appendix C: Species at Risk in Nunavut  
Appendix D: Archaeological and Palaeontological Resources Terms and Conditions for Land Use Permit Holders

## **Appendix A**

### **Scope of Previously Screened Activities**

As previously screened by the NIRB (File No. 07EN004), Baffinland Iron Mines Corporation's "Mary River Geotechnical Drilling" project was located on Baffin Island, encompassing Milne Inlet, Mary River and Steensby Inlet. The Proponent indicated that it intended to conduct a geotechnical drilling program and associated activities.

The activities/components associated with this proposal included:

- Continued mineral exploration at Deposits #1, 2, 3 and 3A (renewal of activities permitted previously);
- Initiation of mineral exploration on Deposit No. 4;
- Continued operation of the existing 80-person tent camp and expansion to 100-person total capacity;
- Temporary installation of three (3) 8-12 person fly camps at Milne Inlet, Steensby Inlet and Deposit No. 4 to support drilling activities;
- Land-based geotechnical investigations of mine-related infrastructure at Mary River, potential transportation routes, potential hydro and wind power sites, port-related facilities at Milne Inlet and Steensby Inlet (no construction activities);
- On-ice geotechnical drilling investigations of port-related facilities at Milne Inlet and Steensby Inlet;
- Winter road use;
- Airstrip use;
- Fuel transportation and storage chemical transportation and storage;
- Mobilization of three additional rock coring drills (for an on-site total of 7 rigs); and
- Water use and deposition of waste.

All documentation associated with NIRB File No. 07EN004 can be accessed online from the NIRB's public registry by using the following link:

<http://ftp.nirb.ca/01-SCREENINGS/COMPLETED%20SCREENINGS/2007/07EN004-Baffinland%20-%20Geotechnical%20Program/>

As previously screened by the NIRB (File No. 07EN012), the "Mary River Bulk Sampling" project was located within the Qikiqtani region, approximately 160 kilometres south from the Hamlet of Pond Inlet. The Proponent indicated that it intended to conduct a "Bulk Sampling Program" during 2008 using the Milne Inlet Tote Road which connects Mary River and Milne Inlet.

The activities/components associated with this proposal included:

- Delivery of contractor mining and crushing equipment, camp materials and fuel in 2 ship voyages to Milne Inlet;

- Upgrade of existing Milne Inlet tote road for all-weather use including:
  - Quarrying and placement of fill on road bed; and
  - Replacement and installation of culverts at watercourses.
- Construction of 100-person all-weather tent camp at Mary River, adjacent to existing seasonal exploration camp;
- Establishment of a temporary 30-person trailer camp at Milne Inlet;
- Establishment of a temporary 12-person trailer camp part-way along the Milne Inlet tote road (Midway camp);
- Establishment of temporary fuel storage facilities at Mary River consisting of one 1.4 million litre (ML) diesel fuel tank farm, one 550,000 L Jet-A tank farm, and one 1.25 ML diesel tank farm;
- Establishment of temporary fuel storage facilities at Milne Inlet for 8 ML of diesel fuel and 90,000 L of Jet-A fuel;
- Establishment of temporary fuel storage facilities Midway Camp for 20-30 200 L drums of diesel fuel;
- Construction of a test rail embankment;
- Drilling, blasting and storing of 169,300 dry tonnes (t) of weathered surface rock on top of Deposit No. 1 over one or two months;
- Abandonment of a 169,300 t weathered iron ore stockpile;
- Drilling, blasting and storing 250,000 t of iron ore bulk sample from Deposit No. 1 over three-to five months;
- Hauling of the 250,000 t iron ore bulk sample from Mary River to Milne Inlet;
- Temporary stockpiling of the 250,000 t iron ore bulk sample at Milne Inlet;
- Loading of a 250,000 t iron ore bulk sample on 3 ships for a total of five voyages;
- Replacement of existing fuel-bladder bulk fuel storage facility with a steel tank bulk fuel storage facility at Milne Inlet; and,
- Improvements to the Milne Inlet Tote Road culverts to meet the objectives set out in Baffinland's Freshet Management Plan.

All documentation associated with NIRB File No. 07EN012 can be accessed online from the NIRB's public registry by using the following link:

<http://ftp.nirb.ca/01-SCREENINGS/COMPLETED%20SCREENINGS/2007/07EN012-Baffinland%20-%20Bulk%20Sampling%20Program/>

As previously screened by the NIRB (File No. **07CA070**), Baffinland Iron Mines Corporation's "Amendment to Mary River Geotechnical Drilling" project was located on Baffin Island, and was an amendment to previously screened geotechnical and exploration activities (NIRB File No. 07EN004). The NIRB determined that the activities as proposed were outside of the scope

of the activities as initially assessed and would therefore be subject to screening pursuant to Section 4, Article 12, NLCA. The Proponent's application indicated that it intended to continue with its previously authorized geotechnical drilling program and associated activities, as well as including a number of new activities.

The activities/components associated with this amendment proposal included:

- Extension of existing Land Use Permit to December 31, 2010.
- Establishment of a new temporary tent camp (Rail Camp) for approximately 40 people part way along a potential future railway alignment.
- Expansion of the originally identified 8-12 person temporary tent camp at a future potential port site at Steensby Inlet to an approximately 40 person temporary tent or trailer camp in 2008.
- Addition of annual sealift to Steensby Inlet for materials and supplies required for camp and drilling operations.
- Increase in the number of drills for above-related program work from seven (7) to up to ten (10).
- Alterations to numbers of drill holes and test pits for above-related program.

All documentation associated with NIRB File No. 07CA070 can be accessed online from the NIRB's public registry by using the following link:

<http://ftp.nirb.ca/01-SCREENINGS/COMPLETED%20SCREENINGS/2008/07CA070-Baffinland/>.

**Appendix B**  
Public Comment Submissions



1



Sanikiluaq

The protection of archeological resources was repeatedly raised and a concern. As a means of working to address concerns related to archeological resources QIA, BIMC, Government of Nunavut and Inuit Heritage Trust recently held meetings in Igloolik and Pond Inlet. While a success in bringing parties together in discussion with community working groups as well as being very informative, QIA views these sessions as a starting point and looks forward to continuing to work with other parties on ensuring community members are aware of and comfortable with how archeological resources within the project area will be managed. Resulting from these meetings is the strong suggestion that elders be hired to participate in site activities related to archeological resources. The committee members felt that having an elder participate in the field programs would contribute significantly to the findings and results of such work.







- July 25, 2011 NIRB letter to NWB “Application exempt from Screening pursuant to Section 12.4.3 of the NLCA: Baffinland Iron Mines Corp’s Notification to NWB for replacing its existing Fuel Storage Facility in Milne Inlet for the “Mary River Bulk Sampling” Project”.

QIA submits the following technical comments in relation to Baffinland's 2012 Work Plan Application:

i. The application does not contain an updated conformity determination from the Nunavut Planning Commission (NPC) regarding land use in the vicinity of the undertaking. NIRB has requested a conformity determination from NPC. **It is requested that Interested Parties have an opportunity to comment on the NPC determination when available and considered in NIRB's assessment.**

ii. Within the 2012 Work Plan, BIMC provided a summary of activities that they consider are already permitted. The following bullets pertain to items listed as “activities already permitted” and are provided to NIRB for consideration in their environmental screening scope.

a. Milne Inlet – Fuel. NIRB’s July 25, 2011 letter to NWB regarding the Milne Inlet new fuel storage facility, exempted the activity of the addition of a 5 ML fuel storage tank with associated services from screening. The NIRB letter, as well as BIMC application for water licence amendment, focuses on the 5 ML fuel storage tank, not the installation and use of 1.5 ML jet fuel tank(s) at this facility. However, NWB’s August 12, 2011 approval letter<sup>1</sup> grants approval for modification to include 5 ML bulk fuel storage tank, as well as, another tank with capacity of 3.5 ML. **It is unclear if NIRBs July 25, 2011 screening included a total 8.5 ML of fuel at the new Milne Inlet fuel storage area.**

b. Milne Inlet – Fuel. Based on NIRB’s August 22, 2007 screening, a total of 8.9 ML of fuel (8 ML diesel, and 0.9 ML of jet A) was considered to be stored at Milne Inlet. The 2012 Work Plan proposes less diesel and more Jet A to be stored at Milne in the new fuel storage area compared to the existing environmental screening. It is unclear if BIMC proposes to install one or two 1.5 ML jet A fuel tanks, and therefore uncertain if the total volume of fuel to be stored at Milne

$$\Delta^b \rightarrow \Delta^c$$

Kimmirut

$\langle \sigma^x \sigma^y \rangle$   
Pangnirtung

Pond Inlet

Qikiqtarjuaq

Resolute Bay

Sanikiluaq

<sup>1</sup> August 12, 2011 NWB letter to BIMC titled “2BB-MRY1114 Type “B” – Action Plan for Decommissioning of Milne Inlet Bulk Fuel Storage Facility and the Construction of New Fuel Tank Storage.



will be 6.5 ML or 8 ML. **It is uncertain the total volumes of fuel, and type, that is considered in the NIRB screening.**

c. Steensby Site – 2,500 barrel fuel storage. A large amount of fuel is planned for storage in fuel barrels at Steensby. BIMC states this activity has been previously screened. **It is unclear if previous environmental screenings addressed fuel storage in barrels to a quantity of 2,500. For example, 51 barrels were detailed in BIMC’s 2007 Geotechnical Program Screening Form 2 and used by NIRB in the Aug 22, 2007 NIRB Screening Decision. To limit environmental risks, fuel storage should be contained in lined areas to provide secondary storage in case of a spill/release of fuel.**

iii. Within the 2012 Work Plan, BIMC provided a summary of activities that they consider require screening. The following bullets pertain to items listed as “screening for additional activities” and are provided to NIRB for consideration in their environmental screening scope.

a. Milne Inlet – Fuel. Decommissioning of the fuel bladders is proposed. **It is unclear if decommissioning requires additional screening since abandonment and reclamation planning was a component of BIMC’s information that contributed to the existing water licence (2BB-MRY1114).**

b. Milne Inlet – Fuel. No timeframe is provided by BIMC on when use of the fuel bladders will stop. The fuel bladders are approaching end of useful life. **To limit environmental risk, it is requested that the fuel bladders be taken out of commission upon use of the new fuel facility.**

c. Mine Site – Fuel. NIRB’s May 4, 2007 screening considered the storage of one 1.4 ML diesel fuel tank farm, one 550,000 L Jet A tank farm, and one 1.25 diesel tank farm. The 2012 Work Plan proposes to construct and use a 5.2 ML diesel fuel tank and two 1.5 ML jet A fuel tanks within a new fuel storage facility. **It is recommended NIRB consider the increase in fuel stored at the Mine Site in their screening.**

d. Mine Site – Fuel. Decommissioning of the existing fuel storage areas at the Mine Site is not considered in the 2012 Work Plan. As such, the Mine Site has potential to store 3.35 ML of fuel (existing facilities) and 8.2 ML (proposed facilities). Similar to Milne Inlet, the fuel bladders at the Mine Site are approaching the end of useful life. **To limit environmental risk, it is requested that the fuel bladders be taken out of commission upon use of the new fuel facility.**

Kimmirut

$\langle \sigma^y \rangle$   
Pangnirtung

Pond Inlet

Qikiqtarjuaq

Resolute Bay

Sanikiluaq







Sanikiluaq

- k. Steensby Site – Fuel barge. A 10 ML fuel barge is proposed to overwinter in Steensby Inlet. Fuel transfer from the barge to land will occur. **It is requested that Transport Canada (and any other regulatory authority) provide advice on the acceptability of this practice. The regulatory and enforcement authority responsible for overwintering of fuel barges is requested. It is requested that the regulatory authority provide approval of the operation and spill response plans required to support this activity. It is requested that the application, along with the approved permit/licence, to obtain approval of overwintering of fuel barge and transfer of fuel on ice to land is provided on the public record.**
- l. Steensby Site – Fuel barge. Overwintering of fuel in a barge within Steensby Inlet is an item of significant public concern. **The acceptability of this practice by Nunavut communities is requested to receive high priority in this determination of significance.**

Finally, in conducting the review of this application QIA found the amount and type of materials in Inuktitut was limited. As a result QIA undertook to prepare additional Inuktitut materials in order to facilitate local Committee meetings. Given the additional review time provided by NIRB, QIA was able to accommodate developing additional Inuktitut materials internally without requesting an extension to the review period. QIA encourages Baffinland to interact prior to submissions to ensure that the type and amount of materials submitted do not present difficulties or barriers for community participation.

Should you have any questions or comments please do not hesitate to contact Stephen Williamson Bathory (Director of Major Projects), Solomon Awa (Project Coordinator), or, myself.

Sincerely,

N Beveridge

Navarana Beveridge  
Executive Director

cc- Dionne Filiatrault, Executive Director, Nunavut Water Board

Attachments, Appendix A: Mary River Project Committee Community Meeting Notes

## Appendix A:

### Mary River Project Committee Community Meeting Notes

---

Community	Date of Meeting
Igloodik	February 7, 2012
Igloodik	February 13, 2012
Igloodik	February 15, 2012
Hall Beach	February 2, 2012
Hall Beach	February 14, 2012
Hall Beach	February 17, 2012
Hall Beach	February 20, 2012
Arctic Bay	February 15, 2012
Arctic Bay	February 16, 2012
Pond Inlet	February 5, 2012
Pond Inlet	February 21, 2012
Kimmirut	February 13, 2012
Kimmirut	February 15, 2012

**Igloolik Mary River Project Committee Meeting Minutes  
Community Liaison Officers Office  
February 7, 2012**

**1. Opening Prayer**

**2. 2012 Work Plan and Steensby Port-Site:**

The committee understood the letter and would like to be updated of how things are, they would like to have further meeting about it for they still have concerns about the site.

