Nunavut Impact Review Board
Preliminary Hearing Conference Decision
Concerning
The Mary River Project (NIRB File No. 08MN053)
Proposed by
Baffinland Iron Mines Corporation

Date of Conference: November 6-7 and November 9-10, 2011

Date of Decision: December 9, 2011

Nunavut Impact Review Board (NIRB)

PO Box 1360
29 Mitik Street
Cambridge Bay, NU, Canada
X0B 0C0

Phone: (867) 983-4600
Fax: (867) 983-2594

Email: info@nirb.ca
Online Registry: http://ftp.nirb.ca
Website: www.nirb.ca

Contents

List of Acronyms 5

Executive Summary 7

1. Background 11

1.1 Procedural (Project) History 11

1.2 Project Description Overview 15

2. Summary of the Submissions from Parties 17

2.1 Qikiqtani Inuit Association (QIA) 17

2.2 Government of Nunavut (GN) 17

2.3 Aboriginal Affairs and Northern Development Canada (AANDC) 18

2.4 Environment Canada (EC) 19

2.5 Fisheries and Oceans Canada (DFO) 20

2.6 Natural Resources Canada (NRCan) 21

2.7 Communities of Arctic Bay, Cape Dorset, Clyde River, Coral Harbour, Grise Fiord, Hall Beach, Igloolik, Iqaluit, Pond Inlet, Resolute, and Kimmirut 22

2.8 Baffinland 25

3. Nunavut Impact Review Board Analysis & Decision 27

3.1 Issues to be decided 27

3.2 Jurisdiction of the Board 27

3.3 Issues 27

3.3.1 Anticipated date for submission of the Final Environmental Impact Statement 27

3.3.2 Date, time and location of the Final Hearing 28

3.3.3 Timetable for the exchange of documents and information requests prior to the hearing… 29

3.3.4 Formulation of issues for the hearing 29

3.3.5 Procedures to be followed for the hearing 32

3.3.6 Equipment, language, interpretation, translation and transcript requirements 33

3.3.7 Other matters that aid in the simplification of the hearing 33

4. Coordinated Process 35

4.1 Nunavut Planning Commission 35

4.2 Nunavut Water Board 37

5. Conclusions of the Board 39

Appendix 1

Appendix 2

Appendix 3

List of Acronyms

AANDC - Aboriginal Affairs and Northern Development Canada

CTA - Canadian Transportation Agency

DEIS - Draft Environmental Impact Statement

DFO - Fisheries and Oceans Canada

EC - Environment Canada

EIS - Environmental Impact Statement

FEIS - Final Environmental Impact Statement

GN - Government of Nunavut

IIBA - Inuit Impact Benefit Agreement

INAC - Indian and Northern Affairs Canada

IR - Information Request

MT/a - Million tonne-per-annum

NBRLUP - North Baffin Regional Land Use Plan

NIRB - Nunavut Impact Review Board

NLCA - Nunavut Land Claims Agreement

NPC - Nunavut Planning Commission

NRCan - Natural Resources Canada

NSA - Nunavut Settlement Area

NTI - Nunavut Tunngavik Incorporated

NWB - Nunavut Water Board

PHC - Preliminary Hearing Conference

PC - Parks Canada

QIA - Qikiqtani Inuit Association

TC - Transport Canada

Executive Summary

Pursuant to the *Nunavut Land Claims Agreement* (NLCA), the function of the Nunavut Impact Review Board (NIRB or Board) is to assess the extent of the regional environmental and socio-economic impacts of the Mary River Project proposal (Project) to determine whether it should proceed, and if so, under what terms and conditions. In carrying out this function, the primary objective by law is at all times to protect and promote the existing and future well-being of the residents and communities of the Nunavut Settlement Area (NSA), and to protect the ecosystemic integrity of the NSA, while also taking into account the well-being of residents of Canada outside of the NSA.

On November 6-7 and 9-10, 2011, the NIRB conducted Community Roundtables to hear from communities that might potentially be affected by the Project and a Preliminary Hearing Conference (PHC) to hear submissions on the following seven issues:

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

Baffinland Iron Mines Corporation (Baffinland or the Proponent) submitted that the anticipated date for submission of the FEIS is January 31, 2012. Given the importance of filing a complete FEIS, the NIRB held that the timing of the filing of the FEIS and the process for its preparation is best left to the Proponent.

The NIRB notes the request from several parties for sufficient advance notice of the date of the Final Hearing for the Mary River Project. At this time, the Board is not in a position to schedule the date of the Final Hearing as it is recognized that this date is highly dependent on the actual date of the filing and acceptance of a complete FEIS submission. The Final Hearing date will be confirmed following the NIRB's receipt and compliance review of the FEIS and the initiation of the technical review period. In scheduling the Final Hearing, the Board will also take into account its obligation to promote public participation pursuant to Section 12.2.27 of the NLCA and the Board's schedule of other ongoing assessments.

The Board has determined that the venues for the Final Hearing are to be the City of Iqaluit, and the Hamlets of Igloolik and Pond Inlet. The NIRB is committed to taking steps to ensure that representatives from each of the potentially affected communities (Arctic Bay, Cape Dorset,

Clyde River, Coral Harbour, Grise Fiord, Hall Beach, Kimmirut and Resolute) have an opportunity to participate in the Final Hearing proceedings.

During the Final Hearing, formal technical presentations will be scheduled to take place first and will be organized by subject. Informal community roundtable sessions during the Final Hearing will follow the technical presentations. All parties are required to ensure sufficient technical expertise is available for the community roundtable portions of the Final Hearing.

Once filed, the FEIS will be subject to a minimum 90 day technical review period. It is anticipated that this would include 30 days for submission of Information Requests (IRs) and 60 days for the preparation and provision of technical review comments following receipt of the Proponent's IR Response(s). The NIRB reserves the right to extend the review period if the Board finds that additional time is necessary to deal with issues arising from the FEIS.

Following the Board's compliance review, the NIRB will establish a process for the submission of IRs and may schedule another meeting of technical experts (i.e. a technical meeting) and/or a Pre-Hearing Conference (PHC). Having noted the parties' request for sufficient advance notice of meetings requiring technical experts, the Board is committed to confirming the scheduling of a technical meeting and/or PHC following the acceptance of the FEIS and commencement of the technical review period.

The NIRB believes that Baffinland will resolve many of the technical issues raised by parties if it endeavours to comply with the specific direction and intention of the NIRB's Guidelines for the Preparation of the EIS for the Mary River Project (EIS Guidelines) and by fully meeting its commitments as set out in Appendix 1 of this Decision. The Board encourages Baffinland to continue to work with parties to resolve the balance of the issues identified at the Community Roundtables and the PHC.

Further, the Board requires that Baffinland address the following in the FEIS:

- Gaps and potential biases in baseline data and identify any new baseline data;
- Reconsider the significance determination of certain Project impacts;
- Expand the assessment of impacts on access and safety for land users;
- Expand the discussion of the use of low sulphur fuel for ships;
- Consider establishing a 100 meter setback of quarries from the high water mark of nearby water bodies;
- Discuss the recent listing of the polar bear as a Species of Special Concern;
- Expand the discussion for commitments related to bottom fast ice and subsea permafrost;
- Discuss changes to the harvesting and traditional pursuits because of a rapid

transition to a wage economy; and
- Provide a full description of the types of jobs and contracts to become available.

The Board also requires Baffinland to include in the FEIS a reconsideration of potential cumulative effects from current and reasonably foreseeable future developments and a description of consultation undertaken with adjacent jurisdictions. Additionally, the Board requires Baffinland to ensure its commitment to a plain language summary version of the FEIS addresses issues raised at the Community Roundtables. The NIRB also reiterates the need for the Proponent to ensure the marine mammal baseline data and assessment of alternatives in the FEIS meets the requirements set out in the EIS Guidelines issued by the Board for the Mary River Project.

Following the technical review of the FEIS, the Board will formulate the issues for the Final Hearing.

Subject to the variations set out in this Decision, the Final Hearing will proceed in accordance with the NIRB Rules of Procedure, dated September 3, 2009. The Board has decided to vary Rule 18.2 and 20.1(b) respectively to require notice of a meeting of technical experts (technical meeting) and notice of a PHC to be given to the Proponent and project distribution list at least 30 days before the technical meeting or PHC. The Board has also decided to vary Rule 38.1 to direct a party wishing to rely on documentary evidence at the Final Hearing to file the documentary evidence at least 30 days before the date of the hearing.

The Board will establish equipment, language, interpretation, translation and transcript requirements at a later date.

In order to simplify the hearing, the Board encourages Baffinland to hold community information sessions in all potentially affected communities prior to the Final Hearing. The information sessions should address the questions raised during the Community Roundtables and provide an overview of how the key conclusions in the FEIS were reached. The Board also encourages Baffinland and the Government of Nunavut to meet with the City and Hamlet councils and social service providers in potentially affected communities to discuss the socio-economic impact assessment and related mitigation and monitoring plans prior to the Final Hearing. Finally, the Board believes it may simplify the hearing if the Qikiqtani Inuit Association (QIA) hosts meetings with potentially affected Inuit beneficiaries, including Inuit businesses and those providing services to Inuit, to discuss the process and progress on the Inuit Impact and Benefit Agreement (IIBA) negotiations.

In accordance with a request from then-Minister of Indian and Northern Affairs Canada, the Honourable Chuck Strhal, the Board and the Nunavut Planning Commission (NPC) have worked

together to satisfy outstanding requirements of sections 3.5.11 and 3.5.2 of Appendix C of the North Baffin Region Land Use Plan (NBRLUP) related to the amendment of the NBRLUP to add the Project's proposed railway as a "transportation corridor". At this time, the NIRB and the NPC are of the opinion that further information, to be included in the FEIS as directed by the Board in this PHC Decision and as may be requested by the NPC, is necessary to satisfy the information requirements and to complete the assessment required by the NBRLUP. Once this information is available and the assessment is complete, the NPC will be in a position to provide its recommendation on an amendment to the NBRLUP to the responsible Ministers.

The NIRB notes that recent correspondence between the NPC, Baffinland and Nunavut Tunngavik Incorporated (NTI) suggests there are differing interpretations of the NBLRUP requirement for an amendment to add a transportation corridor. While the Board does not take a position on these differing interpretations, the Board does concur with NTI that it is important to complete the amendment process contemplated by the NBRLUP as soon as possible to ensure that the NIRB's Review is able to proceed with confidence.

Following a request from Baffinland to apply a coordinated process pursuant to Sections 13.5.2 and 13.6.1 of the NLCA to the Project, concurrent with the NIRB's Review of the Project the NWB conducted a conformity assessment of the Type A Water Licence Application submitted by Baffinland as an appendix to the DEIS. The NWB's review determined that the draft Type A Water Licence Application accompanying the DEIS is deficient. The deficiencies are substantive and must be addressed in Baffinland's proposed resubmission of the Type A Water Licence Application as a "stand-alone" appendix to the FEIS in order for the water licensing process to proceed. In the event that the Type A Water Licence Application submitted with the FEIS addresses these deficiencies, the NWB anticipates being in a position to hold a technical meeting in relation to that application following the NIRB's final hearing.

1. Background

1.1 Procedural (Project) History

On March 20, 2008 the Nunavut Impact Review Board (NIRB or Board) received Baffinland Iron Mines Corporation's (Baffinland or the Proponent) mining development proposal for the Mary River Project (the Project). On April 30, 2008 the NIRB received a positive conformity determination from the Nunavut Planning Commission (NPC or Commission) for the Project in relation to the North Baffin Regional Land Use Plan (NBRLUP). The conformity determination also outlined the provisions set forth in sections 3.5.11 and 3.5.12 of Appendix C of the NBRLUP, regarding the requirement for a joint public review by the NIRB and the NPC which would address the transportation corridor proposed by the Project.

The NIRB screened the Project in accordance with Part 4 of Article 12 of the Nunavut Land Claims Agreement (NLCA) and, on June 27, 2008 issued a screening decision report to then-Minister of Indian and Northern Affairs Canada (the Minister), the Honourable Chuck Strahl, recommending a review under Part 5 or 6 of Article 12 of the NLCA. Pursuant to Section 12.4.7 of the NLCA, on February 11, 2009 the Minister referred the Project to the NIRB for a review of the ecosystemic and socio-economic impacts under Part 5 of Article 12 of the NLCA. Pursuant to Sections 12.5.1 and 12.5.4 of the NLCA, the Minister also requested the following:

> *"In order to limit the delays to the overall review of the Proposal, I would encourage the Board and the Commission to develop an arrangement that will satisfy the outstanding requirements of the land use planning process, while not unduly encumbering the Board's Part 5 review process. Once finalized, I would encourage the Commission and Board to communicate the agreed upon processes to all parties involved in the review."*

Following the request from the Minister, on March 16, 2009 the NIRB and NPC formalized an arrangement to ensure an efficient joint review process intended to satisfy both organizations' requirements for this file. A detailed description of the process to be followed for the NIRB's Review of the Project and the steps NPC/NIRB joint review were also provided.