**3. Baffinland Iron Mines Corporation's 2012 Work Plan Application**

After reading the proposed QIA letter to NIRB, the committee talked about it with QIA, and QIA answered their questions. They approved the letter and would like to be updated on it.

**4. Baffinland Activities Already Permitted and Additional Activities Requested for 2012:**

Several questions were asked:

Is the man-made island written in the activities requested?

Is the surrounding of the hard wall going to be in the water?

Is the 46 person camp going to be in the water?

Regarding the explosion barrier (used when blasting to limit noise), is this talking about the island that is going to be in the water?

It is not written about the location of the diesel and gas in Nulujaat.

**5. Adjournment**

**Igloolik Mary River Project Committee Meeting Minutes**  
**Community Liaison Officers Office**  
**February 13, 2012. @ 1:30 p.m.**

**1. Opening Prayer**

**2. 2012 Work Plan and Steensby Port-Site:  
Baffinland Iron Mines Corporation's 2012 Work Plan Application:  
Baffinland Activities Already Permitted and Additional Activities Requested  
for 2012:**

The MRPC had concerns about Steensby Inlet-Request for Additional Activities,

- Use of a 10 ML fuel barge or vessel that will anchor and overwinter in Steensby Inlet.

The committee decided to have another meeting with QIA teleconference and with the other members present at the next meeting.

**3. Next-face-to-face-meeting:**

February 15, 2012 at 10:00 a.m. location HTO office.

**4. Adjournment**



**Igloolik Mary River Project Committee Meeting Minutes  
Community Liaison Officers Office  
February 15, 2012. @ 10:00 a.m.**

**1. Opening Prayer**

**2. 2012 Work Plan and Steensby Port-Site:  
Baffinland Iron Mines Corporation's 2012 Work Plan Application:  
Baffinland Activities Already Permitted and Additional Activities Requested  
for 2012:**

The members had concerns over the man-made island among others. They also talked about food bank for Igloolik and Hall Beach. It was agreed that this would have to go through IIBA.

The members understood the letter and they would like to meet about it the near future.

**3. Next-face-to-face-meeting:**

February 22, 2012 at 9:00 a.m. location HTO office.

**4. Adjournment:**

**Adjourn of February 15, 2012 M R P C meeting @ 3:00 p.m.**

February 02, 2012  
 ॐॐॐ 02, 2012

[illegible]

- they are sure going to have some accident on this.

- [illegible]



bN<sub>L</sub>σ<sup>9b</sup> ▷<sup>b</sup>d◁<sup>9b</sup>▷<sup>9b</sup> 6:45◁<sup>9b</sup>N<sup>c</sup>▷J.

**February 14, 2012**  
**ᐱᐅᐱᐱ 14, 2012**

 $\triangleright \triangleleft^b \rangle^c$ 

#### 4. ၈၈၆၆၆

ᐅᓃᑲᑦᐱᓃᑦ ᐱᐱᓃᑲᑦ ᐃᑭᑦᐱᑦ ᑲᐱᐱᐱᑦ.

## **5. 2012 Work Plan and Steensby Port – Site**

The 2012 work plan and Steensby port- site was read in Inuktitut to the committee.

Also reading the Baffinland Iron Mines Corporation's 2012 Work Plan Application, and Table 1: Baffinland Activities Already permitted and Additional Activities Requested for 2012

– We disagree on Steensby for the port. Here are the reasons: It has so much archeology, they would make the ocean deeper using explosives, and, last thing it is a berthing for seals and they are going to break the ice. And that ice is going to cut off the hunters since they will have to use more gas to go caribou hunting because the ice will be breaking down and they will have to use the land to go caribou hunting and use a long one to go caribou hunting.

If we can meet with the Pond Inlet committees it would be great since they have experience now on ships going to their area and they can give us feedback on what effect and changes they make to that area. If Steensby is going to be a port we have to know what effect it is going to make. It would be great if Baffinland don't use that big ships first to pick up some iron and use different smaller ships that way we will know what is being effected and we can plan more.

Our concern is are they even including Repulse Bay for this plan for the route of the ships? Since they will be going through that area and that area has so much beluga and narwhal. HTO has written a letter to attend the meeting about the tags of the narwhal and beluga. Repulse Bay tags were 100 and they are cutting that to 50 (half of the previous what they were given). And that is going to affect a lot since we get tags from them too. If the ship route is going that way Repulse Bay will have a big effect. This morning I have heard that the ships are affecting the whales so it would be beneficial that Repulse Bay be part of the planning since they will have the affects too.

Barge wants to stay in Steensby whole year long.

- they will have to know that area has really strong winds in winter time worst then us. And if they are going to keep the barge here over the winter they will have to chop off the ice to keep the barge on top of the water because the ocean will freeze. We are trying to plan something we never seen and never did before. As soon as you think it will be dangerous say something because we know the arctic more than anyone else, and if we have concerns we have to say something.

- they will have to let them know that barge will have to stay in the water and keep that area water because it might be dangerous.

– I think it's better if they store the oil on the land because it would be more safer and they would have more emergency plan when there is an oil spill. And if there is an oil spill on ocean it is more risky spilling on the water then land. And if they spill on the water we would like to be compensated.



- If they are going to keep the barge whole year long they will have to hire someone to be there all the time. We will also have to tell QIA executive that it is dangerous to have a barge whole year long.
- this barge is it just going to be there with no one there?
- No! someone will be there all the time. also this barge will be there because if they don't get approved they can use the oil to clean up the camp or if they get approved it will be useful to be there.
- our concern is they will be dumping a lot of water to our ocean and this oil of barge is more even dangerous when they have an oil spill.
- We are going to have a concerns over and over on the port in Steensby since they will make it deeper too if they are going to use Steensby as a port. They say it is possible to use the nuvuit as a port but it will cost more and money is the only problem. And they will pack up and closed if they don't get approved. Pond Inlet is now just accepting the ships going there and they want to keep monitoring since there animals and they like to get there compensation sooner then they ask. We have to meet with the Pond Inlet and work together on this.
- we will have to ask for more information. We wanted to go to Labrador to get more information on what they did on changes and what they did when there was mining in Labrador.
- We are more in danger then Labrador. There will be a lot of effects and our animals will be affected a lot. That is for sure.
- Since BIMC will do some community visits we can ask more on this.
- We will have to let our community know more on this but it is so hard with no radio to let our community know.
- And with no information people can say that if they start the only thing they will see that our animals will be closer to us.
- We have to get our hamlet to have a daily basis of radio station.
- since its going to be a barge Hall Beacher's will have to make an agreement on this for the insurance and if there ever be an oil spill. QIA will have to make an insurance for the oil spill to clean that oil spill.
- monitoring there has to be more monitoring during spring time because there is more seal at that time.

5. 2012Г Ас-А-А'б'с'с'Г' <с'а'Д'с' Д'б'А'Р'с'Д'с'Г' Д'с'с'с'с'б'с'Д'с' Д'с'б'с'с'с'с'с'

- ልዩነታቸው ለሌሎች ልዩነቶች ምክንያት፣ ርዕሰ ልሳሚዎች ምክንያት ለሌሎች ልዩነቶች ምክንያት ልዩነቶች.

60Lσ<sup>5b</sup> ΛΔσ<sup>b</sup>⊃<sup>5b</sup> 8:20⊂Δ<sup>5b</sup>Π⊃⊂

ፌዴራል ሪፐብሊክ ኢትዮጵያ

17, 2012

- Read the e-mail that was sent to QIA on Feb 05, 2012 and replies to the committees in Inuktitut. Also read the QIA Executive committee meeting in Iqaluit Feb 6-8 on Mary River Project 2012 Work plan. Also explain more to the committee. We told them we have to let our community know more on this. But it is really hard trying to let our community know when our radio is never open.
- This motion was it made before we were committee?
- This was motion by the QIA Executive on Feb 06-08. And also saying we have to ask our Community if they approved or not approved.
- I like to know if Igloodik decision. I don't want it approved until I hear from Igloodik.
- Both Community will for sure say our animals will be closer. But being a committee is hard trying to make decision for the committee or community. We have to agree on this.
- We have to make a decision before Feb 27, we have 10 days. We have to meet again this coming Monday. And this weekend we can ask our community what they think and get more answers.
- I am not going to agree on this. We have heard that they will check if it's possible to Nuvuit. I want them to think of Nuvuit as port. I think it's better if they delay setting the port and get all the core ready to ship. And maybe they can say Nuvuit is possible.
- Is there any BLO (Baffinland Liaison Officer) in Hall Beach?
- Deborah is now BLO in Hall Beach.
- we can inform more on CB and Internet on this.

- We are not going to agree on this until Igloolik see the email from the Pond Inlet Committee Chairman. We like to hear more what Igloolik is saying. We are going to inform our community this weekend and meet again Monday to discuss what our community members say. We are going to ask our community if they are agreeing on Steensby port and telling them if Steensby is not going to be port there will not be Baffinland.
- are you agreeing on a mine even if the port is going to be in Steensby?
- did you see the agreement we wanted 10 million dollars for insurance.
- anything regarding money will be looked at by the IIBA.
- we like to see an agreement with good points.
- you can contact the IIBA negotiators for information on any impact.
- we heard on news that ships are impacting whales. Feb 27, 28 are they coming here to meet us and community?
- Baffinland will have their final statement. First meet with the committees and board and in the evening have a community meeting.
- I am was appointed from HTO and I like to point out that ships route they will also impact Repulse Bay and I like Repulse Bay to be part of this Planning session. Also since Repulse Bay quota for Beluga is cut off by 50 it was 100 before. And ship will use that route where beluga use all the time. I am going to a meeting next on 19 and 20 regarding narwhals and 21 and 22 in Repulse Bay and I like to have a say on this since they will have an impact too.
- Yes we have heard that it's a hot spot for whales. And the ship route around that area of Kimmirut and Clyde River. They know they will be using the route where there is a lot of whales.
- We now know what we got to do and meet again Monday to discuss this.
- You guys were in Igloolik for meeting and our goal was to keep the monitoring and this March 10 they will start monitoring for 15 days around the area of Kimmirut to Steensby and there will be 2 from Igloolik. Baffinland will look after this and get 2 Inuit from Igloolik.
- You guys will have to think of this we are 2 different communities and the other one is going to have someone. We have different concerns we don't think the same. And when there is going to be something to do with monitoring there has to be someone from Igloolik and Hall Beach. Igloolik and Hall Beach has never same concerns and HTO knows about this.

Meeting ends at 3:45pm

[illegible][illegible][illegible][illegible][illegible][illegible]

- CdcD<sup>5</sup>Δ 10ΓC<sup>5</sup>Γ ΔLΔJ<sup>5</sup> ΔC<sup>5</sup>dLΓ.

-  $\rho_{\alpha\beta\gamma} \Gamma^{\beta\gamma}_{\alpha} \Delta\Delta\Delta^{\alpha} \Delta^{\alpha\beta\gamma} \Delta^{\alpha\beta\gamma} \Delta^{\alpha\beta\gamma}$ .

- [illegible]

ጋራ ጥራት፣ ጥራት፣ ጥራት

# February 20, 2012

6942 20, 2012

– They are doing this on purpose . Trying to make us worried but we have to realize even if they try and make us worried we can still do what we do and give them what we want too.



- I am not even worried about them if they don't start they will not start and in the future someone who can look after this better will do it but our community members what them to start.
- We will have to get compensated on animals and for the land for all the changes.
- Our communities want to see this going and our youth don't really work.
- And it has to be a dry work place.
- Since its going to be a dry place they will do it more.
- We can ask from the government to do a monitoring for first 5 years. Reason to do this is our animals. I really would like to get this monitoring for any years or for monitoring don't use the big ships while monitoring. We agree on Steensby only if they will do what we want.
- And our animals' food will be affected when they do some dumping the water so there is going to be a big impact.
- If they are going to dump Newfoundland our animals will have a big impact like we get these dogs from south. They say we are what we eat.
- Our seals are different now the taste.
- If I see a sea creature that I never seen before I would say it's a sea monster.
- Lets agree on Steensby port.
- Baffinland is coming in this month we can hear more on this. But I am going to leave on the 27<sup>th</sup>.
- Since I was a child our animals are not the same. For sure it's because of the community noise. It will impact but as soon as they get used to it they might come back.

1.  $\Delta^b \wedge P^c \supset^b \neg \Delta^c$   $\supset^b C^c \Delta^b \wedge^b \neg^b$

- ልዩ ስልጠናዎችን በጥቅም በሚውሉበት ሁኔታ ለሚገኙ ሰራተኞች ስልጠናዎችን ለማድረግ ይረዳል፡፡
- ስልጠናዎችን በሚደረግበት ሁኔታ ለሚገኙ ሰራተኞች ስልጠናዎችን ለማድረግ ይረዳል፡፡

[illegible]

- [illegible]

- $\mathcal{Q} \cap \mathcal{C}^b \supseteq \Delta \mathcal{P} \mathcal{C}^b \mathcal{P} \mathcal{L} \mathcal{C}.$

ΔΛΓΔΓΓ CδΔΔ<sup>5b</sup>ρΛ<sup>5b</sup>ρCσ CδJL <sup>5b</sup>ΔΛΔσCγ<sup>5b</sup>Cγ.