On February 24, 2009 the NIRB and the Nunavut Water Board (NWB) released a *Draft Framework to Guide a Coordinated NIRB/NWB Process* (Detailed Coordinated Process Framework). The object of the Detailed Coordinated Process Framework was to demonstrate how the NIRB and the NWB would coordinate their efforts to avoid unnecessary duplication in the review and processing of Type A water licence applications for projects undergoing a NIRB Review, pursuant to Sections 13.5.2 and 13.6.1 of the NLCA. Within its original 2008 submission, Baffinland had previously requested such a coordinated process be implemented for

the Mary River Project.

Following the receipt of comments from the Qikiqtani Inuit Association (QIA), the Government of Nunavut (GN), then-Indian and Northern Affairs Canada (INAC or AANDC), , Environment Canada (EC), Fisheries and Oceans Canada (DFO) and the Manitoba Denesuline, on September 4, 2009 the NIRB, the NPC and the NWB, issued a revised process map and detailed description of the process to be followed for the NPC/NIRB joint review, and a revised Detailed Coordinated Process Framework describing the planned coordination between the NIRB and the NWB.

On March 13, 2009 the NIRB provided a draft preliminary Scope for the Mary River project and requested that parties review the draft and provide comments to the Board on or before April 9, 2009 based on their area of expertise and/or mandate,. Comments were received on or before April 9, 2009 from Baffinland, QIA, Makivik Corporation, GN, Canadian Transportation Agency (CTA), EC, DFO,INAC, Natural Resources Canada (NRCan), and Parks Canada (PC).

On April 20, 2009 Baffinland provided a submission to the NIRB with the intention of clarifying the proposed primary shipping route through the Hudson Strait, to and from the proposed port at Steensby Inlet.

From March 28 to May 10, 2009 the NIRB facilitated public scoping meetings, open houses and other presentations in the communities of Pond Inlet, Arctic Bay, Resolute, Grise Fiord, Igloolik, Hall Beach, Coral Harbour, Cape Dorset, Kimmirut, Clyde River and Iqaluit. The Board determined these communities to be potentially impacted by the Project or affected by any potential amendment to the NBRLUP required by this project proposal (i.e. "potentially affected communities"). On June 18, 2009 the NIRB issued a *Public Scoping Meeting Summary Report for the NIRB's Part 5 Review of Baffinland Iron Mines Corporation's Mary River Project*, including meeting notes of comments and concerns raised during visits to the afore-noted communities. From September 14 to 20, 2009 the NIRB also conducted public scoping sessions in seven communities in the Nunavik region of Quebec. A *Public Meetings Summary Report for Nunavik Northern Quebec* was issued in December 2009. The NIRB incorporated comments and concerns from community sessions in Nunavut and Nunavik into the Draft Guidelines for the Preparation of the Environmental Impact Statement for the Project (Draft EIS Guidelines).

On June 24, 2009, the NIRB requested that interested parties provide comments to the NIRB regarding the Draft EIS Guidelines on or before July 23, 2009. This commenting deadline was later extended at the request of the QIA to August 4, 2009. On or before August 4, 2009 the NIRB received comments from Baffinland, the QIA, GN, EC, DFO, INAC, NRCan, and Transport Canada (TC).

Pursuant to Section 12.5.2 of the NLCA, on November 16, 2009 the NIRB issued the Final

Environmental Impact Statement Guidelines (EIS Guidelines) for the Project. An addendum to the EIS Guidelines was issued by the NIRB on November 24, 2010 at the request of the Proponent, to address a potential "Road Haulage Option" alternative which being considered by Baffinland at the time.

On January 21, 2011 the NIRB received a Draft Environmental Impact Statement (DEIS) submission for the Project from Baffinland.

On February 15, 2011 NIRB advised the Project distribution list that NIRB's internal assessment of the DEIS for conformity with the EIS Guidelines was complete and that the Board had accepted Baffinland's DEIS and was therefore commencing the technical review period. The conformity assessment was conducted by the NIRB with assistance from the NPC for those sections relating to the proposed transportation corridor for the Project and the information requirements of the NBRLUP. The NIRB requested that interested parties submit Information Requests (IRs) directly to the NIRB by March 17, 2011. IRs were received from QIA, GN, CTA, EC, DFO, NRCan, PC, the Nunavik Marine Region Impact Review Board and members of the general public.

After considering all IRs and determining their suitability, the NIRB forwarded all appropriate requests to Baffinland and to other parties on March 24, 2011. On April 15, 2011 Baffinland submitted an IR response package to the NIRB and, on April 26, 2011 supplementary information was also provided on 12 IRs by the Proponent. Outstanding responses, associated technical information, and air quality model inputs were provided by Baffinland on Friday, May 6, 2011. Additionally GN, EC, DFO, INAC, NRCan and TC responded to QIA's IRs. On April 18, 2011 the NIRB and the NWB issued a joint response to IRs received from the QIA.

Before commencing the technical review period, on May 10, 2011 the NIRB sought confirmation that responsible authorities and other reviewers had sufficient information to provide the Board with their analyses of the conclusions presented within the Draft EIS. The NIRB requested that responsible authorities provide an indication of the degree to which their respective IRs had been satisfied, and identify any outstanding issues which might significantly hamper the fulfillment of their respective mandates should the technical review period commence.

On or before May 20, 2011 the Board received comment submissions from the QIA, GN, CTA, EC, DFO, INAC and PC. On May 30, 2011 prior to commencing the technical review period, the NIRB requested that Baffinland provide a more comprehensive submission to address changes to the DEIS caused by removal of the Road Haulage Option alternative from consideration.

On June 30, 2011 Baffinland submitted an addendum to the DEIS which provided additional information regarding the removal of the Road Haulage option from the DEIS. The addendum submission also included additional details related to proposed "pre-development works".

Following receipt of the DEIS addendum, on July 5, 2011 the NIRB commenced a 60 day technical review period and scheduled a Technical Meeting and Pre-Hearing Conference (PHC). As originally communicated through the Detailed Coordinated Process Framework, the NIRB advised parties that, during the technical review period, the NWB would conduct its concordance assessment to determine whether the Draft Type A Water Licence application within the DEIS addressed the NWB information requirements set out in Appendix C of the EIS Guidelines such that the NWB might issue a public notice of application. It was further noted that, during the technical review period, the NIRB and the NPC would evaluate the information in the DEIS pertaining to Appendices J and K of the NBRLUP, and it was subsequently requested that parties provide their related analysis within their technical review comments.

On July 21, 2011 the QIA requested that the NIRB extend the technical review period for the DEIS from September 6, 2011 to October 5, 2011. Comments regarding QIA's request were received on or before August 4, 2011 from Baffinland, QIA, GN, Aboriginal Affairs and Northern Development Canada (AANDC), CTA, EC, DFO, NRCan, PC, the Hamlets of Pond Inlet, Igloolik, Hall Beach, and Canadian Arctic Resources Committee (CARC). On August 5, 2011 the NIRB granted QIA's request on the basis that the commenting parties were unanimous in expressing their support for the requested timeline extension, and the deadline for the submission of technical review comments was changed to October 5, 2011.

On August 12, 2011 the NIRB provided notice of a Technical Meeting to be held in Iqaluit October 18-20, 2011 and of the Community Roundtables and the PHC to be held in Igloolik, November 6-7, 2011 and in Pond Inlet, November 9-10, 2011.

On or before October 5, 2011 technical review comments were received from the NWB, QIA, GN, the Hamlet of Igloolik, AANDC, CTA, EC, DFO, Health Canada (HC), NRCan (addendum filed October 7, 2011), and PC. Following receipt of technical review comment submissions, on October 7, 2011 the NIRB forwarded copies of those comments pertaining to the joint review of the NBRLUP transportation corridor to the NPC, and copies of comments specific to the Draft Type A Water Licence Application to the NWB.

On October 14, 2011 Baffinland submitted a written response to technical review comments to facilitate discussion at the Technical Meeting. The Technical Meeting was held in Iqaluit on October 18-20, 2011 with participation from the following parties: Baffinland, NWB, QIA, GN, AANDC, CTA, EC, DFO, NRCan, PC, and TC.

Following the Technical Meeting, on October 21, 2011 the NIRB requested that parties provide comments regarding a draft listing of commitments which had resulted from the Technical Meeting. On October 24, 2011 the NIRB received comments from the NWB, QIA, GN, AANDC, CTA, EC, DFO, and TC. On October 26, 2011 the Board requested that Baffinland provide its revisions to the revised draft commitment list on or before October 28, 2011. Baffinland filed a revised list of commitments with the NIRB on October 28, 2011 and further provided a finalized Commitment List on November 4, 2011 (see Appendix 1).

On November 6-7 and November 9-10, 2011 Community Roundtables and a PHC were held in Igloolik and Pond Inlet respectively, following a similar format at each location.

All documentation cited above and associated with the NIRB's Review of the Mary River Project can be accessed online from the Board's public registry using the following link:

http://ftp.nirb.ca/02-REVIEWS/ACTIVE%20REVIEWS/08MN053-BAFFINLAND%20MARY%20RIVER/

1.2 Project Description Overview[1]

The iron ore deposit, Deposit No. 1, is located on North Baffin Island, in the Qikiqtani Region of Nunavut. The Deposit No. 1 reserves consist of approximately 365 Mt of direct shipping iron ore at an average iron grade 64.66%. The basis of the Project is production and shipment of 18 million tonne-per-annum (Mt/a) of high grade iron ore from this deposit. The high grade ore is suitable for shipment to international markets after crushing and screening with no need for additional processing requirements. Deposit No. 1 has associated resources capable of meeting the production design over the operating period of 21 years. The Project includes a three year closure period and five year post-closure monitoring period.

The Project (Figure 1) consists of the construction, operation, closure, and reclamation of an open pit mine and associated infrastructures for extraction, transportation and shipment of iron ore from a newly constructed port at Steensby Inlet. After crushing and screening, iron ore would be transported by railway from the mine site to Steensby Port for shipment. For the construction period, material, equipment and supplies required for the construction at the mine site and the northern portion of the railway would be received via Milne Port. Milne Port and the

[1] The project description overview has been adapted from Section 1.2 of Baffinland's Revised Project Description, submitted to the NIRB on July 4, 2011.

existing Milne Inlet Tote Road linking the mine mite to Milne Port would be upgraded to improve access from the Milne Port to the mine site while a railway would be constructed to connect Steensby Port to the Mine Site.

It is proposed that Milne Port would operate during the open water season while Steensby Port would operate all year. Once Steensby Port is operational, Milne Port would only be used occasionally for the delivery of oversized equipment to the mine site. A freight dock would be constructed at Milne Port. At the onset of the Project, much of the construction material and supplies, fuel and mining equipment would be received at Milne Port during the open water season.

It is expected that the Steensby Port facilities and the railway would take four years to construct. Once the railway is operational, 18 Mt/a of iron ore would be transported by railway and shipped year round from Steensby Port, requiring vessels with ice breaking capabilities.