- $\Delta^b \wedge \rho \supset \neg \Delta \supset \neg \sigma^a$   $\Delta^a \wedge \rho \supset \neg \sigma^a$ .

- ՀԱՎԻՃԻՈՒԹՅԱՆ ՈՐՈՇԱԿԱՆ ԴԻՄԵՆՏԱԿԱՆ ԶԵՆՈՒՄՆԵՐԻ ԲԱՆԴԱՅԻՆ ԿԱՐԳԻՆ ԿԱՆՈՒՆՈՒՄԸ:

- መኖሪያውን ወደጥቅም ላይ ላልዋለበት ማረጋገጥና ማረጋገጥ ይቻላል።

$$b \cap L_{\sigma^{\mathfrak{c}_b}} \wedge \triangleleft \sigma^b \supset^{\mathfrak{c}_b} 3:45 \lhd^{\mathfrak{c}_b} \cap^c \supset J.$$

Mary River Project Committee Meeting  
Held at the HTO Office in Arctic Bay  
February 15, 2012 @1:30 p.m.

Present:

1. Opening Prayer @ 1:36 p.m.
2. Selection of Chair to take place after an addition of a new member
3. Reading of letter sent by QIA read to Committee
4. Review of tables read and explained by QIA
5. Review of letter dated February 1, 2012 read to Members by QIA
6. Review of letter dated February 27, 2012 read by QIA
7. Questions and concerns

This question is in regards to the Royalties, we do not wish to miss out on any of the royalties.

The Arctic Bay MRPC has a concern with the issues on Inuit Impact Benefit Agreement as they have not heard any issues as to what the contents are. They would like to have a copy of what is contained in the IIBA before the actual agreement. They would like to be included in any IIBA discussions and want Arctic Bay and other Communities to be treated as equally as the other Communities that are close to the mine.

They also are asking Baffinland to reintroduce the Baffinland CLO position here in Arctic Bay.

The committee is in approval of the decommissioning of the bladders that are used to store diesel or Jet A1 fuel.

The Arctic Bay MRPC do not wish to make any decision on the fuel storage without first asking what Igloolik thinks so therefore CLO is to inquire with the Igloolik CLO and then have another quick meeting tomorrow just on this issue.

Arctic Bay MRPC is asking that people from Arctic Bay be employed as well at Mary River and have equal opportunities like the other Communities.

Arctic Bay MRPC is asking for a report of the Geotechnical investigation once available and also explained to them. They are also asking for information as to what would take place if it has any negative impacts on the environment.

Adjournment @ 4:06 p.m.

Mary River Project Committee Meeting  
Held at the HTO Office in Arctic Bay  
February 16, 2012 @ 2:000 p.m.

1. Opening Prayer
2. Discussion on the barge or refueling ship that is to winter in Steensby Inlet. The mayor spoke to the Igloolik CLO and the Igloolik MRPC said that they have a concern with the refueling barge or ship that is to winter on ice. The Arctic Bay MRPC does have a concern with the wintering of a barge or ship at Steensby Inlet. Although Baffinland does say that the barge or ship would have Transport Canada approval, there appears to be no spill cleanup plan and there is no mention of a spill cleanup kit that would be available in the event of an oil spill. So for that reason, the Arctic Bay MRPC does have a major concern with the proposed barge or refueling ship wintering at Steensby Inlet.
3. Adjourn @ 2:17 p.m.

**Pond Inlet Mary River Project Committee**  
**2<sup>nd</sup> Draft Meeting Minutes**  
**February 21, 2012**

**1. Opening of Meeting**

**Introduction:**

Chairperson welcomed all the committee members and the new recording secretary to the Pond Inlet Mary River project review committee.

**2. Review of agenda**

**3. Correspondence:**

- a. February 1, 2012—QIA's letter to NIRB Baffinland Iron Mine Corporation's 2012 Work Plan application
  - This was discussed at the last meeting but wanted to talk more about this. It is the summary of what the Work Plan is for 2012 and about the Steensby Port-Site.
  - A member mentioned that one had a discussion with one of the members in Igloolik Nuluujaak Committee; we, as the committee should support Igloolik as they do not want Steensby Inlet port, rather they want Nuvuit to be used. It is very important if the Baffinland stays open to anything that they are planning because this is a serious matter that we should be concerned about. We can support Igloolik with their concern. Steensby should not be mentioned as port and the plans for the area should not be considered for the area for the following reasons:
    - i. One very important that it should not be in Steensby is that the ice may crack
    - ii. And also, the animals. If it was moved to Nuvuit, it will less affect our animals than if it were in Steensby because that is where there are more animals.
- b. **February 27, 2012- QIA's draft letter to NIRB Baffinland Iron Mine Corporation's 2012 Work Plan application:**
  - The committee reviewed this letter.
  - Once the ships start going through here, we, the hunters will have to go far away in order to hunt because the mammals will go far away running from the ships. Because, this is a serious cause, something has to be done. The committee agreed to ask for some support from Pond Inlet HTO and Hamlet regarding the port that is trying to be built to make it easier for us.

Pond Inlet Mary River Project Committee  
Meeting Minutes  
February 5, 2012

Questions for prior to the actual opening of meeting:

Regarding the 2012 work plan by BIMC, is that the shortened version of the plan that was submitted this fall? The plan includes work that is already in the approved licenses for water, but really is shorten version of the initial plan (Pre-Development Work). NIRB still has yet to approve the proposal and yet they are (BIMC) planning some major work started. Inuit seem to be more concerned about the sea mammals than land mammals with the valid reasons.

!. Opening of Meeting

The meeting was opened at 7:17pm.

- Introductions

Two new members have been added to the Committee; one was appointed by the Hamlet of Pond Inlet and will be a member for the year and one has been appointed by the Mittimatalik Hunters and Trappers Organization.

- Welcoming Members

We welcome the two new members. The MRPC may be dissolve up to the end of the signing of final IIBA. Membership of MRPC's comprises of a Hamlet member; HTO member and three others as 'Member-at-large' representing Inuit in the community.

@. Correspondence

-QIA Proposed Letter to NIRB

The letter stating that the committee need to review the Work plan 2012 by the BIMC. This plan is the reduced plan the BIMC had initially submitted as Pre-Development Work in the fall.

The Committee reviewed the letter and concluded that the Steensby Inlet should not even be mentioned as Inuit had said they want Nuvuit instead.

-Minutes: Monitoring/Mitigation – moved as last item on the agenda.

It outlines the issues and reasons for mitigation and monitoring that working groups had done in Igloodik and it seems to be a good start.

There are others issues that were mentioned in the meeting and these seems to be the good start for outlining the back bone of monitoring.

-BIMC Workplan 2012

The committee feels that the location, Steensby Inlet as port should not be considered. Inuit still wanted Nuvuit as port. Since there are a lot of animals in and around Steensby Inlet, Inuit do not want it to be port. The animals in the area will eventually disappear but



it will at least have animals for longer period of time. Different species and animals are in the Steensby area as it also used for calving and used by ducks and sea birds for nesting. In the plan, "Milne Inlet" should also be investigated for geotechnical issues on the seabed. Milne Inlet should also be investigated for the mammal abundance and as it is used for calving; narwhal, seals and other sea mammals.

Steensby should not be mentioned as port and the plans for the area should not be considered for the area.

-Reply dated Feb 13

Reasons and issues mentioned on the letter should be more detailed as to why Inuit do not want Steensby Inlet as port, so that the NIRB would know the real reasons and issues.

-Archaeologist Consultation

Since there were concerns on the archaeological sites, we will now have chance to voice our concerns to the archaeologist and their plans for mitigation.

### 3. Other Issues

-Annual Plans

Just to mention one of the plans, it seems like we may be meeting for the year after the BIMC had submitted their Final Environmental Impact Statement.

### 4. Adjournment

The meeting adjourned at 11:52pm

- Since we had been impacted greatly after the sampling period started, members of Pond Inlet has a great concern with the lack of benefits we are seeing. Our animals and sea mammals will be highly affected and the hunters will more likely be affected as well; therefore, we have to try to include that in the 2012 Work Plan of BIMC before approving anything.
- Another great concern that was discussed about Milne Inlet was that fuel tanks are already standing which had been originally planned on their written submission but have not been approved nor confirmed. It is very important for BIMC to listen to the Inuit rather than doing something without being approved yet. It is already clear that BIMC being respectful of Inuit that are living in or around the region.
- The BIMC says that they will drop the project if they do not have the dock in Steensby, then, be it. If the BIMC is not following rules then it is simply not worth risking losing our wildlife in which Inuit are very much dependent on.

**4. QIA Executive committee meeting Iqaluit, NU. Feb 6-8, 2012. Mary River Work Plan E-12-18**

- Reviewed by the committee.
- The committee asked to have an teleconference with the Igloolik people regarding this motion.
- Chairperson will contact QIA regarding this issue.

**5. Agenda Archeology information sessions- Igloolik and Pond Inlet. Review of Final Environment Impact Statement February 2012.**

- Reviewed the agenda
- Archeologists will have an open house on Feb. 22. 2012.
- One member says that the archeologists will have to take a look at the motion that was made by QIA.

**6. FEIS Baffinland Community visits tentative schedule.**

- Committee reviewed the schedule of the times that the BIMC will be visiting in each community. Pond Inlet to be visited on April 19, 20 and 21.
- One member suggested to have the Igloolik MRPC to come here when the caribou monitoring is taking place here in Pond Inlet since both Pond Inlet and Igloolik share the land and animals.

**7. Baffin Iron Mines Corporation Final Environmental Impact Statement February 2012.**

- Summary both in Inuktitut and English

**8. Adjournment**

6/29/2013

1.  $\mathcal{D}^c \mathcal{A}^b \mathcal{D}^c \wedge \mathcal{A}^c \mathcal{P} \mathcal{N}^c$  7:20  $\mathcal{D}^a \mathcal{D}^b \mathcal{D}^c$

[illegible]

በባለፉት ስምንት ዓመታት ስለሚኖረው ምን ዓይነት ለውጥ ተካሂዷል?

$$\Delta, \triangleright^{\mathfrak{q}} \bar{b} \subset {}^{\mathfrak{q}} \bar{b}^C \subset {}^{\mathfrak{q}} \bar{b}^{\mathfrak{q}} \bar{b} \triangleright \triangleleft^{\mathfrak{q}}.$$
[illegible][illegible]

ᐅᖃᐅᓯᕋᖃᖅᐱᐅᒐᑦᓂᖃᑲᑕ ᓴᑦ ᐱᐸᖃᖅᑐᓯ.

▷▷▷<sup>၂၃</sup> နဂါး▷▷▷▷▷:

- [illegible]

ከባለፈው ጊዜ ጀምሮ 4-5, 2012 ልማት ምክር ቤቱ

▷<sup>a</sup>▷▷▷▷<sup>a</sup>▷<sup>c</sup> 10:00 ▷<sup>a</sup>▷<sup>b</sup>▷<sup>c</sup> ▷<sup>b</sup>▷<sup>c</sup>▷<sup>c</sup> ▷▷▷▷<sup>c</sup>

በባለቤቱ ለሰው ልማት ምን ዓይነት አስተዳደር ይፈጽማል? ለምሳሌ ለሰው ልማት ምን ዓይነት አስተዳደር ይፈጽማል?

ከበሊጥ፡ ርሊፍፈረ፡ የዋና፡ኃ፡ ፍጥፍካላ፡ ለለልፍጥ፡ኃ፡ሊ፡ ልዋ፡ኃ፡ ፍካ፡ረ፡ኃ፡ ር፡ኃ፡  
ርሊ፡ኃ፡ፈ፡ኃ፡ፍ፡ ለፍ፡ኃ፡

[illegible][illegible][illegible]

በባሉ: ከፍተኛ ምርጫ ምክር ቤቱ ለፍትሕ?

[illegible]

**ፅባቢ:** የዋናው ምርት አሰራር ይለያይ ነው፡

[illegible]

ከበሊጥ፡ ልክልክል ጋረር(ሉሮኖ)ር ንግግረዋል? ሊጠራሉኝ? ሊጠራሉኝ  
ከጋረርዋል? ንግግረዋል? ንግግረዋል? ሊጠራሉኝ? ሊጠራሉኝ?

[illegible]

ቴቢሊት፡ ወጋጋረኛዎች ርዕሰ ኢህአዴግ ምክር ቤቱን?

[illegible][illegible]

ΛΔ<sub>0</sub>: Δ<sup>5</sup>b<sub>0</sub>Δ<sup>5</sup><sub>0</sub> ΔPσ<sup>5</sup>Δ<sub>0</sub>Δ<sup>5</sup><sub>0</sub> (Δ<sub>0</sub>Δ<sup>5</sup><sub>0</sub> Δ<sup>5</sup>(Δ<sup>5</sup>σ<sup>5</sup>b<sub>0</sub><sup>5</sup> Δ<sup>5</sup>b<sup>5</sup>Δ<sup>5</sup><sub>0</sub>Δ<sup>5</sup><sub>0</sub>).

[illegible][illegible][illegible][illegible]

ᐃᑦᐅᑦᑦᑦᑦ/ ᐃᐱᑦᐃᑦᑦᑦ ᑎᑎᑦᐅᑦ ᑦᑦᑦᑦ

[illegible]

ᐅᑭᐅᑦᑕᑕ/ᐃᐱᑭᐃᑕᑕ

[illegible][illegible]



ᓕᓕᓕᓕᓕᓕᓕᓕᓕ

KAVAMALIYIKKUT

Ministère de l'Exécutif et des Affaires Intergouvernementales

Department of Executive & Intergovernmental Affairs

---

February 27<sup>th</sup>, 2012

Li Wan  
Technical Advisor  
Nunavut Impact Review Board  
P.O. Box 1360  
Cambridge Bay, NU X0A 0H0

*via Email to: [info@nirb.ca](mailto:info@nirb.ca)*

**RE: NIRB 08MN053 – Baffinland Iron Mines Corp.'s (BIMC) 12.10.2(b) Exception Application for the proposed Mary River project.**

Dear Li Wan:

Thank you for the opportunity to provide comments on the information provided by Baffinland Iron Mines Corp.'s (BIMC) 12.10.2(b) Exception Application. The Government of Nunavut (GN) has reviewed the application and is supportive of the project subject to the NIRB regulatory process as laid out in the Nunavut Land Claim Agreement (NLCA).

The GN is of the view that approval of pre-development applications under Article 12.10.2 (b) of the NLCA will need to be granted in a manner that provides NIRB the flexibility to make any decision on the larger project.

The GN also has a number of comments, questions and concerns that can be found in the attached appendix.

We thank NIRB for providing the GN with the opportunity to review and provide comments regarding Baffinland Iron Mines Corp. 12.10.2(b) Exception Application and we look forward to receiving further information on this project. Please do not hesitate to contact our Avatiliriniq Coordinator, John Price at (867) 975-6071 if you have any questions or comments.

Qujannamiik,

Pauloosie Suvenga  
Assistant Deputy Minister





ᓕᓕᓕᓕᓕᓕᓕᓕ

KAVAMALIYIKKUT

Ministère de l'Exécutif et des Affaires Intergouvernementales

Department of Executive & Intergovernmental Affairs

---

## **APPENDIX**

### **Economic Development & Transportation**

The Department of Economic Development & Transportation (ED&T) has reviewed Baffinland's 12.10.2(b) application package and supporting documents. According to the proponent, the proposed activities will cause an additional footprint of ~27ha covering the 3 main project sites (4ha at Milne Inlet, 3ha at the Mine Site, and 20ha at Steensby Inlet). The proposed activities are in addition to already approved/permitted activities at the 3 project locations. The Department of ED&T understands that the following activities broadly summarize the proposed work:

- Ongoing exploration activity
- Geotechnical studies
- Environmental baseline work
- Upgrading the existing 40 person camp at Steensby and installing an additional 46 person camp with supporting camp facilities
- Staging and storage of explosives
- Staging and storage of fuel, including a fuel barge to be anchored in Steensby Inlet over the winter
- Staging of construction equipment

The proposed work is scheduled for May to October, 2012, with a majority of the additional activity located at Steensby Inlet.

The Department of ED&T offers the following comments on the proposed activities.

### **Socio-Economic Considerations**

The Department of ED&T wishes to remind the proponent that the Government of Nunavut expects mineral exploration and mining companies to use a Nunavut community as a logistical center for their operations (in accordance with Policy 3-1 of *Parnautit*, the Nunavut Mining Strategy). While the proposed work is for only 6 months (from May to October 2012), the GN encourages Baffinland to hire and train local residents and to utilize local businesses whenever possible.



ᓕᓕᓕᓕᓕᓕᓕᓕᓕ

KAVAMALIYIKKUT

Ministère de l'Exécutif et des Affaires Intergouvernementales

Department of Executive & Intergovernmental Affairs

---

### **Department of Environment**

The Department of Environment (DOE) has reviewed Baffinland Iron Mine's (the Proponent) second 12.10.2 exception application and supporting documentation in accordance with its mandate under the *Environmental Protection Act*, the *Wildlife Act* and the provisions of Nunavut Land Claims Agreement.

The DOE feels that the updated proposed scope of work is an appropriate level of work prior to the NIRB issuing a Project Certificate. The DOE would like to reiterate comments made from the review of the first 12.10.2 exception application regarding the lack of detail with proposed management plans. The 2012 Work Plan indicates that management plans have been developed to ensure that the commitments made by Baffinland will be respected (pg 8), but these plans are not included in the document or any appendices. The DOE requests that we be able to review these plans prior to start of the proposed activities.

### **Spill Contingency Issues**

The DOE acknowledges an updated draft Emergency Response and Spill Contingency Plan (ERP), which presents an overview of credible accidents and spill scenarios likely to occur during the 2012 Work Plan. There is minimal detail in the Work Plan Oil Pollution Emergency Plan for Steensby Port and the Emergency Response and Spill Contingency Plan regarding the over-wintering of the barge in Steensby Inlet.

The DOE would like to have clarified the amount of fuel to be stored in this barge. The 2012 Work Plan indicates that there will be 10 ML stored, while the Oil Pollution Emergency Plan (OPEP) for Steensby Port mentions 7 ML.

The DOE would encourage the Proponent to include additional spill response procedures detailing procedures for cleaning a potential spill from the iced in barge. The following questions should be answered before the start of the 2012 proposed activities:

1. Please explain how fuel ullage will be monitored;
2. Please indicate how precise this monitoring method is in determining fuel ullage and, further, if a leak were to develop in the barge, how much product will have escaped before the loss is detected;
3. Please describe how the Proponent intends to respond to spills on and under ice. This information could be included as an additional potential fuel spill scenario in the ERP

Within the OPEP, the Proponent has listed the legislated requirements for spill response, but has failed to list Spill Contingency Planning and Reporting Regulations under the Nunavut Environmental Protection Act, which applies to the entire territory of Nunavut. Please refer to these documents when finalizing any spill response plans and procedures.



ᓕᓄᓕᓕᓕᓕᓕᓕᓕ

KAVAMALIYIKKUT

Ministère de l'Exécutif et des Affaires Intergouvernementales

Department of Executive & Intergovernmental Affairs

---

## Wildlife Issues

Wildlife in Nunavut is a fundamental component of the culture, landscape, health of people, the environment, and Inuit Qaujimajatuqangit. The DOE has reviewed the 2012 Work Plan for the Proponents' effects analysis on wildlife and wildlife habitat and is in agreement with the Proponent's evaluation that the activities proposed in the 2012 Work Plan are not likely to result in significant negative effects to wildlife.

There are, however, aspects of the proposed Work Plan that the DOE is looking for an increased level of detail. The DOE asks that more detail is provided regarding the Effects Assessment before the commencement of these activities. Although the Proponent indicates that further baseline data will be collected, these studies are focused around assessing impacts "in future years" and do not address the immediate need to verify the effectiveness of efforts to mitigate the short term effects from the 2012 season. It is essential to have a detailed effects assessment for the proposed 2012 work, as this will not be included under any effects assessment in the FEIS.

The GN would like clarification to the current analysis of the Marine Aquatic Environment Effects Assessment before the Pre-Development Work begins this field season. Table 5-6 indicates that sealift and refueling ship activities are predicted to have minimal effects on marine mammal activity because "few mammals are present" at the anticipated time of activity. The DOE requests that the Proponent provide clarification on how this determination was reached.

The DOE reiterates that the Wildlife Management Plan be updated to incorporate species specific mitigation measures with a particular focus on seasonal sensitivity (e.g., calving, denning, den emergence, etc).

Additionally, the DOE reiterates that the Proponent should develop a specific management plan for encounters with predators. It is the GN's expectation that a revised Management Plan with the above suggestions be submitted and agreed to by the GN before the commencement of the pre-development work.

These management plans should make direct reference to the Nunavut Wildlife Act where possible to better acknowledge the GN's role as a regulator and demonstrate an awareness of the protection measures currently in place for wildlife and wildlife habitat.



Nunavut Regional Office  
P.O. Box 100  
Iqaluit, NU, X0A 0H0

February 24, 2012

Ryan Barry  
Executive Director  
Nunavut Impact Review Board  
P.O. Box 1360  
Cambridge Bay, NU, X0B 0C0  
Via electronic mail to: [info@nirb.ca](mailto:info@nirb.ca)

Dionne Filiatrault  
Executive Director  
Nunavut Water Board  
P.O. Box 119  
Gjoa Haven NU, X0B 1J0  
Via electronic mail to: [licensing@nunavutwaterboard.org](mailto:licensing@nunavutwaterboard.org)

**Re: Baffinland's New 2012 Application for NLCA 12.10.2(b) Exception and New Type B Water License Application**

Thank you for your letter of January 13, 2012 inviting us to comment on Baffinland's January 2012 application to the Nunavut Impact Review Board (NIRB) and the Nunavut Water Board (NWB) for certain project activities to proceed without a review, under section 12.10.2(b) of the *Nunavut Land Claims Agreement* (NLCA). This also included a new Type B water license related to these activities. AANDC has conducted reviews of the NLCA 12.10.2(b) and water license applications and would like to provide the following comments.

**Comments to NIRB**

AANDC's November 4<sup>th</sup> letter to NIRB regarding Baffinland's September 15<sup>th</sup> 12.10.2 (b) exception application contained comments on a suggested approach to the analysis of section 12.10.2 (b) of the NLCA, including comments regarding the evaluation of public and Inuit concerns, enforceability of terms and conditions relating to mitigation and monitoring of exempted activities, and bonding and security. These comments continue to be applicable to the current application, with the exception of the comments noting the exceptional scale of the proposed activities under a 12.10.2 (b) exception application, as this scale has now been considerably reduced. AANDC recommends that NIRB consider whether the nature of the proposed activities are that of a permanent core work, integral to the Project as a whole, or whether their character is ancillary, developmental and temporary. In the event that NIRB allows such activities to proceed without a review, the permanent or ongoing aspects of such works, including



design upgrades, expansion, intensified use, as well as their long term operation, existence and reclamation, should remain part of the overall Project review.

## **Review Comments**

AANDC is aware that Baffinland has reduced the scope of work in this new Mary River Project 2012 Work Plan as well as the project's temporal and spatial boundaries.

In terms of shipping activities, Baffinland indicates quantities of fuel and equipment to be brought to site in terms of "ship movements". It would be helpful if Baffinland could provide more specific information with respect to quantities of equipment, fuel and other chemical substances to be shipped to site, as well as quantities that will remain on site after the project ends in September 2012.

Given the limited scope of project activities, Baffinland has decided to utilize a qualitative methodology in assessing the potential environmental impacts. Baffinland has determined magnitudes of impact for most activities to be at level 1 (lowest) and the residual effects for all Valued Environmental Components (VECs) to be not significant. The assessment only includes the additional project activities that are in the new application for licenses or permits and did not include the activities permitted previously that will also be undertaken within the same project temporal and spatial boundaries. Information regarding these previously permitted ongoing activities cannot be found in the Cumulative Effects Assessment section.

Furthermore, although criteria for qualifiers are listed in Table 5-2 of the work plan, the uncertainty level for the assessment of each VEC has not been provided. This would provide us with an idea of the limitations and accuracy of the assessment results.

Although AANDC does not believe that the results would be different, the limitation in the methodology due to a lack of cumulative impact assessment and uncertainty levels is noted.

## **Comments to NWB**

Comments and recommendations provided here by AANDC regarding the scope and/or extent of proposed activities are subject to decision by the NIRB to allow for the exception, pursuant to Section 12.10.2(b) of the NLCA, for 2012 work in association with the Mary River Project. Pending the NIRB's approval of the application, AANDC recommends that the NWB undertake the water licence application process according to the NLCA.

The following comments/recommendations relate to the water licence application and are provided for the NWB's consideration.

## **Review Comments**



## 1. The scope of activities proposed in the water licence application

Baffinland's water licence application submission package consists of a Type B water licence application, the 2012 Work Plan, management plans, design drawings and supporting documents. Although not explicitly stated in the submitted application form, the activities being proposed are identified in the submitted 2012 Work Plan. More activities are described in sections 2 to 4 of the 2012 Work Plan than are listed in Table 1-1. It is recommended that a complete list of proposed activities additional to the existing water license be included in the summary table to simplify the review process and minimize confusion.

Baffinland's scope of activities for 2012 was scaled back from the previous application for pre-development works. The proposed 2012 Work Plan focuses on the installation of facilities already permitted under water licence 2BB-MRY1114 and the addition of facilities required to support ongoing exploration and geotechnical investigation activities associated with the Mary River Project. Most activities proposed in the new water licence application are within the scope of a Type B water licence with the exception of the following:

- Decommissioning of the fuel bladders is outside the scope of a new water licence since it is addressed in the existing water licence 2BB-MRY1114.
- Expansion of the sea based geotechnical investigation program is outside of the scope of a water licence as it should not affect freshwater resources. The Department Fisheries and Oceans (DFO) should be consulted on this matter.
- Use of a 10 ML fuel barge or vessel that will anchor and overwinter as Steensby Inlet is considered to be outside of the scope of a water licence because it is marine based. Transport Canada should be consulted in this matter.