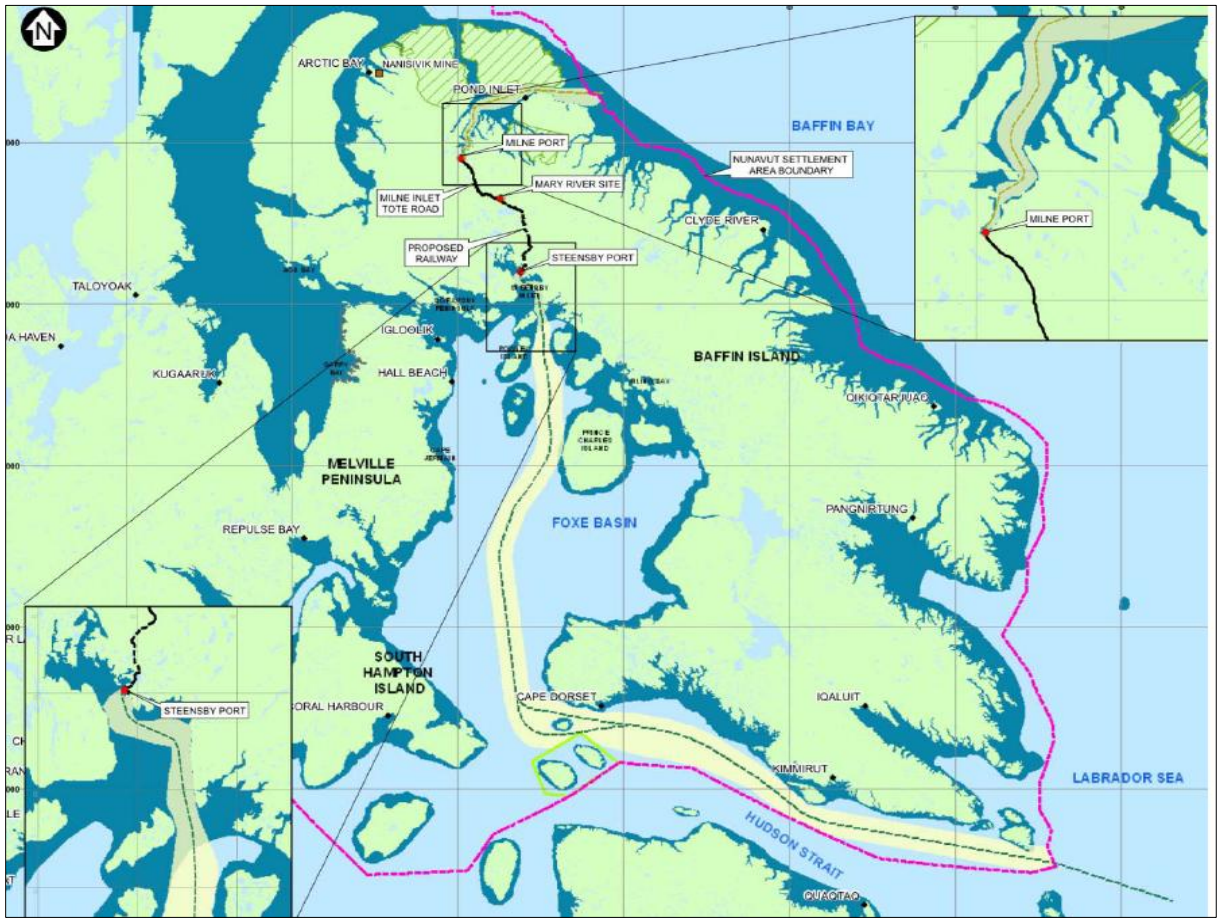


Figure 1: Project Location Map modified from DEIS for the Mary River Project, Volume 1, Appendix 1A, Figure 3-1.1

2. Summary of the Submissions from Parties

2.1 Qikiqtani Inuit Association (QIA)

QIA submitted that there are gaps in what is known and understood in the marine environment, particularly with regard to baseline data in Foxe Basin and Steensby Inlet. QIA notes that it is working with Baffinland, GN, EC and DFO to establish a plan for marine baseline data and impact assessment.

QIA submitted that other outstanding community concerns relate to the following:

- Ballast water disposal and potential impacts on the food chain;
- The railroad including caribou crossings, ensuring Inuit knowledge is taken into account, and the effect of blasting on wildlife and freshwater fish;
- The location of the port at Steensby Inlet;
- Issues of Inuit employment and training; and
- The need for monitoring plans for all aspects of the Project, including socio-economic monitoring in coordination with existing programs.

It was also noted by QIA that a clear presentation of the assumptions in assessing, modeling and explanations for conclusions on the economic impact assessment is also outstanding.

QIA submitted that both formal and informal (community based) venues would be appropriate for the Final Hearing, and recommended that the Board ensure communities are visited and included in the hearing process. QIA encouraged the Board to consider, in its organization of the Final Hearing, that technical information from formal sessions be conveyed to community based sessions. QIA further requested that the representation structure from QIA's project review committees be considered to ensure equal representation of all communities in the Final Hearing. QIA also recommended that the Board consider varying the Rule 18.1 to allow for a shorter notice period for a technical meeting. Regarding the length of the technical review period, QIA advised the Board that, given the number of communities involved and the negotiation of the IIBA, the QIA may not be able to complete a technical review of the FEIS in a 60 day period and that some flexibility might therefore be required.

2.2 Government of Nunavut (GN)

The GN submitted to the NIRB that it requires Baffinland to provide more information on the potential socio-economic impacts and related mitigation measures. The NIRB was advised that

the FEIS should incorporate supporting information from lessons learned in other jurisdictions, with the Project's potential benefits weighed against its potential negative impacts and mechanisms to optimize the benefits to communities clearly outlined. The GN noted that there is a need for increased socio-economic effects monitoring which supports and ties in with existing programs currently coordinated by GN and AANDC.

On the procedural issues, the GN submitted that it is Baffinland's responsibility to fulfill its stated commitments and ensure that its FEIS submission is complete. The GN advised the Board that the Department of Environment would be conducting a caribou survey in 2012 and it is therefore critical to know a firm schedule for the FEIS review and the Final Hearing to ensure the GN's resident caribou biologist is available to participate. The GN noted it would support a decision by the Board to include a larger centre in the Final Hearing venues, provided that the needs of the affected communities are also met.

The GN supported Baffinland's request for documentary evidence to be filed 30 days prior to the Final Hearing, provided that it did not impact on the 60 day length of the technical review period. The GN requested that the Board consider providing for an Information Request (IR) stage and technical meeting to facilitate the technical review of the FEIS. The GN suggested that written responses to IRs should be provided by Baffinland at least one week prior to a technical meeting, while agreeing that 30 days' notice for a technical meeting would be sufficient.

2.3 Aboriginal Affairs and Northern Development Canada (AANDC)

AANDC submitted to the NIRB that the management plans in the FEIS would need to address all phases of the project, including construction and operation, in at least a conceptual form for the Project as proposed. Specifically, it was recommended that the Environmental Protection Plan (EPP) should reflect the Project scale and activities and be presented in a conceptual form consistent with the EIS Guidelines; specifically it was noted that a table of contents only was not considered to be sufficient. AANDC advised the Board that a separate, stand-alone Hazardous Materials Management Plan should also be provided within the FEIS pursuant to Section 9.4.9 of the EIS Guidelines.

AANDC submitted that there is a need for further information regarding the Proponent's plans for socio-economic monitoring, including a discussion of potential coordination with existing programs. The NIRB was also advised that the FEIS should include a review of how communities in other jurisdictions have adapted traditional harvesting activities when wage economies increased, within incorporation of lessons learned in the Proponent's mitigation and monitoring plans.

AANDC noted that Baffinland's November 4, 2011 Commitment List appeared to contain changes to the agreed upon wording for several of the commitments. It was further explained to the NIRB that, in several cases, the wording changes appeared to weaken or reduce the amount of detail required by the commitment. AANDC asked the Board to consider requiring the Proponent to meet all the commitments as originally worded at and immediately following the October Technical Meeting.

AANDC spoke on behalf of the Federal Government departments present at the PHC with regard to procedural issues for the Final Hearing. AANDC encouraged Baffinland to take the time necessary to meet commitments and ensure that the FEIS is complete in order to provide for an efficient review. Due to the large number of technical experts and the number of affected communities, AANDC recommended to the Board that the formal venue for the hearing take place in Iqaluit to accommodate the large number of participants and that the informal venues take place, appropriately, in potentially affected communities. ANNDC indicated to the NIRB that it agreed with Baffinland's assessment that two weeks may be required to conduct the Final Hearing.

On behalf of the Federal Government departments, AANDC supported Baffinland's request for documentary evidence to be filed 30 days prior to the Final Hearing, provided that it did not impact upon the 60 day technical review period. AANDC requested the NIRB's Review process remain flexible to provide for IRs and a technical meeting if warranted, and that Baffinland be required to provide written responses to IRs prior to any such technical meeting. AANDC agreed that 30 days' notice for a technical meeting would sufficient and, depending on the subject matter and context, this notice period could likely be further reduced.

2.4 Environment Canada (EC)

EC submitted to the NIRB that the lack of a commitment by Baffinland to use low sulphur fuel in Project ships operating in Canadian waters remained an outstanding air quality issue. EC advised the Board that, while the emissions control area set out in pending new regulations requiring the use of low sulphur fuel does not extend to Nunavut, it would be desirable for Baffinland to commit to meeting with the new regulation in order to minimize ship emissions while in transit and related impacts.

EC requested that the Board direct Baffinlanf to incorporate more detailed modeling for the wake effect of ore carriers within the FEIS. EC further noted that modelling should be based on speed, distance from shore and water depth, with the objective of improving the understanding of potential ship wakes and their resulting impact on the environment. It was explained that this, in turn, would assist Baffinland's development of effective adaptive management techniques, such

as adjusting shipping routes and vessel speeds to ensure wake heights are less than natural mean wave heights. EC noted that this would address an outstanding technical concern by helping to protect migratory bird nesting, foraging and staging habitat.

EC also submitted to the Board that the equations and raw data used to predict concentrations of water quality parameters in wastewater effluent and runoff from ore stockpiles in Steensby Inlet should be provided by the Proponent in the FEIS. EC explained that this would allow the department to verify Baffinland's quality predictions for effluent discharge.

EC requested that the Board direct Baffinland to include a framework for aquatic monitoring within the FEIS to allow for a more effective evaluation of the adequacy of existing baseline data. It was noted that sampling of appropriate reference sites prior to construction is required to ensure that Baffinland can effectively detect project-related changes. EC advised the NIRB that the baseline sampling should be completed along the rail alignment prior to quarrying, construction and railway operation. EC also recommended that the footprint of borrow sources and quarries should not be permitted to extend to within 100 metres of the high water mark of any water bodies.

EC acknowledged Baffinland's commitment #89 to provide a more detailed risk analysis and discussion related to shipping accidents as an important commitment for addressing technical issues noted by the department. EC requested that the NIRB ensure that Baffinland incorporates the knowledge gained from the National Energy Board's recent gap analysis on Arctic spill response into its FEIS, identifying areas and times where accidents are more likely to occur and discussing optimal times for bulk fuel shipments based on the open water season and ability to respond to an oil spill or environmental emergency. EC indicated to the NIRB that this analysis could also require synthesis of oceanographic and meteorological data along the proposed Project shipping routes.

EC noted that it deferred to AANDC with regard to recommendations on procedural issues for the Final Hearing.

2.5 Fisheries and Oceans Canada (DFO)

DFO advised the Board that many of the deficiencies in the Draft Environmental Impact Statement (DEIS) identified by DFO had been resolved through Baffinland's commitments, and that its assistance with Baffinland's development of a framework to address baseline data deficiencies from marine mammals was ongoing. DFO submitted to the NIRB that outstanding freshwater technical issues included blasting impacts to fish, impacts to fish passage and impacts to fish habitat and related compensation. DFO further submitted that outstanding marine

technical issues included: impacts of ballast water on the marine environment, selection of valued ecosystem components, available bathymetry results, adequacy of port site alternative assessments, the definition of the local study area for the marine environment, adequacy of marine mammal baseline data, studies and impact assessment, as well as management and monitoring plans for the marine environment.

At the PHC, DFO raised the question of whether the current spill response technology is sufficient to recover petroleum in the cold Arctic environment; as such, DFO recommended to the NIRB that a more quantitative risk assessment should be included within the FEIS. DFO also recommended that additional baseline wave action data should be collected by the Proponent to allow for consideration of inter-annual variation in the impact assessment provided by the FEIS.

DFO submitted to the Board that it deferred to AANDC with regard to providing input on procedural issues for the Final Hearing. DFO advised the Board that a 30 day notice period for a technical meeting would sufficient for its purposes, and that advance notice of the Final Hearing and technical meeting dates would be preferable given that the department's technical specialists would be conducting fieldwork during the Spring and the Summer.

2.6 Natural Resources Canada (NRCan)

While agreeing that permafrost encapsulation is an appropriate method of controlling acid rock drainage, NRCan submitted to the NIRB that the need to demonstrate in the FEIS that frozen conditions would be maintained within and beneath the proposed waste rock piles had not been resolved. NRCan indicated to the Board that this demonstration should include a preliminary thermal analysis of how these frozen conditions would be maintained to protect ground water, noting also that it was necessary the information be provided within the FEIS rather than at the detailed design stage of project development. Further, NRCan stated that Baffinland's analysis should be informed by additional site data from geotechnical surveys and consideration of potential climate change over time. NRCan also recommended to the Board that Baffinland be required to provide a commitment to monitor within and below the waste rock pile(s) to ensure frozen conditions are maintained, which would allow for mitigation measures to be applied where issues arise.

NRCan further submitted to the NIRB that it had two outstanding issues which were not fully resolved through discussions with Baffinland. NRCan requested that an explanation be provided within the FEIS regarding why the route between Koch Island and Cape Jensen was modeled for wake effects rather than the narrower passage to the north, and why a shorter distance was not used, given that the ships might travel closer to the shore.

NRCan also recommended to the Board that coastal change should be monitored by Baffinland, noting that the Marine Mammal and Shipping Management Plan in the FEIS could include an indication of Baffinland's the intention for using year-round wave gauges to measure natural and wake-influenced waves in open water and sea ice in. NRCan further requested that Baffinland consult with NRCan experts regarding remote sensing, the determination of bottom-fast ice extents and the potential existence of subsea permafrost in the Milne and Steensby Inlets.

NRCan also questioned whether Baffinland had included the potential climate change effects associated with the processing of the ore even though this activity is occurring elsewhere.