## 2. The quantity of water requested in the water licence application

Baffinland requested the use of 80 m<sup>3</sup> of water per day, which is within the Type B licensing criteria for mining and milling undertakings under the *Northwest Territories Waters Regulations*. Of this amount, 30 m<sup>3</sup> will be for domestic consumption at the proposed 46-person Steensby camp and is to be drawn from 3 km Lake. Water balance schematics supporting the 2012 Work Plan, submitted with the December 2011 Site Surface Water and Aquatic Ecosystem Plan, do not describe how the requested water withdrawals will affect 3 km Lake.

The water supply being used to support up to 50 m<sup>3</sup> for geotechnical and industrial activities has not been clearly identified. It is recommended that the geotechnical and industrial operations requiring water be defined and their respective water sources identified.

It is further recommended that an analysis of drawdown effects be provided for proposed water sources, clearly identifying potential impacts to water quality and/or quantity on Inuit owned lands. The analysis should take into consideration cumulative impacts related to water use authorizations permitted under Baffinland's



existing water licence.

### **3. The term requested for the new licence**

Baffinland requested a four year licence term (April 2012 to April 2016). Considering that they are planning to have a Type A water licence for their Mary River Project before this new licence would expire and that the new Type B water licence would be incorporated into the Type A water licence, AANDC is not opposed to the requested term. It should be noted that if the Project Certificate is not granted, Baffinland will carry out necessary abandonment and reclamation procedures. If necessary, the term of the licence can be altered through a licence renewal application.

### **4. The appropriateness and adequacy of the environmental management plans and supporting information accompanying the application including design drawings and rationale for proposed facilities.**

After review of all management plans and supporting information associated with the water licence application, AANDC offers the following comments and recommendations:

#### **General Comments**

It is noted that a supplementary questionnaire was not included in the water licence application. AANDC recommends that a supplementary questionnaire be provided to the NWB, as it contains details that assist the review process including but not limited to the types and quantities of chemicals and fuel to be stored on site for the duration of the water licence.

#### **Management Plans**

It is noted that several of the management plans reference activities permitted under the existing 2BB-MRY1114 water licence. AANDC recommends that stand alone documents specific to the activities proposed in the new water licence application be provided to the NWB.

#### **Emergency Response and Spill Contingency Plan**

- Section 1.8: Please ensure that all updates and revisions to applicable plans are submitted to reflect on any ground changes.
- Sections 4.0, 4.1.2, 6.2.1.2, 7.0: Several sections either identify the Water Resources Officer as a primary contact for spill reporting or do not identify an AANDC contact at all. AANDC recommends and advises that all spills should be reported to the Nunavut Northwest Territories Spill Line and to the Manager of Field Operations at (867) 975-4295 and that all other references to AANDC representatives be removed from the document. It should also be noted that all spill reports should be included in annual reports.



- Section 4.3: AANDC recommends that training include knowledge of information contained within applicable Material Safety Data Sheets.
- Sections 6.1.1.1 and 6.1.1.2: Both sections refer to an Environmental Protection Plan which could not be located in the application package. AANDC recommends that these plans be submitted to the NWB.
- Section 6.3.1.1: No spill response procedures are available for sewage spills at either Milne Port or Steensby Inlet. AANDC recommends that a spill response be included in the table.
- Section 6.3.1.3: Baffinland states that the distance and direction to the closest body of water depends on the location of the accident. AANDC would appreciate more detail and recommends that best and worst case scenarios be included in the table.
- Relevant MSDS of hazardous materials used onsite were not located in Annex 5 of the plan as indicated in the Table of Contents, nor was it located as a separate document in the water licence application. AANDC recommends that the MSDS of hazardous materials listed in Annex 4 of the plan be provided to the NWB,
- AANDC recommends that the plan include a spill kit equipment list (as included within the Oil Pollution Emergency Plans) and a list of all spill kit locations. These spill locations should be identified on a map along with all locations where fuel and/or chemicals are stored. It is also recommended that spill containment kits be located on fuel trucks.

#### Oil Pollution Emergency Plans (OPEP) for Milne Port and Steensby Port

- These plans are considered to be outside the scope of a water licence as they address the management of hazardous materials in a marine environment.
- Section 4.3.1: The Steensby Inlet OPEP indicates the presence of a hunting camp in Steensby Inlet which is not considered in other plans. AANDC recommends that measures be taken to ensure that the camp is not affected by any spill at Steensby Inlet and that communities in the area continue to be consulted regarding any sensitive cultural areas in Steensby Inlet and within the boundaries of the Mary River Project.

#### Site Surface Water and Aquatic Ecosystem

- Sections 5.1.2, 5.2.2, and 5.3.2: The main sites are not expected to have significant areas of disturbed soils, but sites will be regularly monitored and if required, mitigation measures will be selected and installed. AANDC recommends that the plan include a threshold to indicate when mitigation measures will be considered.

#### Freshwater Supply, Sewage and Wastewater Management Plan

- Water supply and effluent discharge monitoring program locations along with associated monitoring details (e.g., frequency of data collection, water consumption, and effluent discharge criteria) should be provided pending the issuance of a water licence.





### Waste Management Plan

- AANDC recommends that any incineration of waste be carried out in accordance with Environment Canada's Technical Document for Batch Waste Incineration.

### Landfarm Operations, Maintenance, and Monitoring Plan (included in Waste Management Plan)

- The submitted Landfarm Operations, Maintenance, and Monitoring Plan is specific to the proposed Milne Inlet landfarm which is within the scope of the submitted water licence application. Pending the NWB's approval of this application, this plan should be finalized to include applicable water licence terms and conditions.
- Section 7.1: It is indicated that soils will only be tested for metals prior to acceptance and not at end of reclamation. AANDC recommends that the soils be tested prior to acceptance and at the end of treatment as a precautionary measure.
- The use of reclaimed water for landfarm treatment operations is suggested in Section 5.2. Should water be recycled from treated wastewater or sludge, AANDC recommends that the recycled water demonstrate that it meets all criteria (including additional discharge parameters) set by the NWB.
- The submitted plan does not specify where treated soils will be placed. This information should be provided in a revised plan.

### Borrow Pit and Quarry Management Plan

- AANDC recommends that all borrow pits and quarries be licensed by the NWB. Clarification is required as to whether the Mary River Quarry will be licensed under the existing water licence or the new licence. Should the quarry be included in the new water licence, AANDC recommends that terms and conditions regarding water management be applied accordingly.

### Explosives Management Plan

- AANDC recommends that a Site Specific Spill Response Plan and Training document should be developed to include Ammonium Nitrate (AN) and any other products and/or by-products associated with the use and/or manufacturing of explosives for each of the sites involved.
- Section 1.4: Baffinland states that a detailed Emergency Response Plan (ERP) will be prepared during development of the project. AANDC recommends that before any use, other than storage, of the explosive material the proponent should confirm and supply to the NWB the approved site specific ERP for the handling, use, disposal, etc. of any explosive materials on site.

### Addendum to 2011 Abandonment and Reclamation Plan in Support of the 2012 Work Plan

The total reclamation cost estimate submitted by Baffinland was \$9,924,629.00. Upon review of the above-referenced addendum, AANDC recommends the following:



- The Abandonment and Reclamation (A&R) Plan should exist as a stand alone document, specific to the proposed Type 'B' water licence, and be developed in accordance with AANDC's 2002 *Mine Site Reclamation Policy for Nunavut* and 2007 *Mine Site Reclamation Guidelines for the Northwest Territories*. Should the Project Certificate not be granted, AANDC would require the implementation of closure activities to mitigate potential environmental liabilities.
- The stand-alone A&R Plan should include detailed monitoring provisions for progressive reclamation, temporary suspension, and final closure scenarios. Costs associated with these monitoring provisions should be explained within the reclamation cost estimate.
- The model used to calculate the reclamation cost estimate should be identified. The model should be an established, recognized model such as RECLAIM or some other appropriate model.
- The A&R Plan and reclamation cost estimate details should be completed and stamped by a professional engineer licensed in Nunavut with expertise in earthworks and reclamation.
- Rationale should be provided with the A&R Plan and the reclamation cost estimate.
- It is recommended that Baffinland submit an updated reclamation cost estimate and A&R Plan every three years along with any additional security that may be required in accordance with the updated plan.

### **Drawings and Supplementary Information**

The following drawings are not considered to be within the scope of the new water licence application:

- Mine Site Fuel System Rail Offload Tank Farm
- Mine Site Rail Offload Tank Farm Dyke Sections
- Mine Site Rail Offload Tank Farm Tank Pad Details
- Mine Site Rail Offload Tank Farm Typical Dyke Sections

All design drawings and maps submitted with the application are stamped by an engineer and appear to be complete with the exception of a preliminary drawing of the Milne Inlet Hydrocarbon Impacted Soils Storage and Landfarm Facility (Drawing E337697-000-07-126-0001). AANDC recommends that this design drawing be stamped by a professional engineer and submitted to the NWB prior to construction of the landfarm in Milne Inlet.

### **Rationale for Proposed Facilities**

The rationale for the facilities proposed in BIMC's 2012 Work Plan is appropriate to the scope of their Type B water licence application.



Aboriginal Affairs and  
Northern Development Canada

Affaires autochtones et  
Développement du Nord Canada

AANDC appreciates the opportunity to provide comments and we look forward to continuing our participation throughout the review of the Mary River project. If you have any questions or concerns, please do not hesitate to contact Margaux Brisco at (867) 975-4549 or [margaux.brisco@aandc-aadnc.gc.ca](mailto:margaux.brisco@aandc-aadnc.gc.ca).

Sincerely,

Robin Aitken  
Regional Director General



Environment Canada  
Environnement Canada

Environmental Protection Operations  
P.O. Box 2310  
5019 – 52nd St,  
Yellowknife, NT  
X1A 2P7

27 February 2012

*Our file: 4703 003 018  
NIRB File: 08MN053  
NWB file: 2BE-MRY*

Ryan Barry  
Executive Director,  
Nunavut Impact Review Board  
P.O. Box 1360  
Cambridge Bay,  
NU X0B 0C0 NU  
Via email: [info@nirb.ca](mailto:info@nirb.ca)

Phyllis Beaulieu  
Manager of Licensing  
Nunavut Water Board  
P.O. Box 119  
Gjoa Haven,  
X0B 1J0  
Via email: [licensing@nunavutwaterboard.org](mailto:licensing@nunavutwaterboard.org)

**Re: Technical Review of Application for NLCA 12.10.2(b) Exception and Type B Water licence for pre-development work associated with Baffinland Iron Ore Corporation's Mary River Project (NIRB: 08MN053).**

Environment Canada (EC) would like to thank the Nunavut Impact Review Board (NIRB) and Nunavut Water Board for the opportunity to comment on Baffinland's NLCA 12.10.2(b) and Type B water licence applications; we hope that these comments and recommendations are useful.

Further EC appreciates that the proponent responded to the input that parties provided regarding Baffinland's 2011 pre development work application. EC is pleased to see that the 2012 workplan has been scaled back to focus on staging and related activities.

#### **General Comments:**

1. EC does not consider premeditated bulk fuel storage on barges in landfast ice to be a best practice. The freeze-in storage of fuel in this manner presents a higher degree of risk of accidents and could result in significant negative environmental effects should the integrity of a barge's tanks be compromised by the surrounding ice. As well, fuel barges are designed, licensed and regulated to transport fuel, not to be frozen in as long-term bulk storage facilities.

However, if freezing in a fuel barge is unavoidable the proponent should ensure that comparable safeguards are in place as would be required if the fuel was to be stored on land. More specifically the proponent should ensure that: secondary containment will be in place; a spill contingency plan has been developed; and appropriate spill response equipment will be on hand. Furthermore it is incumbent upon the proponent to ensure that the vessel is appropriate for the purpose and that the site selected for anchoring the barge is suitable such that the spring breakup of the ice is predictable (i.e. the ice and current regimes are understood).

2. While EC understands that Shipboard Oil Pollution Emergency Plans (SOPEPs) are the responsibility of the ship operators, EC recommends that the proponent ensure that the SOPEPs

**Canada**

applicable to the overwintering fuel vessel(s) cover the conditions and risks the vessel is likely to encounter.

#### Specific Comments:

1. Baffinland's 2012 Work Plan involves undertaking activities that will create new areas of disturbance at Milne Inlet (up to 4 ha), the Mine Site (up to 3 ha) and Steensby Inlet (up to 20 ha). It is anticipated that activities may commence as early as May 2012 and will be completed by October 2012.

Section 6 (a) of the *Migratory Birds Regulations* states that no one shall disturb or destroy the nests or eggs of migratory birds.

The inadvertent, though reasonably predictable, disturbance or destruction of migratory bird nests and eggs by activities such as clearing vegetation, is known as "incidental take". Under the *Migratory Birds Convention Act, 1994* and associated regulations, EC cannot issue a permit to authorize the disturbance or destruction of nests in circumstances of incidental take. Proponents are thus responsible for implementing appropriate mitigative measures to ensure that they comply with the legislation and regulations and minimize the risk to migratory birds.