NRCan deferred to AANDC with regard to recommendations on procedural issues for the Final Hearing. NRCan advised the Board that a 30 day notice period for a technical meeting would be sufficient and requested that direction be provided on topics to be covered to allow for planning that would facilitate the attendance of required specialists. NRCan noted that if less notice is given for a technical meeting, such a meeting should be held in a major centre, such as Iqaluit, to allow for the required logistical space and to facilitate the efficient movement of specialists.

2.7 Communities of Arctic Bay, Cape Dorset, Clyde River, Coral Harbour, Grise Fiord, Hall Beach, Igloolik, Iqaluit, Pond Inlet, Resolute, and Kimmirut

The majority of environmental issues raised by community representatives during the Community Roundtables and PHC focused on the proposed project infrastructure and shipping activities and the potential for related impacts on terrestrial and marine wildlife and Inuit harvesting. Generally, the communities sought clarity on how these impacts had been assessed and how Baffinland drew conclusions of "no significant impact" regarding many of the ecosystemic components under consideration. Community members also expressed a desire to be involved in the development and implementation of monitoring and mitigation plans for the Project.

Communities highlighted the need for more discussion on the Proponent's rationale for selecting Steensby Inlet as the preferred option for the deep sea port, and specifically more detailed discussion on the assessment undertaken for alternative port sites. The NIRB was advised that concerns regarding the proposed shipping schedule, route, and need for year-round shipping, particularly during marine mammal calving and pupping seasons, should be addressed with additional supporting information in the FEIS. It was submitted that more information was also required regarding potential shipping impacts, including the cumulative effects of the noise and movement from frequent ship traffic on marine mammals, particularly bearded seals, ringed seals and walrus in the Hudson Strait and Foxe Basin.

Inuit Harvesters requested additional information on the routing of the ships relative to their traditional hunting areas and noted their concerns for potential impediments to hunting grounds access and harvesting activities. Questions were raised regarding how ship movements through open and ice covered waters might impact hunter safety, particularly during inclement weather.

Community members indicated to the Board that there were concerns were regarding the potential for hazardous materials from the Project to enter into the environment. More information about the planned procedures for disposal of ballast water and the related potential for transfer of contaminants into the marine environment and food chain was requested. Communities also indicated that more information about the potential impact of an accidental fuel spill and the ability of Baffinland and government agencies to respond to a spill was needed, including consideration for the role of communities in emergency response. Communities asked that the FEIS be designed to allow for a better understanding of how residents would be notified if contamination was to occur in an area that they use.

Questions were raised by community members regarding the proposed railway and centered primarily on the potential for impacts to caribou, including how consideration for wildlife was factored into the Proponent's evaluation of routing alternatives. A more comprehensive evaluation of the potential effectiveness of the proposed caribou crossings was requested. The NIRB noted that community members submitted concerns for the practicalities of how hunters would cross the proposed railway with skidoos and how the Proponent would ensure hunter safety at crossings during periods of inclement weather. The potential for impacts to fish habitat from explosives use during railway construction and the need for appropriate mitigation measures was also raised.

The potential for impacts from dust generated at the mine site, along the rail route and at the port was noted as a concern by a number of community members. Communities encouraged Baffinland to consider various options for mitigation of potential impacts, such as using tarp covers for rail cars.

A general concern was brought forward by community members regarding the tendency for research studies in the Arctic to be undertaken only during the summer months, which may not provide an adequate basis for predictions extending into other seasons. Communities also clearly expressed the need to incorporate existing results from previously conducted studies, such as data from the GN's polar bear research and caribou collaring programs. A question was raised about the possibility of polar bears being listed as a Species At Risk, and community members expressed concern that a listing might change the weighting of the assessment during the NIRB's Review relative to other valued ecosystem components.

Community representatives expressed that, while many of them had participated in research studies, they often did not learn about the results of those studies; Baffinland was advised that reporting back to communities was an important part of engagement efforts. Communities members indicated that it was also not clear how traditional knowledge that had been gathered by the Proponent had been incorporated into the impact assessment. Community members in Pond Inlet noted significant concerns with sonar technology having been being used at Milne Inlet and resulting in impacts to marine wildlife. Although it was explained by Baffinland that no research involving the use of sonar had been undertaken in support of the Project, community members asked to be given advance notice of studies planned for the surrounding areas.

Significant concern amongst community members was noted by the NIRB regarding the need for protection of archeological sites. Community members explained that Steensby Inlet is a site of numerous artifacts and resources which should be preserved, noting that there is a desire to protect Inuksuks which serve a current day purpose as navigational aids. Communities requested assurances that the removal of artifacts would be minimized and further information provided within the FEIS regarding what would happen to any artifacts that are removed from the Project area.

The socio-economic issues discussed by community representatives focused on both the benefits and risks associated with the Project. More information was requested regarding the types of jobs that would become available through the Project, as well as the opportunities for early training prior to hiring, and details regarding notice of potential employment and contracting opportunities. Clarification on how jobs would be shared between communities, including those outside of the local study area, was requested. Community representatives asked for more clarity on what would happen when the mine was to eventually close and what infrastructure might be made available to the communities. In addition, a better explanation of how benefits would be shared between the Federal government, GN, Nunavut Tunngavik Incorporated, QIA, and local communities was requested. More information on how harvesters would be compensated for any potential loss of harvesting access in the Project area and impacts to wildlife was also requested.

It was generally acknowledged by community members that the potential benefits of employment from the Project might be offset with increased risks. Specifically, potential impacts noted by communities included a loss of trained employees from the Hamlets to the Project, a lack of housing as people migrate from their home communities to points of hire, and pressure on current social services. Representatives from the City of Iqaluit questioned whether sufficient consideration had been given to the potential socio-economic impacts from the Project which might put pressures on the City's services.

Rather than relying on monitoring data before putting programs in place to address negative impacts on affected communities, community members encouraged Baffinland and GN consider

experiences from communities such as Baker Lake that have already been affected by mine development to proactively develop programs to address potential socio-economic impacts. Specifically, concerns were noted regarding the potential for the Project to cause increased wealth but not necessarily creating financial stability for residents, as well as the effect of absences caused by rotational work on families, and the development of inequity between households participating in employment and those that do not. Concerns were also noted by the Board regarding potential indirect effects of employment, including a reduced access to country foods as a result of hunters being out of the community, working at the Project.

Community representatives expressed concern that they have not been well informed about the ongoing IIBA development process. It was also noted by community members that the lack of approved land use plans and a Nunavut Marine Council to set marine-related policy made the review of the Project more difficult.

Finally, the NIRB noted that confusion stemming from the use of English names and traditional place names was expressed. A request was made by community members to minimize the use of acronyms, particularly in the plain language summaries of the FEIS.

2.8 Baffinland

Baffinland submitted a list of 356 commitments to the NIRB, to be addressed through its continued engagement in the Board's Review process and development of the FEIS. Baffinland further advised the Board that it would continue to facilitate discussions with the parties to resolve outstanding issues.

On the issue of the need for more baseline data to support impact assessments for marine mammals, Baffinland submitted to the NIRB that it feels the currently available baseline data is sufficient for development of the FEIS, contingent on the development of a three phase baseline data collection program and an adaptive management plan. Baffinland noted that this program and associated plans are currently under development. Baffinland submitted to the Board that it has worked with parties to identify principles to be applied to future baseline data collection in order to allow for confirmation of predictions. It was explained that the three phase data collection program being developed would include a 2012 field program, as well as data collection during construction and over the life of the Project. Baffinland advised the Board that all phases would include community participation, noting that a workshop t had been scheduled in Igloolik for November 24 and 25, 2011 with the objective of obtaining community feedback on the aspects of the marine environment to be targeted. Baffinland indicated to the NIRB that it planned to review the framework of the baseline data collection program and the adaptive management plan with parties prior to the submission of the FEIS.

Baffinland advised the Board that it anticipates filing the FEIS by January 31, 2012. It was indicated that the FEIS submission would be a complete document with an appendix containing a stand-alone application for a Type A Water Licence. Baffinland also advised the Board that it is satisfied with applying the NIRB's Rules of Procedure (effective September 3, 2009) to the proceedings for the Final Hearing for the Project.

On other procedural matters, Baffinland suggested to the NIRB that the venue for the formal hearing should be in Iqaluit, with informal venues in the communities as determined to be appropriate by the Board. Baffinland requested that the Board ensure that at least 30 days is provided following the filing of written submissions and documentary evidence prior to commencement of the Final Hearing, , in order to allow Baffinland adequate time to prepare.

3. Nunavut Impact Review Board Analysis & Decision

3.1 Issues to be decided

Parties were directed to address the following seven issues:

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

3.2 Jurisdiction of the Board

The NIRB conducted the PHC under the authority of Article 12, Part 5 of the NLCA.[2] The NIRB generally conducts a PHC in order to identify and limit the issues of divergence among parties to the hearing, and to promote the efficient use of time at the Final Hearing.

3.3 Issues

Taking into account parties' submissions and comments from the public at the Community Roundtables and the PHC, the Board's decision on the seven issues is as follows:

3.3.1 Anticipated date for submission of the Final Environmental Impact Statement

Baffinland submitted that it anticipates filing the FEIS as a revised document (i.e. not as addendums to the DEIS) by January 31, 2012. In addition to the substantial Commitment List set out in Appendix 1, at the PHC Baffinland advised that it is continuing to work with the parties and communities on outstanding issues. As noted by several parties, Baffinland is responsible for ensuring the responses to the commitments incorporated into the FEIS address the issues raised through the technical review of the DEIS.

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

Given the importance of filing a complete FEIS, the NIRB will leave the timing of the filing of the FEIS and the process for its preparation to Baffinland. However, as expressed by parties to the Review, the Board strongly cautions Baffinland that it should ensure adequate time is taken to prepare a high quality submission which will minimize additional information requests and facilitate ease of review.

The NIRB notes that the FEIS is expected to include a table which illustrates its concordance with the EIS Guidelines and compliance with the PHC Decision. The Board requests that Baffinland provide a similar table which cross-references the Commitment List in Appendix 1 with sections of the FEIS where corresponding can be located.

3.3.2 Date, time and location of the Final Hearing

The NIRB notes the request from several parties for sufficient advance notice of the date of the Final Hearing for the Mary River Project. At this time, the Board is not in a position to schedule the date of the Final Hearing as it is recognized that this date is highly dependent on the actual date of the filing and acceptance of a complete FEIS submission. The Final Hearing date will be confirmed following the NIRB's receipt and compliance review of the FEIS and upon initiation of the technical review period. At that time the Board will also consider the Board's schedule of other ongoing assessments.

The Board further notes that a late Spring/Summer date for the Final Hearing may make it difficult for potentially affected communities to fully participate as many community members are typically engaged in traditional activities during this time.

When determining the Final Hearing date the Board will take into consideration Section 12.2.27 of the NLCA which states:

> *"All necessary steps shall be taken by way of notice, dissemination of information, and scheduling and location of hearings to provide and promote public awareness of and participation at hearings."*

Further, the Board has decided that the venues for the Final Hearing will be the City of Iqaluit, Igloolik and Pond Inlet. The Board is committed to taking steps to ensure that a broad range of representatives from the communities of Arctic Bay, Cape Dorset, Clyde River, Coral Harbour, Grise Fiord, Hall Beach, Resolute, and Kimmirut are brought to one of the venues identified to participate in the Final Hearing.

Formal technical presentations will be scheduled to take place first and will be organized by subject. Informal community consultation during the Final Hearing will take the format of community roundtable sessions, which will follow the technical presentations. All parties are required to ensure sufficient technical expertise is available for the community consultation portions of the Final Hearing.

3.3.3 Timetable for the exchange of documents and information requests prior to the hearing

Once filed, the FEIS will be subject to a minimum 90 day technical review period. It is anticipated that this would include 30 days for submission of Information Requests (IRs) and 60 days for the provision of technical review comments following receipt of the Proponent's IR Response(s). The NIRB reserves the right to extend the technical review period if the Board finds that additional time is necessary to deal with issues arising from the FEIS.

Following the Board's compliance review, the NIRB will establish a process for the submission of IRs and may schedule another meeting of technical experts (i.e. a technical meeting) and/or a PHC. Having noted the parties' request for sufficient advance notice of meetings requiring technical experts, the Board is committed to scheduling of a technical meeting and/or PHC following the acceptance of the FEIS and commencement of the technical review period.

3.3.4 Formulation of issues for the hearing

The NIRB believes that Baffinland will resolve many of the technical issues raised by parties if it endeavours to comply with the specific direction and implied intention of the NIRB's EIS Guidelines and by fully meeting its commitments as set out in Appendix 1 of this Decision. The Board accepts the Commitment List as set out in Appendix 1, and notes that its fulfilment is a key part of the FEIS requirements. The Board encourages Baffinland to continue to work with parties to resolve the balance of the issues identified by the Board at the Community Roundtables and PHC.

The Board also believes that the commitments set out in Appendix 1 will address many of the concerns raised by the community representatives. For example, further discussions and improvements to baseline data, as well as significant improvements on impact predictions for marine mammals and terrestrial wildlife, are expected in the FEIS. A number of commitments have been made to improve the discussion on the assessment of alternative ports, railway routing, and year-round shipping.[3] Commitments have also been made to improve the study of the potential impacts of ballast water, including those to the food chain,[4] and the potential

[3] See Baffinland Commitments #4, #8 and #9 in Appendix 1.
[4] See Baffinland Commitments, #20, #21 and #22 in Appendix 1.

impacts of dust.[5] Baffinland has also agreed to 43 commitments related to the assessment of socio-economic impacts, including taking into consideration effects from mining projects in the Kivalliq and Kitikmeot regions.[6] The Board expects that when fulfilling its commitments Baffinland will take into consideration the issues highlighted at the Community Roundtables.

Based on the NIRB's consultation with parties and potentially affected communities, and in addition to Baffinland's commitments set out in Appendix 1, the Board requires Baffinland to include the following within the FEIS:

(a) Consideration of potential biases in baseline data collected only during spring/summer conditions. Where gaps or biases in baseline data are identified, plans to supplement baseline data or otherwise address these issues must be provided;

(a) Pursuant to Section 2.6 of NIRB's EIS Guidelines, identification of all significant gaps of knowledge as well as the steps taken to address these gaps;

(b) Clear identification of any newly acquired baseline data incorporated into the Project effects assessment since submission of the DEIS to the NIRB;

(c) Assessment of potential impacts on access and safety of Inuit harvesters and other land users. This assessment should consider potential human interactions with project infrastructure and activities including the mine site, railroad, shipping and shipping tracts (i.e. ship movements during open water and ice covered conditions), particularly during periods of inclement weather;

(d) Pursuant to Section 6.5.8 of NIRB's EIS Guidelines, expanded discussion of the use of low sulphur fuel for ships, specifically citing changing standards in regulations for waters in southern Canada and the Proponent's ability to meet these standards in the Nunavut Settlement Area;

(e) Pursuant to Section 7.11 of NIRB's EIS Guidelines, discussion of how Baffinland reconsidered the significance of potential Project impacts where parties raised concerns with the significance determinations presented within the DEIS;

(f) Discussion of whether the recent listing of the polar bear as a Species of Special Concern has altered the Project effects assessment, specifically any related significance determinations;

(g) Details pertaining specifically to bottom fast ice and subsea permafrost as part of fulfilling commitments #49, #352, #355, and #356 of Appendix 1;

(h) Demonstration that consideration has been given to establishing a 100 meter setback of quarries from the high water mark of nearby water bodies. Where it has been determined

[5] See Baffinland Commitments, #213, #214 and #215 in Appendix 1.
[6] See Baffinland Commitment #293 in Appendix 1.

that such setbacks may not be possible, measures to prevent contamination of water bodies must be clearly provided;

(i) Pursuant to Commitment #288 of Appendix 1, a discussion of the Proponent's planned coordination of socio-economic monitoring with existing programs. This discussion should consider the changes to harvesting and traditional pursuits that communities such as Baker Lake may have experienced because of a rapid transition to a wage economy caused by nearby development;

(j) Description of the types of jobs and contracts that would become available, how these jobs would be shared amongst Nunavut communities, how and when notice of jobs and contracts would be provided, and an overview of the training programs would be made available;

(k) Full description of job positions or, at a minimum, job classifications for positions that would be made available through each planned phase of Project development, including basic eligibility requirements;

(l) Reconsideration of potential cumulative effects from current and reasonably foreseeable future developments, with additional inclusion of the following:

   i. The Bathurst Inlet Port and Road, High Lake, and Hackett River Projects (Kitikmeot Region of Nunavut);

   ii. The Meliadine Gold and Kiggavik Projects (Kivalliq Region of Nunavut);

   iii. Nunavik Nickel Project (Nunavik, Northern Quebec);

   iv. Shipping throughout the waters of the NSA and Hudson Strait (including the Nunavik Marine Region) associated with the projects noted above and those projects considered within the cumulative effects assessment in the DEIS

   v. Shipping associated with annual community resupply and resupply of other industrial or development projects (e.g. exploration and remediation sites) throughout the waters of the NSA and Hudson Strait.

   vi. For greater clarity, when addressing items iv and v, consideration is not expected to extend to areas west of Lancaster Sound.

(m) Description of consultation undertaken with adjacent jurisdictions including communities or organizations within the Kivalliq Region of Nunavut and the Nunavik Region of Northern Quebec.

Additionally, the Board requests that the FEIS provided by Baffinland include an "FEIS Summary Version" as contemplated in Commitment #6 of Appendix 1, and including plain language summaries of the following:

(a) Research studies conducted and/or relied upon by Baffinland with discussion of relevant results;

(b) Explanation of how traditional knowledge has been incorporated within the FEIS;

(c) Archeological and paleontological resources that have been identified in the project area, with discussion of how each would be protected and, if artifacts were to be removed, what would happen to them;

(d) Description of the types of jobs and contracts that would become available, how these jobs would be shared amongst Nunavut communities, how and when notice of jobs and contracts would be provided, and overview of the training programs would be made available;

(e) How benefits from the project would be distributed between the Federal Government, the Government of Nunavut, Nunavut Tunngavik Incorporated, the Qikiqtani Inuit Association and individual communities;

(f) How community members would be involved in establishing and implementing monitoring programs and mitigation measures to address potential impacts to wildlife, marine mammals and adverse socio-economic effects;

(g) The emergency spill response plan, including how people would be advised of possible contamination to land use areas, and the potential role of communities in the Proponent's emergency response protocols;

(h) How Inuit harvesters would be compensated for loss of harvesting area and wildlife; and

(i) Use of both traditional and English language place names with minimization of the use of acronyms.

While the NIRB appreciates the continuing efforts of the Proponent to address issues raised regarding the adequacy of baseline data for the marine environment, the Board reiterates the need for Baffinland to ensure the marine mammal baseline data and assessment of alternatives in the FEIS meet the requirements set out in the EIS Guidelines for the Project. Where there is a lack of available baseline data, the Board expects that a precautionary approach will be taken regarding the conclusions in the resulting impact assessment.

Following the review of the FEIS, the Board will formulate the issues for the Final Hearing.

3.3.5 Procedures to be followed for the hearing

The Board acknowledges Baffinland's consent to adopt the Board's Rules of Procedure which came into effect after the Mary River Project Proposal was filed with the NIRB in 2008.

Subject to the variations set out in this Decision, the Final Hearing will proceed in accordance with the NIRB Rules of Procedure, dated September 3, 2009. With the concurrence of the parties, the Board has decided to vary Rule 18.2 and 20.1(b) respectively to require notice of a meeting of technical experts and notice of a PHC to be given to the proponent and project distribution list at least 30 days before the technical meeting or PHC.[7] At the request of Baffinland, and with the acknowledgment that the variation will not reduce the parties time to carry out their technical review of the FEIS, the Board has also decided to vary Rule 38.1 to direct a party wishing to rely on documentary evidence at the Final Hearing to file the documentary evidence at least 30 days before the date of the Final Hearing.[8]

3.3.6 Equipment, language, interpretation, translation and transcript requirements

No recommendations were provided regarding the equipment, language, interpretation, translation and transcript requirements. The Board will establish these requirements closer to the Final Hearing date.

3.3.7 Other matters that aid in the simplification of the hearing

The Board acknowledges Baffinland's commitment to provide a stand-alone "FEIS Summary Version" using the template developed in conjunction with QIA.[9] However, as a result of public input during the Community Roundtables the Board believes that increased communication efforts by Baffinland, the GN and QIA would also aid in the simplification of the hearing.

In order to simplify the hearing, the Board encourages Baffinland to hold community information sessions in all potentially affected communities prior to the Final Hearing. The information sessions should address the questions raised during the Community Roundtables and provide an overview of how the key conclusions in the FEIS were reached. The Board also encourages Baffinland and the GN to meet with the City and Hamlet councils and social service providers in potentially affected communities to discuss the socio-economic impact assessment and related mitigation and monitoring plans prior to the Final Hearing. Finally, the Board believes it may simplify the hearing if QIA hosts meetings with potentially affected Inuit beneficiaries to discuss the process and progress on negotiating the IIBA.

[7] The notice period is set out in the Rules as 60 days.
[8] The filing deadline is set out in the Rules as 15 days.
[9] See Commitment #6, Appendix 1.

The NIRB also acknowledges the concerns that were raised regarding the need to encourage active involvement of youth and women in the review process. Accordingly, the Board is committed to taking additional measures to encourage participation by these groups.

4. Coordinated Process

4.1 Nunavut Planning Commission

On April 30, 2008 the NIRB received a positive conformity determination from the NPC for the Project in relation to the NBRLUP. The conformity determination also outlined the provisions set forth in sections 3.5.11 and 3.5.12 of Appendix C of the NBRLUP, regarding the requirement for a joint public review by the NIRB and the NPC. The objective of this joint public review is to assist the NPC in developing its recommendation to the Ministers regarding the proposed amendment to the NBRLUP to include the Project's railway route as new transportation corridor.

In accordance with the February 11, 2009 request from the Minister for the Board and Commission to work together to develop and communicate an arrangement that will satisfy the outstanding requirements of the NBRLUP, on March 16, 2009 the NIRB and the NPC formalized an arrangement to ensure an efficient Review process intended to satisfy both organizations' requirements for this file. A detailed description of the process to be followed and a process map was also provided. After soliciting public comments on the proposed joint review process, on September 4, 2009 the NIRB and the NPC issued a revised process map and detailed description to be followed for the NIRB/NPC joint review.

Appendix 2 of this PHC Decision provides an update regarding the joint review, as well as the actions required pursuant to sections 3.5.11 and 3.5.12 of Appendix C and the referenced Appendices J and K of the NBRLUP.

In summary, it is the opinion of the NIRB and the NPC that further information on the following points is needed to satisfy the information requirements in Appendix J of the NBRLUP:

- A more comprehensive alternatives assessment of the railroad options, including selection of railway, port and shipping options;
- Details regarding the final railway route; and
- Information regarding the construction and operation of the railway and related impacts on caribou, fish and fish habitat, and Inuit harvesting and traditional pursuits.

The NIRB is satisfied that, should Baffinland submit a FEIS that complies with the Board's PHC Decision, including Baffinland's commitments as set out in Appendix 1, the FEIS should satisfy the information requirements set out in Appendix J, items 1 and 2. The NPC is considering whether it may require further information to satisfy item 3 of Appendix J.

Both the NPC and the NIRB note that the NIRB's Review process includes consideration of several aspects of the assessment required in items 2 and 3 of Appendix K. This includes whether the proposed railway, located in part within the area covered by the NBRLUP, is appropriately designed for the topography, soil, permafrost and wildlife, and whether it might negatively impact on: affected communities; important fish and wildlife habitat and harvesting areas; and areas of high scenic, historic, culture and archeological value.

As further information is required to be submitted within the FEIS, the NIRB is not in a position at this time to advise the NPC on these aspects of the joint review. The NIRB will be able to provide the NPC with its views on the assessments required by Appendix K following its compliance review of the FEIS with the PHC Report.

Some aspects of the planning guidelines set out in Appendix K, particularly relating to improvement of access to other resources, cannot reasonably be addressed through the Board's project-specific Review process. Consequently, it remains for the NPC to address next steps for completing the assessment set out in Appendix K, particularly with regard to item 1 (corridor width), and considerations of the role of the railway as a corridor more broadly to provide for improved access to other resources having high potential for development.

The NPC and the NIRB realize that a final location of the railway might only be determined upon the NIRB's issuance of a final report to the responsible Ministers on the Mary River Project. To ensure that all of the possible outcomes of the NIRB Review are being taken into consideration, the NPC may choose to provide its recommendation on the request for a plan amendment to the Ministers for consideration as outlined in NLCA s.11.6.3 once a final location of the railway has been decided.

On a related matter, in the Board's Screening Decision Report of June 27, 2008 the Board highlighted outstanding issues relating to the land use planning process. The joint review process as described above is a collaborative arrangement meant to aid in addressing the issues raised and limit the delays to the overall review of the Project. In his letter of February 11, 2009 the Minister also requested the Board keep him apprised of updates as necessary.

In October and November 2011, the NPC, Baffinland, and Nunavut Tunngavik Incorporated (NTI) issued several pieces of correspondence related to the outstanding requirements of the NBRLUP. In a letter dated October 12, 2011 the NPC advised the NIRB that the Commission would not be seeking an amendment to the NBRLUP for the potential transportation corridor. In response to the NPC's letter to the NIRB, on October 25, 2011 NTI requested that the NPC reconsider its position on seeking an amendment to the NBRLUP. In a letter dated October 31, 2011 Baffinland also requested that the NPC proceed with considering its application for an amendment to the NBRLUP. On November 5, 2011,the NPC issued letters to Baffinland and

NTI clarifying that the Commission remained committed to continuing with the implementation of the NBRLUP and the steps of the joint review process established for the Project.