EC recommends the following measures to help ensure that the Proponent remains in compliance with the *Migratory Bird Regulations*:

- Ensure that you are aware of and understand the relevant provisions of the *Migratory Birds Convention Act, 1994* and the *Migratory Bird Regulations*;
- Avoid engaging in potentially destructive or disruptive activities during key periods - including the breeding period - in order to reduce the risk of nest destruction or disturbance;
- Determine the presence of migratory birds and their nests before activities are carried out using a scientifically sound approach.

For further information on EC's approach to managing incidental take please visit the following website:

<http://www.ec.gc.ca/paom-itmb/default.asp?lang=En&n=1AC34678-1>

In the northern Arctic region of the Northwest Territories and Nunavut, migratory birds may be found incubating eggs from May 31<sup>st</sup> until August 4<sup>th</sup>, and young birds can be present in the nest until August 28<sup>th</sup>.

On Page 22 of the 2012 Work Plan, Baffinland indicated they will conduct nest searches prior to conducting activities and will avoid known nests or nesting areas. EC recommends that all crew members should be trained on how to recognize signs that a bird might be nesting in the area. If an active nest is found, the area should be avoided until nesting is completed (i.e. the young have left the vicinity of the nest).

An appropriate sized buffer should be used to prevent flushing nesting birds. Flushing birds from the nest can increase the risk of predation of the eggs or young, or may cause the parent bird to abandon its nest. The following setback distances are recommended to minimize disturbance to nests for different bird groups nesting in tundra habitat (see footnotes for adjustments to setbacks for sensitive species and species at risk):

Species Group	Pedestrians /ATVs (m)	Roads / Construction / Industrial Activities (m)
---------------	-----------------------	-----------------------------------------------------

Songbirds	30	100
Shorebirds	50 <sup>a</sup>	100 <sup>a</sup>
Terns/Gulls	200 <sup>b</sup>	300 <sup>b</sup>
Ducks	100	150
Geese	300	500
Swans/Loons/Cranes	500	750

<sup>a</sup> If project activities are within the breeding ranges of American Golden Plover or Ruddy Turnstone, these setbacks should be increased to 150 m for Pedestrians/ATVs and 300 m for Roads/Construction/Industrial Activities respectively. If project activities are within the breeding ranges of Black-bellied Plover, Whimbrel or Redknot (a Species at Risk), these setbacks should be increased to 300m for Pedestrians/ATVs and 500m for Roads/Construction/Industrial Activities. If field crew are trained in the identification of these species then these higher setbacks need only apply to these more sensitive species, and lower setbacks can be used for the remaining shorebird species. In areas where several species are nesting in proximity, setbacks for the most sensitive species should be used.

<sup>b</sup> If project activities are in proximity to breeding colonies of Ross's Gull (a Species at Risk) these setbacks should be increased to 500m Pedestrians/ATVs and 750m for Roads/Construction/Industrial Activities. For Ivory Gull (a Species at Risk) a buffer of 2 km around breeding colonies should be used for all activities.

2. EC recommends that food, domestic wastes, and petroleum-based chemicals (e.g., greases, gasoline, glycol-based antifreeze) be made inaccessible to wildlife at all times. Such items can attract predators of migratory birds such as foxes, ravens, gulls, and bears. Although these animals may initially be attracted to the novel food sources, they will often also eat eggs and young birds in the area. These predators can have significant negative effects on the local bird populations.

Several inconsistencies were noted in sections of Baffinland's 2012 Work Plan and Waste Management Plan, for example:

- Page 8 of the 2012 Work Plan states that "Solid waste generated at Steensby will be stored temporarily at the Steensby site and transported off-site as required for disposal" but Section 5.3.1.3 - Atmospheric Environment of 2012 Work Plan suggests that waste will be treated on-site when it includes incineration of domestic waste as a potential impact on air quality at Steensby Inlet; These two sections conflict and there is no mention of installing an incinerator at Steensby for the 2012 program.

EC suggests that Baffinland clarify the following and update the waste management plan accordingly:

- What types of containers/facilities will be used to store domestic wastes, food wastes, non-combustible solid wastes, and waste oils/lubricants at the Steensby site before being shipped off-site?
  - By what means, how often and where will wastes be shipped for processing?
  - Will an incinerator be installed at the Steensby site for the 2012 program?
3. The waste management plan (document # H337697-7000-07-126-0001) that was referred to in Attachment 8 (index of management plans) is not up-to-date with the revised 2012 Work Plan as it still refers to a floating camp at Steensby Inlet in section 5.1.3 (pg. 12) of this document. The waste management plan should be updated to reflect this.
  4. EC would like to take this opportunity to highlight that Section 5.1 of the *Migratory Birds Convention Act* prohibits persons from depositing substances harmful to migratory birds in waters or areas frequented by migratory birds or in a place from which the substance may enter such waters or such an area.
  5. The proponent should also note that marine birds are vulnerable to oil spills and to pollution of their feeding areas. EC recommends that the proponent consider what steps would be taken to protect wildlife (including marine birds) in the event of a spill. This information could be incorporated into an existing emergency response and/or spill response plan. This could include a list of measures to

be used and the equipment available to keep wildlife out of spill contaminated areas; a listing of measures that would be taken if animals come in contact with the spill; and a framework of when such procedures should be used. Having this information outlined ahead of time not only benefits wildlife, but also gives clear direction to the field crew on what to do in a spill situation if wildlife is nearby.

6. Page 22 of the 2012 Work Plan description states that, to the extent possible, Baffinland will develop appropriate aircraft approach and departure flight paths to mitigate indirect habitat loss from aircraft disturbance. EC notes that such flight paths have not yet been developed and are not specified in the 2012 Work Plan description.

In order to reduce aircraft disturbance to migratory birds, EC recommends the following:

- Fly at times when few birds are present (e.g., early spring, late fall, winter)
- If flights cannot be scheduled as suggested above, flight paths should be planned to minimize flights over habitat likely to have birds and maintain a minimum flight altitude of 650 m (2100 feet).
- Minimize flights during periods when birds are particularly sensitive to disturbance such as migration, nesting, and moulting.
- Plan flight paths to avoid known concentrations of birds (e.g., bird colonies, moulting areas) by a lateral distance of at least 1.5 km. If avoidance is not possible, maintain a minimum flight altitude of 1,100 m (3,500 feet) over areas where birds are known to concentrate.
- Avoid the seaward side of seabird colonies and areas used by flocks of migrating waterfowl by 3 km.
- Avoid excessive hovering or circling over areas likely to have birds.
- Inform pilots of these recommendations and areas known to have birds.

7. The following comments are pursuant to the *Species at Risk Act* (SARA), which came into full effect on June 1, 2004. Section 79 (2) of SARA states that during an assessment of project effects, adverse effects on listed wildlife species and on their critical habitat must be identified; measures must be taken to avoid or lessen those effects; and the effects must be monitored. This section applies to all species listed on Schedule 1 of SARA. However, as a matter of best practice, EC suggests that species on other Schedules of SARA and under consideration for listing on SARA, including those designated as at risk by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), be considered during an environmental assessment in a similar manner. The Table below lists species that may be encountered in the project area that have been assessed by COSEWIC as well as their current listing on Schedules 1-3 of SARA (and designation if different from that of COSEWIC). Project impacts could include species disturbance and attraction to operations.

Terrestrial Species at Risk <sup>1</sup>	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility <sup>2</sup>
Ivory Gull	Endangered	Schedule 1	EC
Ross's Gull	Threatened	Schedule 1	EC
Harlequin Duck (Eastern population)	Special Concern	Schedule 1	EC
Peregrine Falcon ( <i>tundrius</i> subspecies)	Special Concern ( <i>anatum-tundrius</i> complex <sup>3</sup> )	Pending	Government of Nunavut

Short-eared Owl	Special Concern	Pending	Government of Nunavut
Red Knot ( <i>rufa</i> subspecies)	Endangered	Pending	EC
Red Knot ( <i>islandica</i> subspecies)	Special Concern	Pending	EC
Polar Bear	Special Concern	Schedule 1	Government of Nunavut
Wolverine (Western population)	Special Concern	Pending	Government of Nunavut

1 The Department of Fisheries and Oceans has responsibility for aquatic species.

2 Environment Canada (EC) has a national role to play in the conservation and recovery of Species at Risk in Canada, as well as responsibility for management of birds described in the *Migratory Birds Convention Act* (MBCA). Day-to-day management of terrestrial species not covered in the MBCA is the responsibility of the Territorial Government. Populations that exist in National Parks are also managed under the authority of the Parks Canada Agency.

3 The *anatum* subspecies of Peregrine Falcon is listed on Schedule 1 of SARA as threatened. The *anatum* and *tundrius* subspecies of Peregrine Falcon were reassessed by COSEWIC in 2007 and combined into one subpopulation complex. This subpopulation complex was listed by COSEWIC as Special Concern.

- For any Species at Risk that could be encountered or affected by the project, the proponent should note any potential adverse effects of the project to the species, its habitat, and/or its residence. All direct, indirect, and cumulative effects should be considered. Refer to species status reports and other information on the Species at Risk registry at [www.sararegistry.gc.ca](http://www.sararegistry.gc.ca) for information on specific species.
  - If Species at Risk are encountered or affected, the primary mitigation measure should be avoidance. The proponent should avoid contact with or disturbance to each species, its habitat and/or its residence.
  - Monitoring should be undertaken by the proponent to determine the effectiveness of mitigation and/or identify where further mitigation is required. At a minimum, this monitoring should include recording the locations and dates of any observations of Species at Risk, behaviour or actions taken by the animals when project activities were encountered, and any actions taken by the proponent to avoid contact or disturbance to the species, its habitat and/or its residence. This information should be submitted to the appropriate regulators and organizations with management responsibility for that species as requested.
  - For species primarily managed by the Territorial Government, the Territorial Government should be consulted to identify other appropriate mitigation and/or monitoring measures to minimize effects to these species from the project.
  - Mitigation and monitoring measures must be taken in a way that is consistent with applicable recovery strategies and action/management plans.
8. All mitigation measures identified by the proponent, and the additional measures suggested herein, should be strictly adhered to in conducting project activities. This will require awareness on the part of the proponents' representatives (including contractors) conducting operations in the field. EC recommends that all field operations staff be made aware of the proponents' commitments to these mitigation measures and provided with appropriate advice/training on how to implement these measures.
9. Implementation of these measures may help to reduce or eliminate some effects of the project on migratory birds and Species at Risk, but will not necessarily ensure that the proponent remains in compliance with the *Migratory Birds Convention Act*, *Migratory Birds Regulations*, and the *Species at Risk Act*. The proponent must ensure they remain in compliance during all phases and in all undertakings related to the project.



10. If incineration is to be used as a waste management option, the Proponent should follow the guidance on appropriate equipment and best management practices provided in the EC Technical Document for Batch Waste Incineration available at:  
<http://www.ec.gc.ca/gdd-mw/default.asp?lang=En&n=F53EDE13-1>.

**11. Hazardous Materials Management**

Under Section 4.2, EC notes that up to 3,000 tonnes of ammonium nitrate will be stored in 1 tonne tote bags placed within seacan containers. As a best management practice, EC recommends the seacans containing ammonium nitrate be placed within secondary containment, such as self-supporting insta-berms, to ensure no escape of ammonium nitrate in the event a seacan is punctured or tipped over.

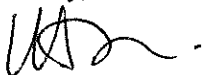
**12. Baseline Sampling**

As indicated in Section 6.1 of the workplan, Baffinland intends to collect additional surface water and sediment quality baseline data to inform future aquatic effects monitoring design. EC is pleased that the reduced scale of pre-development works will allow the Proponent to collect more baseline water and sediment quality data over the next 2 field seasons. In particular, EC encourages Baffinland to take advantage of this opportunity to select and sample reference sites in the Project area, including identifying and sampling reference sites that will be compatible with each anticipated point of discharge subject to the Metal Mining Effluent Regulations. To that end, since marine discharges are expected during the life of the project, EC recommends the Proponent expand its baseline water and sediment quality collection to the marine environment. Furthermore EC encourages the proponent to take advantage of the next two field seasons to strengthen their baseline data along the two transportation corridors. As noted in earlier submissions, EC encourages the proponent to intensify sampling along the railway and road in locations that are outside the influence of proposed camps. The purpose of this sampling is to characterize the natural variability of water quality parameters so impacts associated with the transportation corridors can be identified when construction and operation activities commence. As always, EC is willing to review the Proponent's sampling plans as they become available.

13. Section 3.2.1.6 of the Emergency Response and Spill Plan indicates that if a persistent interruption in sewage disposal arises due to plant inoperability "an emergency or alternate disposal plan will be developed in consultation with applicable government agencies". EC suggests that this plan should be developed ahead of time to ensure that back-up procedures are available for implementation when needed.

If you require clarification of any of the above, please contact Mark Dahl at (204) 983 4815 or via email at [mark.dahl@ec.gc.ca](mailto:mark.dahl@ec.gc.ca).

Sincerely,



Lorna Hendrickson  
A/Manager  
Environmental Assessment and Marine Programs  
Environmental Protection Operations  
Prairie and Northern Region  
Environment Canada

cc. Cheryl Baraniecki, Regional Director, Environmental Protection Operations, Prairie and Northern Region  
Carey Ogilvie, Head, Environmental Assessment North (NT & NU)  
Environment Canada Mary River Review Team



1500 Paris Street  
Unit 11  
Sudbury, Ontario  
P3E 3B8

February 27, 2012

*Your file                  Votre référence*

*Our file                  Notre référence*  
07-HCAA-CA7-00050

Mr. Li Wan  
Technical Advisor  
Nunavut Impact Review Board  
29 Mitik P. O. Box 1360  
Cambridge Bay, Nunavut  
X0A0C0

*Sent via email*

Dear Mr. Wan:

**Subject: Baffinland's January 2012 Application for NLCA 12.10.2(b) Exception and new Type B Water Licence Application to the Nunavut Water Board.**

Fisheries and Oceans Canada (DFO) received the Nunavut Impact Review Board's (NIRB) letter dated January 13, 2012 regarding Baffinland's January 2012 Application for NLCA 12.10.2(b) Exceptions and the Nunavut Water Board's (NWB) new Type B Water Licence Application in support of the Mary River Project.

The proposal has been reviewed to determine whether it is likely to result in impacts to fish and fish habitat which are prohibited by the habitat protection provisions of the *Fisheries Act* or those prohibitions of the *Species at Risk Act* that apply to aquatic species. DFO has taken into consideration the questions posed by the NIRB and the NWB within the context of our mandate and regulatory responsibilities.

**NLCA 12.10.2(b) Exception:**

1. DFO has the following concerns with the conclusions in the 12.10.2 (b) application package regarding the environmental impacts, proposed mitigation, significance of impacts and the reasons which support this determination:
  - a. Baffinland has proposed a new water intake structure at 3km Lake, however no mitigation measures are proposed for the installation and operation of the new water intake at 3km Lake.
    - i. DFO recommends that the proponent follow the "DFO Freshwater Intake End f Pipe Guidelines, (1995)" to mitigate fish mortality which may be caused by impingement or entrainment of fish on the intake structure. These guidelines can be found at the following website <http://www.dfo-mpo.gc.ca/habitat/role/141/1415/14155/pipe/index-eng.asp>.

- ii. Further, the following measures should be incorporated into the plan to reduce impacts to fish habitat:
  - 1. Time the installation of the water intake according to the Nunavut In-Water Construction Timing Windows (<http://www.dfo-mpo.gc.ca/regions/central/habitat/os-eo/provinces-territoires-territoires/nu/os-eo21-eng.htm>)
  - 2. Isolate any in-water trench work to contain suspended sediment and prevent it from entering the surrounding waters.
  - 3. Sediment and erosion control measures should be implemented prior to work and maintained during the work phase, to prevent entry of sediment into the water or the movement of re-suspended sediment into the lake.
  - 4. Sediment and erosion controls measures should be left in place until all disturbed areas have been stabilized.
  - 5. All disturbed areas should be stabilized and re-vegetated as required upon completion of work.
  - 6. Only clean material free of fine particulate matter shall be placed in the water.
- b. As DFO noted during our technical review of the Draft Environmental Impact Statement (DEIS), there is limited baseline data on marine mammals in Foxe Bain and Hudson Strait that has resulted in a higher level of uncertainty in the impact predictions associated with the project. Although the marine shipping associated with this application is significantly reduced, DFO notes that there is no mitigation measures or monitoring proposed for the marine shipping (sealift and fuel delivery) and marine geotechnical drilling components of the proposal.
  - i. DFO recommends that the following mitigation and monitoring elements be further developed and implemented for the marine shipping associated with this application:
    - 1. The inclusion of a monitor to observe for marine mammals along the shipping route, i.e. Marine Mammal Observer;
    - 2. Maintain a constant route that avoids known sensitive areas for marine mammals; and,
    - 3. Maintain a constant speed to reduce noise levels and reduce speeds to 18.5 km/h (10 knots) in areas having concentrations of marine mammals.
- 2. DFO feels that appropriate methodology has been utilized in the 12.10.2 (b) application package to develop conclusions and does not have any additional concerns with the methodology.
- 3. DFO does not have issue with the quality and presentation of the information in the 12.10.2(b) application package.
- 4. DFO has noted that the scope of proposed pre-development works has been greatly reduced in the new application. Therefore, DFO does not have concerns regarding the

extent and permanence of the proposed infrastructure or the reversibility of the potential impacts.

5. It is DFO's opinion that the approval of the works proposed in Baffinland's January 2012 Application for NLCA 12.10.2 (b) Exceptions will not have the effect or appearance of fettering any further or final decision by the Board relating to the larger project under review.

**Type B Water Licence Application:**

DFO has also reviewed the NWB new Type B water licence application and has the followings comments as they relate to the protection of fish and fish habitat:

1. DFO does not have a concern with the scope of activities proposed in the water licence application or the term requested for the new licence.
2. DFO has reviewed the management plans submitted with the application and feels they are generally adequate to prevent negative impacts to fish and fish habitat. However, DFO was not able to verify the conceptual water intake drawing (Attachment 5 drawing # E337697-0000-07-042-0001) referenced in section 13 of the water licence application, nor the measures to reduce the impacts impacts to fish and fish habitat associated with the installation and operation of the water intake.
  - a. DFO requests a copy of the water intake drawing be submitted for review prior to construction.
  - b. DFO recommends that the "DFO Freshwater Intake End of Pipe Guidelines (1995)" be incorporated into the design of the intake structure to mitigate fish mortality which may be caused by impingement or entrainment of fish on the intake structure. These guidelines can be found at the following website <http://www.dfo-mpo.gc.ca/habitat/role/141/1415/14155/pipe/index-eng.asp>.
  - c. Further, the following measures should be incorporated into the plan to reduce impacts to fish habitat:
    - i. Time the installation of the water intake according to the Nunavut In-Water Construction Timing Windows (<http://www.dfo-mpo.gc.ca/regions/central/habitat/os-eo/provinces-territoires-territoires/nu/os-eo21-eng.htm>)
    - ii. Isolate any in-water trench work to contain suspended sediment and prevent it from entering the surrounding waters.
    - iii. Sediment and erosion control measures should be implemented prior to work and maintained during the work phase, to prevent entry of sediment into the water or the movement of re-suspended sediment into the lake.
    - iv. Sediment and erosion controls measures should be left in place until all disturbed areas have been stabilized.
    - v. All disturbed areas should be stabilized and re-vegetated as required upon completion of work.

- vi. Only clean material free of fine particulate matter shall be placed in the water

DFO appreciates the opportunity to participate in the review of Baffinland's NLCA 12.10.2(b) Exception Application and new Type B Water Licence Application for the Mary River Project.

Should you have any questions or require further clarification regarding DFO's comments, please contact me directly by telephone at (705) 522-9909 or by e-mail at [Derrick.Moggy@dfo-mpo.gc.ca](mailto:Derrick.Moggy@dfo-mpo.gc.ca).

Yours sincerely,



Derrick Moggy  
Habitat Team Leader, Eastern Arctic Area

copy	Eric Kan	Fisheries and Oceans Canada
	Bev Ross	Fisheries and Oceans Canada
	Georgina Williston	Fisheries and Oceans Canada



Transport  
Canada

Transports  
Canada

P.O. Box 8550  
3<sup>rd</sup> Floor, 344 Edmonton Street  
Winnipeg, Manitoba  
R3C 0P6

Your file / Votre référence  
08MN053

Our file / Notre référence  
7075-70-1-73

February 27, 2012

Ryan Barry  
Executive Director  
Nunavut Impact Review Board (NIRB)  
P.O. Box 1360  
Cambridge Bay, NU, X0B 0C0

**Re: Request for Public Comment Received Regarding Baffinland's January 2012  
Application for NLCA 12.10.2(b) Exceptions**

Dear Mr. Barry,

Transport Canada received the Nunavut Impact Review Board (NIRB) letter dated January 13<sup>th</sup>, 2012 which outlined a new application from Baffinland Iron Mines Corporation (Baffinland) in support of the Mary River Iron Ore project proposal and a request for comments regarding determinations of proposed infrastructure, activities and review of the water license application. The Baffinland application was submitted for consideration of proposed activities as possible allowable exceptions to the NIRB's review of the project, as pursuant to Section 12.10.2(b) of the *Nunavut Land Claims Agreement*. Transport Canada appreciates the opportunity to respond to this NIRB request and offers comments on this application that pertain to our marine safety mandate.

Currently, there are no specific Transport Canada (TC) regulatory prohibitions on over-wintering barges that serve as bulk fuel storage. There are, however, regulations under the *Canada Shipping Act, 2001* and the *Arctic Waters Pollution Prevention Act* that the vessel owner must follow. These regulations are designed to ensure that fuel is stored and transported safely and apply whether barges/vessels are anchored or transiting a waterway.

Transport Canada – Marine Safety advises that the proponent take the following actions:

- Share the above information with the permitting agency;
- Develop a risk-based case to the authorizing government department for an alternate / temporary arrangement;
- Consult the Government of Nunavut, the Nunavut Impact Review Board, any potentially impacted communities, the Nunavut Tunngavik Inc., Environment Canada, and Aboriginal Affairs and Northern Development Canada in order to understand concerns and any other regulatory parameters surrounding the practice in the area.

Canada 

- Carry out a spill risk analysis with considerations given to any/all sensitive species and special environmental / oceanographic conditions in the area. An engineering study looking at ice movement, ice pressures, lateral hull strength, and a mooring plan should also form the basis for the spill risk analysis.
- Provide analysis on utilizing either land-based or barge-based storage and identify with justification which form of storage will be undertaken.

Transport Canada would like to specifically draw your attention to the following 'best practices':

- Development of an enhanced spill contingency plan, with spill clean-up materials on hand, given the time for Canadian Coast Guard (CCG) to respond mid-winter and the challenge of response should oil get into the sea ice.
- Maintenance and tank monitoring plan.
- Developing and adopting safe fuel transfer procedures, to minimize spills from tanker trucks and pumping operations.
- Strong consideration should be given to utilizing a double-hulled vessel, designed to operate within the arctic environment. It is important to point out that recently a mining operation in the Keewatin District chose to use a modern double hull tanker in lieu of a barge for the 2010 winter.

Transport Canada - Marine Safety will require review and advisement on the required Oil Pollution Emergency Plans (OPEP), as they are compiled. At this time, Transport Canada will review the regulatory guidelines in an effort to provide direction for the respective practices of overwintering and inform the NIRB of the progress of these updates as they become available.

Should you have any questions regarding Transport Canada's comments concerning this project, please contact me via email at [john.cowan@tc.gc.ca](mailto:john.cowan@tc.gc.ca) or by telephone at (204) 983-1139.

Regards,



John Cowan  
Environmental Affairs

cc: Jaideep Johar, TC – Marine Safety

## Appendix C

### Species At Risk in Nunavut

This list includes species listed on one of the Schedules of SARA (*Species at Risk Act*) and under consideration for listing on Schedule 1 of SARA. These species have been designated as at risk by COSEWIC (Committee on the Status of Endangered Wildlife in Canada). This list may not include all species identified as at risk by the Territorial Government.

- Schedule 1 is the official legal list of Species at Risk for SARA. SARA applies to all species on Schedule 1. The term “listed” species refers to species on Schedule 1.
- Schedule 2 and 3 of SARA identify species that were designated at risk by the COSEWIC prior to October 1999 and must be reassessed using revised criteria before they can be considered for addition to Schedule 1.
- Some species identified at risk by COSEWIC are “pending” addition to Schedule 1 of SARA. These species are under consideration for addition to Schedule 1, subject to further consultation or assessment.

Schedules of SARA are amended on a regular basis so it is important to periodically check the SARA registry ([www.sararegistry.gc.ca](http://www.sararegistry.gc.ca)) to get the current status of a species.

---

Updated: January 2012

<b>Terrestrial Species at Risk <sup>1</sup></b>	<b>COSEWIC Designation</b>	<b>Schedule of SARA</b>	<b>Government Organization with Primary Management Responsibility <sup>2</sup></b>
Eskimo Curlew	Endangered	Schedule 1	EC
Ivory Gull	Endangered	Schedule 1	EC
Ross's Gull	Threatened	Schedule 1	EC
Harlequin Duck (Eastern population)	Special Concern	Schedule 1	EC
Rusty Blackbird	Special Concern	Schedule 1	GN
Felt-leaf Willow	Special Concern	Schedule 1	GN
Peregrine Falcon	Special Concern ( <i>anatum-tundrius</i> complex <sup>3</sup> )	Schedule 1 - Threatened ( <i>anatum</i> ) Schedule 3 – Special Concern ( <i>tundrius</i> )	GN
Short-eared Owl	Special Concern	Schedule 3	GN
Peary Caribou	Endangered	Schedule 1	GN
Barren-ground Caribou (Dolphin and Union population)	Special Concern	Schedule 1	GN
Polar Bear	Special Concern	Schedule 1	GN



<b>Terrestrial Species at Risk <sup>1</sup></b>	<b>COSEWIC Designation</b>	<b>Schedule of SARA</b>	<b>Government Organization with Primary Management Responsibility <sup>2</sup></b>
Red Knot ( <i>rufa</i> subspecies)	Endangered	Pending	EC
Red Knot ( <i>islandica</i> subspecies)	Special Concern	Pending	EC
Porsild's Bryum	Threatened	Pending	GN
Horned Grebe (Western population)	Special Concern	Pending	EC
Grizzly Bear	Special Concern	Pending	GN
Wolverine (Western population)	Special Concern	Pending	GN
Atlantic Cod, Arctic Lakes	Special Concern	No schedule	DFO
Atlantic Walrus	Special Concern	Pending	DFO
Beluga Whale (Cumberland Sound population)	Threatened	Pending	DFO
Beluga Whale (Eastern Hudson Bay population)	Endangered	Pending	DFO
Beluga Whale (Western Hudson Bay population)	Special Concern	Pending	DFO
Beluga Whale (Eastern High Arctic – Baffin Bay population)	Special Concern	Pending	DFO
Bowhead Whale (Eastern Canada – West Greenland population)	Special Concern	Pending	DFO
Killer Whale (Northwest Atlantic / Eastern Arctic populations)	Special Concern	Pending	DFO
Narwhal	Special Concern	Pending	DFO

<sup>1</sup> The Department of Fisheries and Oceans has responsibility for aquatic species.