As a result of this correspondence and a further letter from NTI to the NPC dated November 8, 2011 the Board is aware that there appears to be significant differences in the interpretation of the requirements of sections 3.5.10, 3.5.11, and 3.5.12 of the NBRLUP. While the NIRB does not take a position on these differing interpretations, the Board does concur with NTI that it is important to complete the amendment process contemplated by these sections of the NBRULP as soon as possible to ensure that the NIRB's Review is able to proceed with confidence

4.2 Nunavut Water Board

On February 24, 2009 the NIRB and the NWB released a Detailed Coordinated Process Framework to demonstrate how the NIRB and the NWB would coordinate their efforts to avoid unnecessary duplication in the review and processing of Type A water licence applications for projects undergoing a NIRB Review, pursuant to Sections 13.5.2 and 13.6.1 of the NLCA. In response to comments, on September 4, 2009 the NIRB and the NWB issued a revised Detailed Coordinated Process Framework describing the planned coordination between the NIRB and the NWB.

Following a request from Baffinland to apply a coordinated process to the Mary River Project, the NWB has participated throughout the NIRB's Review of the Project. To date, the NWB has participated in scoping meetings for the Project, the development of Appendix C: *Nunavut Water Board Information Requirements for Type A Water Licence Application in the EIS Guidelines* which set out the information requirements related to water licensing, and further provided technical review comments and technical advice to the NIRB throughout the technical review of the DEIS.

In accordance with the Detailed Coordinated Process Framework, concurrent with the NIRB's Review of the Project, the NWB conducted a conformity assessment of the Type A Water Licence Application submitted by Baffinland as an appendix to the DEIS. The NWB's conformity assessment and the related supplemental information requirements for the Type A Water Licence Application for the Project is provided in Appendix 3.

In summary, the NWB's review determined that the draft Type A Water Licence application accompanying the DEIS is deficient. The draft Type A Water Licence Application and supporting information contained in the DEIS covered many of the issues that are critical to the water licensing process; however, as identified in the NWB's review and in the comments provided by intervening parties, considerable deficiencies remain in the information required to

complete and support the application. These deficiencies are substantive and must be addressed in Baffinland's proposed resubmission of the Type A Water Licence Application as a "stand-alone" appendix to the FEIS in order for the water licencing process to proceed.

In the event that the Type A Water Licence Application submitted with the FEIS addresses these deficiencies, as discussed at the PHC, the NWB anticipates being in a position to hold a technical meeting in relation to the finalized Type A Water Licence Application following the NIRB's Final Hearing.

5. Conclusions of the Board

The Board has determined that the venues for the Final Hearing are to be the City of Iqaluit, and the Hamlets of Igloolik and Pond Inlet. The NIRB is committed to taking steps to ensure that representatives from each of the potentially affected communities of Arctic Bay, Cape Dorset, Clyde River, Coral Harbour, Grise Fiord, Hall Beach, Kimmirut and Resolute have an opportunity to participate in the Final Hearing.

The Final Hearing will proceed in accordance with the NIRB Rules of Procedure, dated September 3, 2009. The Board has decided to vary Rule 18.2 and 20.1(b) respectively to require notice of a meeting of technical experts (technical meeting) and notice of a PHC to be given to the Proponent and project distribution list at least 30 days before the Technical Meeting or PHC. The Board has also decided to vary Rule 38.1 to direct a party wishing to rely on documentary evidence at the Final Hearing to file the documentary evidence at least 30 days before the date of the hearing.

During the Final Hearing, formal technical presentations will be scheduled to take place first and will be organized by subject. Informal community roundtable sessions during the Final Hearing will follow the technical presentations. All parties are required to ensure sufficient technical expertise is available for the community roundtable portions of the Final Hearing.

The Proponent bears the burden of meeting the NIRB's information requirements. Accordingly, the Board declines to set a date for the submission of the FEIS.

The Board also declines to schedule the date of the Final Hearing at this time. The Final Hearing date will be confirmed following the NIRB's receipt and compliance review of the FEIS and the initiation of the technical review period. In scheduling the Final Hearing, the Board will also take into account its obligation to promote public participation pursuant to Section 12.2.27 of the NLCA and the Board's schedule of other ongoing assessments.

Once filed, the FEIS will be subject to a minimum 90 day technical review period. The Board reserves the right to extend the review period, establish a process for IRs, as well as schedule another technical meeting and/or PHC, if the Board finds it necessary to deal with issues arising from the FEIS.

The Board believes that Baffinland will resolve many of the technical issues raised by parties if it complies with the specific direction and intention of the EIS Guidelines, fully meets its commitments as set out in Appendix 1 and complies with the further direction of the Board regarding FEIS requirements as set out in this PHC Decision. The Board also reiterates the need for the Proponent to ensure that the marine mammal baseline data and assessment of alternatives

in the FEIS meets the requirements set out in the EIS Guidelines.

Following the technical review of the FEIS, the Board will formulate the issues for the Final Hearing. The Board will also establish equipment, language, interpretation, translation and transcript requirements at a later date.

In order to simplify the hearing, the Board encourages Baffinland to hold community information sessions in all potentially affected communities prior to the Final Hearing. The Board also encourages Baffinland and the Government of Nunavut to meet with the City and Hamlet councils and social service providers in potentially affected communities to discuss the socio-economic impact assessment and related mitigation and monitoring plans prior to the Final Hearing. Finally, the Board believes it may simplify the hearing if the Qikiqtani Inuit Association (QIA) hosts meetings with potentially affected Inuit beneficiaries, including Inuit businesses and those providing services to Inuit, to discuss the process and progress on the Inuit Impact and Benefit Agreement (IIBA) negotiations.

Signed this 9th day of December, 2011.

Lucassie Arragutainaq
Chairperson
Nunavut Impact Review Board

Appendix 1

Commitment List

APPENDIX 1– BAFFINLAND IRON MINES CORPORATION COMMITMENT LIST

The following commitments have been taken from Baffinland Iron Mines Corporation's (Baffinland) Commitment List, as submitted to the Nunavut Impact Review Board (NIRB) on November 4, 2011. The November 4, 2011 Commitment List submitted by Baffinland is available from the NIRB's FTP site at the following location:
http://ftp.nirb.ca/02-REVIEWS/ACTIVE%20REVIEWS/08MN053-BAFFINLAND%20MARY%20RIVER/2-REVIEW/07-TECHNICAL%20MEETING%20%26%20PHC/02-TM%20COMMITMENTS/

The NIRB notes that the commitments presented within this Appendix reflect wording as prepared by Baffinland in its November 4, 2011 submission. Through the course of the NIRB's Pre-Hearing Conference for the Mary River Project, several parties raised concerns regarding Baffinland's revisions to the wording of agreed upon commitments, advising that alterations could create the potential for a reduction in the level of detail supplied within the Final Environmental Impact Statement (FEIS) and in the commitment's effectiveness at resolving the issue in question. The NIRB cautions Baffinland to ensure that its commitments meet with the expectations of parties, in order to reduce the need for further information requests through the FEIS technical review period.

Where Baffinland identifies that revisions to the wording of the commitments within the November 4, 2011 Commitment List are required, the Board expects that the Proponent will provide a clear rationale to explain these changes within the concordance table as required by the FEIS.

Commitments

Note: All commitments made are to be reflected in the Final Environmental Impact Statement (FEIS), unless otherwise stated

DEIS Organization, Alternatives Assessment

1. Expand alternative assessment to include a rationale for the need for year round shipping. Include discussion on periodic suspensions (i.e. stock piling) and the impact of this approach on the Project economic viability.
2. Discussion on alternatives assessment regarding floating camp at Steensby Inlet.

3. Provide information on water management and potential impact on aquatic resources to be provided related to the new option being considered to house the Steensby Port construction camp in floating accommodations.
4. Expand alternative assessment on port options and address DFO technical comments #3.1.
5. Cross referencing as outlined within NIRB's EIS guidelines to be applied within the FEIS. Where possible include section number and page number in Table of Concordance.
6. Provide a standalone "Summary Version" of the FEIS. The "FEIS Summary Version" should include all VECs/VSECs and Management Plans. The "FEIS Summary Version" shall be in Inuktitut and English. The DEIS Summary Version should be used as a template.
7. Provide information on where Inuit Qaujimajatuqangit (IQ) was incorporated into the impact predictions and significance determinations. Baffinland to work with QIA on additional information to be submitted in FEIS.
8. Provide a more comprehensive Alternatives Assessment on the railroad options (including selection on rail, port and shipping options) within the FEIS. Baffinland to append its CanaRail report produced in September 2011 and QIA will provide their independent review of this report to BIM so it too can be included in the FEIS.
9. Provide details regarding the final shipping route and rail route. Include determination and discussion on the selection of final shipping route.
10. Provide information regarding security and routine inspection of shipping routes. Discussion to include duties at the selected port including routine inspection.
11. Provide a standalone appendix to address the requirements for the water licence application as part of the FEIS. This appendix should include (i) relevant reports and updated management plans in support of the water licence application, which take into consideration the comments and/or recommendations from the DEIS review process; (ii) a water quality cross-reference table and corresponding maps in the water licence application, specifying sampling points related to the SNP, discharges or AEMP monitoring; and, (iii) supporting engineering reports, stamped drawings, and Operation & Maintenance (O& M) Plans for the relevant facilities.
12. Clearly define whether the marine mammal impact assessment LSA is as shown in Figure 8-1.1 or Figure 8-2.1in Volume 8, Section 5 for the FEIS.

Marine Environment, Marine Wildlife, and Marine Shipping

13. Once the quantities of marine HADD have been determined in consultation with DFO, Baffinland will develop fish habitat compensation options that can address the extent of the HADD.
14. Additional oceanographic data will be collected as required to support detailed design. These data needs will be described in the FEIS. The final EIS will further consider the

issues of ice roughness, converging wakes and effects on coastal areas, including walrus haul-out sites.

15. Baffinland will conduct pre-construction ground searches for eider nests at Steensby port and “control” shoreline to better characterize impact. The area surveyed should include small offshore islands, and coastal areas around the port facilities.
16. Complete an assessment of bearded seals and provide a discussion of bearded seals as a VEC.
17. Include in the assessment Thick-billed Murres as an indicator for seabirds.
18. Provide an assessment of the habitat in the potentially impacted areas to determine if the loss of this habitat might result in significant negative impacts. This assessment will include a marine benthic species, a marine finfish and arctic char. Baseline data will be included as part of this commitment.
19. Include within the marine habitat quantification a discussion of a marine benthic species and a marine fin fish species, in addition to a discussion on Arctic char in the adult feeding stage.
20. Develop a model for ballast water dispersal.
21. Revise the Ballast Water Management section of the Marine Mammal and Shipping Management Plan as part of the final EIS. This text will describe the process for selection, assessment and regulatory approval of ballast water treatment options.
22. Include increased ballast water releases in cumulative effects assessment.
23. Endeavour to integrate the effects assessment, where possible quantitatively, by key indicators and including cumulative assessment.
24. The integrated VEC assessment (as requested in the above commitment) will include a more explicit discussion on the interactions between polar bears, seals and ice.
25. Provide an overview consideration of effects extending into Davis Strait and northern Labrador Sea regarding marine mammals and birds based on the zone of influence of the vessels and the receiving environment.
26. Review the range of interactions with marine mammals including those that could affect marine mammals to the west of Hudson Strait and provide rationale for not extending boundaries of zone of influence. Include a discussion on the interactions along the shipping route including migrating marine mammals within Hudson Strait.
27. Review the selected thresholds and threshold levels for determination of magnitude of effect to ensure that they are appropriately selected and adequately described for the marine environment. Where possible quantitative descriptions should be provided. Issues such as potential Project expansion are addressed as Cumulative Effects and, as such are discrete from the assessment of the Project as defined and proposed in the EIS.
28. In the context of monitoring, Baffinland commits to examining marine species from a food chain perspective and incorporating within the discussion a consideration of effects related to chronic spills, wave action, and sedimentation.

29. A program for screening ballast water and testing ship hulls will be described as required under regulatory standards or other guidance.
30. Adaptive management will be applied to address unforeseen risks. For foreseeable risks, every effort will be made to identify ahead of time, and apply appropriate mitigation and monitoring measures.
31. Provide an estimated inventory of any potential discharges from shipping activities within the Regional Study Area.
32. Baffinland will provide more detailed description of the pack ice baseline including a review of relevant literature, a 30-year time period that covers the full annual sea ice cycle (i.e., versus winter ice atlases), and provides information on intra- and inter-year variability in sea ice conditions. Baffinland will use available data sources (in addition to CIS charts and RADARSAT images) to examine sea ice characteristics at appropriate spatial scales. Baffinland will clearly explain the methodology used to measure pack ice cover (i.e., area or extent) and provide the necessary detail on analyses methods used. The Proponent will provide predictions of effects on floe size and ice thickness taking into account multiple vessel transits throughout the year. This analysis will be included in the final EIS.
33. Review each of the noted areas as identified in QIA D-06 and provide additional information and analysis as necessary and appropriate in the Final EIS. The items are: Effects on Seabirds, Disruption of pack ice through Hudson Strait and Foxe Basin due to ice-breaking ore carrier passage, potential for Invasive Species from Ballast Water, and Spills, Accidents and Malfunctions.
34. Food chain contaminants will be discussed within the FEIS and the potential of uptake within the food chain will be considered.
35. The information in the DEIS will be brought together in an analysis of any areas of particular concern.
36. A description of potential route deviations (and their relative effects) will be addressed in the final EIS. Potential mitigation measures will be described in the mitigation and monitoring plan that will be developed to address many of the comments by QIA and other parties.
37. Incorporate most up-to-date available date for ice climatology modeling in order to ensure that the predictions of ice conditions are accurate and the risks to the environment from ice related accidents are minimized.
38. GN and DFO to identify a list of available/suggested baseline data or studies for polar bears and transfer available data to Baffinland by November 15th, 2011.
39. Identify a list of available data to be incorporated within the FEIS regarding ringed seal by November 15th, 2011.
40. Include an updated discussion on baseline data for polar bears and ringed seal based on available baseline data.

41. Consider a broad range of parameters beyond density of birth lairs within the follow up and monitoring programs to assist in establishing potential effects of the Project on population structure, pupping rates, litter sizes and recruitment rates for ringed seals.
42. Provide additional supporting analysis regarding disturbance effects on ringed seals from construction, shipping, and aircraft over-flights. In particular, Baffinland's analysis should provide answers as to whether project related activities will result in a change in occupancy of an area that has been identified as important for feeding, nursing, breeding, and hauling out.
43. Within the Environmental Effects Monitoring Framework, provide a marine mammal and marine environment monitoring plan(s).
44. Include the risk of marine mortality from vessels strikes within the FEIS. Focus the assessment on bowhead, walrus, beluga, narwhal and ringed seals. Potential mortality from underwater blasting in Steensby Inlet during the ice-covered season has been assessed as was the potential for walrus mortality from stampeding at haulout sites and will be included as a discussion with the FEIS.
45. Carry out a quantitative risk assessment of project induced mortality on marine mammals pending the availability of suitable data. Failing that, a probabilistic risk assessment approach would be taken.
46. Provide available data to Baffinland prior to November 15, 2011.
47. Include shore type mapping of Milne and Steensby Inlets and approaches presented spatially and at sufficient detail to identify shoreline segments susceptible to wake impacts (acceptable formats include ESRI ArcGIS digital data, softcopy or hardcopy maps).
48. Incorporate any new data on the wave regime in Steensby Inlet as available from the recovered wave sensor into baseline data description and impact assessment for ship wakes along the southern shipping route.
49. Provide information recommended by NRCan into the final design of the Milne Port Freight Dock (items 24 - 30) including: Clarification on the proposal to place a sunken barge at the Milne Port facility; evidence that indications of submarine slope instability are not found at the site of the proposed Milne Port; evidence that over steepening during dredging will not cause slope failure at Milne Port; evidence that loading of the excavated slope with sand-filled caissons will not cause slope failure at Milne Port; evidence that subsea permafrost does not underlie proposed coastal infrastructure at Milne Port; evidence that the design of the caisson structure at Milne Port will not allow scour at the toe of the structure contributing to its potential failure; and evidence that subsea permafrost does not underlie proposed coastal infrastructure at Steensby Port.
50. Develop a detailed landfast ice baseline including a review of relevant literature, a standard 30-year baseline, covering the full annual sea ice cycle (i.e., versus winter ice atlases), and providing the necessary information on intra- and inter-year variability in sea ice conditions.

51. Provide more detail on the basking seal surveys, including the date, time of day, weather and sea ice conditions experienced, and the sensitivity of the density estimates to the correction factors used.
52. As part of the monitoring program consider undertaking field research to find seal birth lairs and study relationships with habitat, and explore the sensitivity of the mortality estimates to spatiotemporal variation in lair density. The description of this proposed monitoring program would be included in the FEIS.
53. Address potential effects on ringed seals at the local level that might be relevant to resource harvest issues.
54. Specific mitigation and monitoring measures to minimize mortality events and to assess their occurrence will be discussed in detail in the mitigation and monitoring plan in the FEIS.
55. Include a mitigation and monitoring-based assessment of: 1) Potential impacts of winter shipping on birds due to attraction to ship tracks; 2) Potential impacts of disturbance and displacement of birds when areas of open water are limited (i.e. winter and spring); 3) Potential impacts to the marine food web, including marine birds, caused by the passage of ships through shore leads and polynyas when it is not feasible to avoid these areas; and 4) Mitigation and monitoring to address these potential impacts.
56. Monitoring reports should include: 1) A record of all ship tracks taken along both shipping routes covering the entire shipping season; 2) An overlay of ship tracks onto ice imagery to determine whether ships are effectively avoiding shore leads and polynyas; 3) A comparison of recorded ship tracks to the expected nominal shipping route and probable extent of year-round shipping during periods of ice cover and open-water in order to determine the level of adherence to the nominal shipping route and the spatial extent of the shipping ZOI; and Marine bird species and number of individuals attracted to ship tracks in ice.
57. Clarify whether the expected zone of influence at the southern port site includes the turning radius of ore carriers leaving the ore dock.
58. Conduct additional surveys prior to the start of the construction phase to determine the presence of King and Common Eider nests within the expected zone of influence at Steensby port and at control sites in Steensby Inlet. The area surveyed should include small offshore islands, and coastal areas around the port facilities.
59. Baffinland will conduct pre-construction ground searches for eider nests at Steensby port and “control” shoreline to better characterize impact. The area surveyed should include small offshore islands, and coastal areas around the port facilities.
60. Conduct a thorough analysis of displacement-based impacts more expressly in the FEIS, including consideration of the effects on repeated or multiple events.
61. Assess the effects of vessel traffic and icebreaking for all marine mammals taking into account potential interactions between of vessel traffic and the bowhead nursery area in northern Foxe Basin and overwintering area in Hudson Strait; exposure of beluga,

narwhal and other species to vessel traffic on a regular bases when using open areas (e.g. polynyas); icebreaking that might provide access for killer whales which in turn would open access to seals and whales wintering in polynyas and leads; and impact of vessel traffic and icebreaking on bearded seals during the spring breeding season.

62. Consider inclusion of a measure to mitigate the impacts of vessel traffic by slowing the speed of vessel traffic along the Foxe Basin route between the south end of Prince Charles Island and Steensby Port, as was proposed in Milne Inlet.
63. Provide a monitoring framework that will outline a commitment to collect additional baseline sampling to verify the predication of the impact assessment of vessel traffic and icebreaking on marine mammals.
64. Include within the effects assessment any changes in the shipping route such as might be needed, e.g. should the shallow bathymetry near the mouth of Steensby Inlet warrant re-routing.
65. Include a discussion on possible additional pathways in Baffinland assessment as identified in comment 5.3.6 by DFO, including damage to ocular surfaces and interferences with olfactory cues (e.g., mother-young bonds); ingestion or inhalation pathways and sub-lethal effects to seals including in the form of reproductive failures.
66. Prior to the PHC, DFO, QIA, BIM and other regulators will engage is consultation to better define significant gaps identified in technical comments regarding marine baseline information that should be addressed through future monitoring. And if possible provide an update to NIRB prior to the PHC.
67. Consider the potential effects in the defined study area and the implications of these affects across the known range of the affected population.
68. Baffinland commits to working with QIA and other agencies in developing a marine mammal and shipping monitoring and management framework. This framework will include but not be limited to discussing avoidance by marine mammals and address verification of relevant effects predictions.
69. A description of feasible mitigation measures and adaptive management approaches for vessel impacts will be included in the Mitigation and Monitoring Plan volume to be included in the FEIS.
70. Discuss how sensitive the project is to changes in routing, timing and number of vessel transits.
71. Review the additional material provided by DFO in regards to guidance for blasting in water and, as appropriate, incorporate the DFO guidance into the final EIS. An appropriate monitoring program will be implemented to confirm the effectiveness of applicable mitigation measures.
72. Clearly state what conceptual mitigation measures will be used and under what circumstances they will be used when blasting in or near water.
73. Consideration of a candidate research program, to establish a meaningful threshold for sediment effects on the embryonic mortality of arctic char, will be included within the

Project EEM Framework. A further review of the literature will be completed as part of the final EIS to re-evaluate the selected threshold.

74. Produce a series of impact predictions demonstrating the influence that the number of vessel tracks has on impact predictions for landfast ice. These impact predictions should be presented for lower and higher shipping frequencies than suggested in the Project Description.
75. Describe how sensitive impact predictions are to temporal variability in landfast ice cover and include discussion on possible impacts if the extent of the landfast ice decreases (e.g., due to climate change) such that shipping disrupts a greater percentage of the remaining fast ice, and breeding habitat for the ringed seal becomes more concentrated. Clarification on the actual length of the track is also required.
76. Provide a more comprehensive discussion on the ice thickness sampling program conducted in Steensby Inlet, including discussion on the statistical power behind the collected data.
77. Summarize the long term data available from the Hall Beach ice thickness station to provide more information on temporal variation in ice thickness.
78. Monitoring and mitigation plans will continue to be developed in consultation with QIA and affected communities. The final EIS will address the justification of threshold values and will include additional details on mitigation and monitoring plans for landfast ice.
79. Consider more precautionary noise exposure levels for seals and walruses. This more precautionary threshold could be used to update impact assessments and mitigation measures.
80. Develop appropriate thresholds for monitoring of noise-related impacts, which are linked to the segments of the populations being impacted (calving, nursing, etc.).
81. Consider a comprehensive assessment of noise impacts using a 250 km radius (i.e., expand the LSA).
82. Clarify the number of vessels that are likely to be in the area at a given time and identify the likeliest places where arriving and departing vessels will pass one another.
83. In conducting such an analysis the Proponent should identify zones where cumulative noise would be mitigated due to biophysical features (e.g. water depth, distance from migration routes, distance from overwintering areas etc.). Once identified the Proponent should conduct vessel transit planning, for all seasons, to determine the degree to which cumulative sound impacts can be mitigated through the use of zones.
84. Examine the impact of chronic noise and describe possible sound levels as two ore carriers approach and overlap each other under different ice conditions and at different speeds.
85. Discuss the cumulative effects of chronic disturbance on the distribution of marine mammal VECs.
86. Provide information on the noise-related effects of ice impacts to vessel speed and clarify the range of transit speeds expected through pack ice.

87. Provide information on the weather conditions that are likely to be experienced and the influence this can and will have on ship movements and subsequent noise impacts.
88. Conduct a detailed assessment of the conservation and management requirements for Species at Risk that are likely to be impacted by Project activities, based on the definition provided in the NIRB Final Guidelines. This should include the types of information required in a Management Plan for Special Concern species and the information required in a Recovery Plan for Endangered or Threatened species (i.e., defining Critical Habitat for species that will potentially be SARA-listed as Endangered – Ungava Bay and EHB beluga whales). It should also include an assessment of polar bear regulatory requirements under listings of Special Concern (current rank) but also including possible future scenarios where polar bear status in changed to Threatened or Endangered.
89. Provide a more detailed discussion on the risk of shipping accidents.
90. Conduct a thorough assessment of climate change impacts on sea ice and the marine environment, exploring a range of future scenarios and assessing potential impacts, as required under NIRB Final Guidelines.
91. Consider semi-quantitative assessments to assess the overall impacts of the Project for each of the marine mammal VECs. The objective would be to assess whether a series of non-significant impacts, when considered together, may pose a significant risk to a particular VEC. The potential for interactions among activities, VECs, and VSECs that would increase or decrease impacts should be considered. Baffinland will provide explicit analyses of the question in the FEIS.
92. Conduct a risk analysis to assess whether increasing ballast water discharges would significantly increase the potential for species introductions.
93. Provide rationale for the selected sound modelling site in Hudson Strait. Evaluation of the selection of noise source modelling and sound propagation along Hudson Strait to Davis Strait.
94. Commit to making sound measurements before and after construction, and before shipping begins, taking into consideration the annual cycle.
95. Consider the modelling of potentially overlapping sound fields from the noisier sound sources, and where there is not overlap in space make an effort to determine what the temporal lag might be between such overlaps, including estimation of quiet times/return to ambient.
96. Clarify ship densities and identify the places where arriving and departing ore carries will pass each other.
97. DFO to provide research paper multivariate approach to Baffinland by November 15th, 2011.
98. Upon DFO providing research paper on the multivariate approach, Baffinland will consider the approach and either incorporate it into the FEIS or document why it was not incorporated into the FEIS.