<sup>2</sup> Environment Canada (EC) has a national role to play in the conservation and recovery of Species at Risk in Canada, as well as responsibility for management of birds described in the Migratory Birds Convention Act (MBCA). Day-to-day management of terrestrial species not covered in the MBCA is the responsibility of the Territorial Government. Populations that exist in National Parks are also managed under the authority of the Parks Canada Agency.

<sup>3</sup> The *anatum* subspecies of Peregrine Falcon is listed on Schedule 1 of SARA as threatened. The *anatum* and *tundrius* subspecies of Peregrine Falcon were reassessed by COSEWIC in 2007 and combined into one subpopulation complex. This subpopulation complex was assessed by COSEWIC as Special Concern.

**Appendix D**  
Archaeological and Palaeontological Resources Terms and Conditions  
for Land Use Permit Holders



INTRODUCTION

The Department of Culture, Language, Elders and Youth (CLEY) routinely reviews land use applications sent to the Nunavut Water Board, Nunavut Impact Review Board and the Department of Indian and Northern Affairs Canada. These terms and conditions provide general direction to the permittee/proponent regarding the appropriate actions to be taken to ensure the permittee/proponent carries out its role in the protection of Nunavut's archaeological and palaeontological resources.

TERMS AND CONDITIONS

- 1) The permittee/proponent shall have a professional archaeologist and/or palaeontologist perform the following **Functions** associated with the **Types of Development** listed below or similar development activities:

	<b>Types of Development</b> (See Guidelines below)	<b>Function</b> (See Guidelines below)
a)	Large scale prospecting	Archaeological/Palaeontological Overview Assessment
b)	Diamond drilling for exploration or geotechnical purpose or planning of linear disturbances	Archaeological/ Palaeontological Inventory
c)	Construction of linear disturbances, Extractive disturbances, Impounding disturbances and other land disturbance activities	Archaeological/ Palaeontological Inventory or Assessment or Mitigation

Note that the above-mentioned functions require either a Nunavut Archaeologist Permit or a Nunavut Palaeontologist Permit. CLEY is authorized by way of the *Nunavut and Archaeological and Palaeontological Site Regulations*<sup>3</sup> to issue such permits.

---

<sup>3</sup> P.C. 2001-1111 14 June, 2001

- 2) The permittee/proponent shall not operate any vehicle over a known or suspected archaeological or palaeontological site.
- 3) The permittee/proponent shall not remove, disturb, or displace any archaeological artifact or site, or any fossil or palaeontological site.
- 4) The permittee/proponent shall immediately contact CLEY at (867) 934-2046 or (867) 975-5500 should an archaeological site or specimen, or a palaeontological site or fossil, be encountered or disturbed by any land use activity.
- 5) The permittee/proponent shall immediately cease any activity that disturbs an archaeological or palaeontological site encountered during the course of a land use operation until permitted to proceed with the authorization of CLEY.
- 6) The permittee/proponent shall follow the direction of CLEY in restoring disturbed archaeological or palaeontological sites to an acceptable condition. If these conditions are attached to either a Class A or B Permit under the Territorial Lands Act INAC's directions will also be followed.
- 7) The permittee/proponent shall provide all information requested by CLEY concerning all archaeological sites or artifacts and all palaeontological sites and fossils encountered in the course of any land use activity.
- 8) The permittee/proponent shall make best efforts to ensure that all persons working under its authority are aware of these conditions concerning archaeological sites and artifacts and palaeontological sites and fossils.
- 9) If a list of recorded archaeological and/or palaeontological sites is provided to the permittee/proponent by CLEY as part of the review of the land use application the permittee/proponent shall avoid the archaeological and/or palaeontological sites listed.
- 10) Should a list of recorded sites be provided to the permittee/proponent, the information is provided solely for the purpose of the proponent's land use activities as described in the land use application, and must otherwise be treated confidentially by the proponent.

#### LEGAL FRAMEWORK

As stated in Article 33 of the *Nunavut Land Claims Agreement*:

*Where an application is made for a land use permit in the Nunavut Settlement Area, and there are reasonable grounds to believe that there could be sites of archaeological importance on the lands affected, no land use permit shall be issued without written consent of the Designated Agency. Such consent shall not be unreasonably withheld. [33.5.12]*

*Each land use permit referred to in Section 33.5.12 shall specify the plans and methods of archeological site protection and restoration to be followed by the permit holder, and any other conditions the Designated Agency may deem fit. [ 33.5.13]*

## Palaeontology and Archaeology

Under the *Nunavut Act*<sup>4</sup>, the federal government can make regulations for the protection, care and preservation of palaeontological and archaeological sites and specimens in Nunavut. Under the *Nunavut Archaeological and Palaeontological Sites Regulations*<sup>5</sup>, it is illegal to alter or disturb any palaeontological or archaeological site in Nunavut unless permission is first granted through the permitting process.

### Definitions

As defined in the *Nunavut Archaeological and Palaeontological Sites Regulations*, the following definitions apply:

*“archaeological site” means a place where an archaeological artifact is found.*

*“archaeological artifact” means any tangible evidence of human activity that is more than 50 years old and in respect of which an unbroken chain of possession or regular pattern of usage cannot be demonstrated, and includes a Denesuline archaeological specimen referred to in section 40.4.9 of the Nunavut Land Claims Agreement.*

*“palaeontological site” means a site where a fossil is found.*

*“fossil” includes:*

*Fossil means the hardened or preserved remains or impression of previously living organisms or vegetation and includes:*

- (a) natural casts;*
- (b) preserved tracks, coprolites and plant remains; and*
- (c) the preserved shells and exoskeletons of invertebrates and the preserved eggs, teeth and bones of vertebrates*

---

<sup>4</sup> s. 51(1)

<sup>5</sup> P.C. 2001-1111 14 June, 2001

## **GUIDELINES FOR DEVELOPERS FOR THE PROTECTION OF ARCHAEOLOGICAL RESOURCES IN THE NUNAVUT TERRITORY**

(NOTE: Partial document only, complete document at: <http://gov.nu.ca/cley/english/arch.html>)

### **Introduction**

The following guidelines have been formulated to ensure that the impacts of proposed developments upon heritage resources are assessed and mitigated before ground surface altering activities occur. Heritage resources are defined as, but not limited to, archaeological and historical sites, burial grounds, palaeontological sites, historic buildings and cairns. Effective collaboration between the developer, the Department of Culture, Language, Elders and Youth (CLEY), and the contract archaeologist(s) will ensure proper preservation of heritage resources in the Nunavut Territory. The roles of each are briefly described.

CLEY is the Nunavut Government agency which oversees the protection and management of heritage resources in Nunavut, in partnership with land claim authorities, regulatory agencies, and the federal government. Its role in mitigating impacts of developments on heritage resources is as follows: to identify the need for an impact assessment and make recommendations to the appropriate regulatory agency; set the terms of reference for the study depending upon the scope of the development; suggest the names of qualified individuals prepared to undertake the study to the developer; issue an archaeologist or palaeontologist permit authorizing field work; assess the completeness of the study and its recommendations; and ensure that the developer complies with the recommendations.

The primary regulatory agencies that CLEY provides information and assistance to are the Nunavut Impact Review Board, for development activities proposed for Inuit Owned Lands (as defined in Section 1.1.1 of the Nunavut Land Claims Agreement), and the Department of Indian and Northern Affairs, for development activities proposed for federal Crown Lands.

A developer is the initiator of a land use activity. It is the obligation of the developer to ensure that a qualified archaeologist or palaeontologist is hired to perform the required study and that provisions of the contract with the archaeologist or palaeontologist allow permit requirements to be met; i.e. fieldwork, collections management, artifact and specimen conservation, and report preparation. On the recommendation of the contract archaeologist or palaeontologist in the field and the Government of Nunavut, the developer shall implement avoidance or mitigative measures to protect heritage resources or to salvage the information they contain through excavation, analysis, and report writing. The developer assumes all costs associated with the study in its entirety.

Through his or her active participation and supervision of the study, the contract archaeologist or palaeontologist is accountable for the quality of work undertaken and the quality of the report produced. Facilities to conduct fieldwork, analysis, and report preparation should be available to this individual through institutional, agency, or company affiliations. Responsibility for the curation of objects recovered during field work while under study and for documents generated in the course of the study as well as remittance of artifacts, specimens and documents to the repository specified on the permit accrue to the contract archaeologist or palaeontologist. This

individual is also bound by the legal requirements of the *Nunavut Archaeological and Palaeontological Sites Regulations*.

## **Types of Development**

In general, those developments that cause concern for the safety of heritage resources will include one or more of the following kinds of surface disturbances. These categories, in combination, are comprehensive of the major kinds of developments commonly proposed in Nunavut. For any single development proposal, several kinds of these disturbances may be involved

- *Linear disturbances: including the construction of highways, roads, winter roads, transmission lines, and pipelines;*
- *Extractive disturbances: including mining, gravel removal, quarrying, and land filling;*
- *Impoundment disturbances: including dams, reservoirs, and tailings ponds;*
- *Intensive land use disturbances: including industrial, residential, commercial, recreational, and land reclamation work, and use of heritage resources as tourist developments.*
- *Mineral, oil and gas exploration: establishment of camps, temporary airstrips, access routes, well sites, or quarries all have potential for impacting heritage resources.*

## **Types of Studies Undertaken to Preserve Heritage Resources**

**Overview:** An overview study of heritage resources should be conducted at the same time as the development project is being designed or its feasibility addressed. They usually lack specificity with regard to the exact location(s) and form(s) of impact and involve limited, if any, field surveys. Their main aim is to accumulate, evaluate, and synthesize the existing knowledge of the heritage of the known area of impact. The overview study provides managers with baseline data from which recommendations for future research and forecasts of potential impacts can be made. A Class I Permit is required for this type of study if field surveys are undertaken.

**Reconnaissance:** This is done to provide a judgmental appraisal of a region sufficient to provide the developer, the consultant, and government managers with recommendations for further development planning. This study may be implemented as a preliminary step to inventory and assessment investigations except in cases where a reconnaissance may indicate a very low or negligible heritage resource potential. Alternately, in the case of small-scale or linear developments, an inventory study may be recommended and obviate the need for a reconnaissance.

The main goal of a reconnaissance study is to provide baseline data for the verification of the presence of potential heritage resources, the determination of impacts to these resources, the generation of terms of reference for further studies and, if required, the advancement of preliminary mitigative and compensatory plans. The results of reconnaissance studies are primarily useful for the selection of alternatives and secondarily as a means of identifying

impacts that must be mitigated after the final siting and design of the development project. Depending on the scope of the study, a Class 1 or Class 2 Permit is required for this type of investigation.

**Inventory:** A resource inventory is generally conducted at that stage in a project's development at which the geographical area(s) likely to sustain direct, indirect, and perceived impacts can be well defined. This requires systematic and intensive fieldwork to ascertain the effects of all possible and alternate construction components on heritage resources. All heritage sites must be recorded on Government of Nunavut Site Survey forms. Sufficient information must be amassed from field, library and archival components of the study to generate a predictive model of the heritage resource base that will:

- allow the identification of research and conservation opportunities;
- enable the developer to make planning decisions and recognize their likely effects on the known or predicted resources; and
- make the developer aware of the expenditures, which may be required for subsequent studies and mitigation. A Class 1 or 2 permit is required

**Assessment:** At this stage, sufficient information concerning the numbers and locations of heritage resources will be available, as well as data to predict the forms and magnitude of impacts. Assessments provide information on the size, volume, complexity and content of a heritage resource, which is used to rank the values of different sites or site types given current archaeological knowledge. As this information will shape subsequent mitigation program(s), great care is necessary during this phase.

**Mitigation:** This refers to the amelioration of adverse impacts to heritage resources and involves the avoidance of impact through the redesign or relocation of a development or its components; the protection of the resource by constructing physical facilities; or, the scientific investigation and recovery of information from the resource by excavation or other method. The type(s) of appropriate mitigative measures are dictated by their viability in the context of the development project. Mitigation strategies must be developed in consultation with, and approved by, the Department of Culture, Language, Elders and Youth. It is important to note that mitigation activities should be initiated as far in advance of the construction of the development as possible.

**Surveillance and monitoring:** These may be required as part of the mitigation program.

*Surveillance* may be conducted during the construction phase of a project to ensure that the developer has complied with the recommendations.

*Monitoring* involves identification and inspection of residual and long-term impacts of a development (i.e. shoreline stability of a reservoir); or the use of impacts to disclose the presence of heritage resources, for example, the uncovering of buried sites during the construction of a pipeline.