99. Baffinland will revise the impacts analysis for project effects of shipping on marine mammals taking into account the commitments above in the FEIS.
100. Baffinland will include in the FEIS the response to DFO information request 05E (aircraft noise), and include consideration of relevant aircraft noise studies from other areas (Alaska) as well as the inclusion of mitigation measures in the appropriate management plan.
101. Baffinland will incorporate into the FEIS more details regarding bathymetry, prop wash, cones and speeds of ships and provide a discussion on how these factors affect sediment redistribution.
102. Develop an environment effects monitoring program for ballast water release into Steensby Inlet. This program will be developed in accordance with the project EEM framework.
103. Provide detailed descriptions of the process for selecting a ballast water treatment system. The system chosen will be based on various parameters including being IMO and North American (Canadian) Coast Guard approved meeting Phase 2 discharge standards system type, size and cost.
104. Consider as part of the monitoring program, changes in pupping habitats and the relative merits of this research versus other potential monitoring topics.
105. Provide an assessment to consider the effect of ice pans as a consequence of icebreaking along the route, and place this change in an ecological context.
106. Provide a table in the FEIS that summarizes project activities at each project component, the applicable management plan(s), and management plan status.
107. Provide conceptual management plans and table of content for EPP for the construction phase.
108. As part of detailed design, thermal modeling will be conducted to determine whether the proposed berm design would maintain a permafrost barrier and prevent shallow subsurface seepage to the surrounding environment.
109. Provide a description of the volume of sediment solids expected to be produced and disposed of in the waste rock stockpile and how and where the material will be deposed of and how the disposal of the sediment solids could affect the short and long term stability and settlement of the waste rock stock pile.
110. Confirm in the FEIS that within the quarry management plan a site wide spill contingency plan for borrow pits will be provided.
111. Review the approach to determining the active layer for waste rock and discuss rationale in the FEIS. In developing this section, will consult with NRCan, EC and AANDC.
112. Confirm in the FEIS, whether the rail route selection accounted for watershed delineation to minimize the ponding of water against the rail embankment, minimize flow and erosion along the rail embankment and minimize debris flow and washouts.

113. Will provide information regarding permafrost considerations relevant to waste rock pile, the rail line and the dykes (for sedimentation ponds) in the FEIS, as well as geotechnical information related to stability analysis for the rock pile, railway and mine pit.
114. Provide a description of mitigation and contingency planning for sensitive land forms and soils sensitive to thawing.
115. Provide stability analyses to support the design for the waste rock stockpile and demonstrate that the waste rock stockpile will be stable during the warming of the permafrost and after the foundations thaws.
116. Provide the thermal modeling results demonstrating the efficiency and robustness of the proposed encapsulation designs of the waste rock pile.
117. Provide the long-term closure and post-closure stability of the pit walls especially with regard to the presence of the pit lake and its impact on stability.
118. Provide further analysis showing that the design of the pit is stable and that the vicinity of the waste rock pile to the pit has been taken into account.
119. Include details of the ice monitoring program including but not limited to the following a) the area being monitored, b) the techniques to be used to gather monitoring data, c) the frequency of monitoring, d) how the data will be shared and e) how the data will be used to assess/mitigate impacts to the ice regime.

Railway Construction and Operation

120. Provide for 6 types of stream crossing designs and cross reference all stream crossings to these types of crossing designs. As design progresses, additional information will be provided to the regulatory authorities for each stream crossing.
121. Assess the need for ventilation in the railway tunnels during construction and operation.
122. Provide the results of the preliminary information related to thermal analysis and stability analysis for the railway.
123. Provide a summary of the regulatory inspection requirements for the rail line.
124. Provide information on the rockfall hazard assessment.
125. In the detailed design stage, carry out a geotechnical investigation in areas where there are potential instabilities, and incorporate the results in the detailed design phase.
126. Provide an updated draft railway infrastructure management plan that includes the approach to be taken in the detailed design stage to consider NRCan recommendations related to instrumentation for monitoring ground thermal conditions, slope stability/movements and tunnel sections particularly in areas where there is potential for instability, and the definition of triggers for criteria for selection of management techniques.
127. Incorporate IQ in consideration of caribou crossings in its railroad design.
128. Provide an analysis and discussions to support the proposed side slope design criteria for borrow pits.

129. The emission inventory for the Project will be updated in the FEIS.
130. Air quality modelling assessment will be redone for the Mine Site and Steensby Port. Ships emissions will be taken into consideration at the port and results to be presented within the FEIS.
131. Photographs of the auto-station installations and detailed discussion of auto station maintenance, calibration, and quality assurance procedures will be provided.
132. Baffinland to look at recommendations for the design and construction of the waste rock stockpile. Baffinland's Engineer will assess and implement these recommendations. Where Baffinland's Engineer disagrees with a specific recommendation, a rationale will be provided for the disagreement.
133. As part of detailed design, thermal modelling be conducted to determine whether the proposed berm design would maintain a permafrost barrier and prevent shallow subsurface seepage to the surrounding environment.
134. Installation of tide gauges at Steensby Port site to monitor relative sea level and storm surges.
135. Include in FEIS the design basis of the ore dock and freight dock (Steensby docks) and discussions to be conducted with NRCan prior to completion of FEIS.
136. Installation of continuous GPS or similar means at Port sites to monitor vertical motion and constrain uplift estimates.
137. Where possible to maintain a minimum flying altitude of 2,000 feet when in the air space over the park except for approach to land, take-off or for safety reasons.
138. Ensure certification of noise compliance, if applicable, is current.
139. Provide Parks Canada with regular flight and shipping schedules that can be used to brief visitors to the park. Within this commitment Baffinland will present Parks Canada with a revised estimate of vessels and flights if it changes substantially so that appropriate mitigations can be explored.
140. With respect to shipping into Milne Port, provide due consideration to wilderness experience during open water especially during August which is the high use by sea kayakers.
141. Assess the potential ambient air quality impacts from ship emissions. A new transient CALPUFF model scenario will be completed using the Steensby Port model domain, CALMET data, and emissions from all sources at the port. In addition, emissions from a fully loaded ore ship pulling away from the port will be included. The ship emissions will be estimated assuming that fuel containing 3.5%. Since the ship emissions will be infrequent and transient only short term (1-hr) ambient concentrations of as sulphur dioxide (SO2), nitrogen oxides (NOx), and nitrogen dioxide (NO2) will be analysed. The emission input data will be reviewed by Environment Canada prior to completing this model simulation.

Cumulative Effects Assessment, Transboundary Impact Assessment

142. Include in the cumulative effects assessment for marine mammals the interaction of single effects within the Project. The analyses will include consideration of sound levels from two ore carriers as they approach and pass one another along the shipping route, particularly in areas of high ice concentration (such as North Foxe Basin).
143. Address the uncertainty in the significance determination of cumulative effects. The overall rating of significance to be included in the effects assessment summary tables outlining significance criteria. Provide a discussion to support each significance determination. In addition, provide overall arching commentary on how uncertainty was addressed in the cumulative effects assessment.
144. Baffinland is to outline its experience and track record and identify the safeguards that will be put in place to compensate for any lack of experience in similar environments, more specifically providing updated information in relation to its experience in mining projects in the same region or similar environments.
145. Provide a commentary on how transboundary effects of the project could result on marine habitats, animal populations and the harvesters relying upon them which are located in other jurisdictions.
146. Re-evaluate the significance of cumulative effects on caribou taking into consideration both the combined and synergistic effects of the project on population dynamics.
147. Re-evaluate the cumulative effects analyses to integrate caribou habitat, movements and mortality at the scale of the north Baffin Island herd range.
148. Re-evaluate the cumulative effect assessment to address the effects on caribou harvesting related to escalated project activities, including establishment of a long-term transportation network and marine shipping routes with ice breaking as ice breaking could cause additive mortality.

Birds, Terrestrial Vegetation, Terrestrial Wildlife

149. Provide information on the monitoring of raptor species that differ in their ecology (e.g., migratory and nesting patterns).
150. Update the DEIS to reflect the most current data collection and any impact this may have on the effects analyses.
151. The efforts undertaken to improve nest searching and determine occupancy and productivity be continued within the TEMMP. The final EIS should also incorporate the data collected in 2011 to strengthen the baseline data already gathered. In addition develop monitoring program for raptors.
152. Address all items identified under Section 6: Terrestrial Environment regarding EC's comments.
153. In collaboration with EC, Baffinland will develop a marine bird monitoring program that considers the following: a) The program for monitoring marine birds along the shipping

route should follow methodology and protocols similar to those outlined in Fifield et al. 2009 so that results can be combined with previous marine bird surveys in the Eastern Arctic (e.g. McKinnon et al. 2009 and the PIROP database) and contribute to regional marine bird baseline data and monitoring; b. Data collected during monitoring should include the reaction of birds to approaching vessels (e.g. flight, diving, collisions), the distance at which they react, the time required to resume normal activity once disturbed, and the attraction of birds to ship tracks during periods of ice cover; c. To the extent possible, bird mortality due to collisions with ships should be recorded and included in monitoring reports. Information recorded should include species, number of individuals, age and sex (when feasible), date, time, location, and meteorological conditions; d. A framework on methods, protocols, duration and frequency of ship-based monitoring for birds and marine mammals should be provided in the FEIS.

154. Apply general mitigation measures for all migratory bird species as well as additional migration measures recommended by EC in issues 6.2, 6.5, 6.7 and 6.8.
155. Acknowledge the potential for an increase in the number of predators because of both an increase in potential attractants and an increase in the availability of nesting, roosting, and denning sites. Identify mitigations where known such as design structures in such a way as to reduce or eliminate denning, roosting, and nesting sites for avian predators and arctic foxes. Baffinland may consult with EC-CWS staff regarding design measures that could be taken.
156. Expanding statements regarding proper containment and disposal of food to include other edible attractants (e.g. plastics, motor oil, etc.).
157. Acknowledge the potential for an increase in the number of predators because of both an increase in potential attractants and an increase in the availability of nesting, roosting, and denning sites. Identify mitigations where known such as design structures in such a way as to reduce or eliminate denning, roosting, and nesting sites for avian predators and arctic foxes. Baffinland may consult with EC-CWS staff regarding design measures that could be taken.
158. Including a commitment to audit waste management practices to ensure that waste streams are properly segregated at the source and that potential wildlife attractants are diverted from the landfill.
159. Ensuring that orientation for project personnel includes best practices with regard to waste management and avoiding wildlife.
160. Conducting surveillance or regular scheduled site audits of facilities and project waste sites for the presence of wildlife to ensure that predator control measures are effective.
161. Provide reports regarding deterrence of roosting scavengers such as ravens and previous reports that have been published including mitigation measures by November 15th, 2011.
162. Baffinland's spill contingency plan(s) will include a section that outlines how they would protect wildlife in the event of a spill. The plan should include, but not be limited a description, with maps, of the migratory bird resources at risk (including CWS Key

Terrestrial and Marine Habitat Sites for Migratory Birds, Migratory Bird Sanctuaries, National Wildlife Areas and National Parks).

163. Baffinland will correct the bird baseline with a re-evaluation of data collected to date, and confirmation of raptor data beginning in 2011 and review potential project impacts and potential monitoring and mitigation.
164. Assess the significance of shipping impacts on migrating, foraging, nesting, and wintering seabirds.
165. Baffinland will note the molting area noted in EC 6.7 in the baseline and impact assessment, and consider mitigations for overflights in that area.
166. Identify potential measures to that could be used to reduce Project activities and noise emissions during the period when migratory birds are present and a breakdown of when these activities would likely occur to assist with EC and BIM in identifying how mitigation could best be implemented.
167. Include a statement of the potential effects and mitigation for Red Knot in the Species at Risk section of Vol. 6 of the FEIS.
168. Provide a detailed analysis of calving sites and areas, habitat selection and annual fidelity including the 2009-2011 calving locations from the GN collar dataset by using a closer resolution of the dates (~3-14 June data range) to pinpoint the timing and location of calving sites. A comparison should be made with the aerial survey data on calving.
169. Determine which potential calving locations are within the mine zone of influence (ZOI). This will include mine infrastructure such as tote road, mine and railroad to quantify a baseline to assess the potential impact of the project on the extent of calving.
170. Acknowledge the increased vulnerability to disturbance by cows and young calves (nursery groups), including options to detect and address areas used by calving caribou, and to propose adaptive mitigation measures to reduce potential impacts.
171. Caribou Protection Measures will be implemented and will include mitigation measures with respect to caribou calving grounds.
172. Monitoring and adaptive management for caribou movement, calving and post-calving caribou will be clarified based on further discussion with QIA and other agencies. This will include providing a discussion on potential significant changes in movements and migration across roads and railroad, and designing methods for monitoring relative to adaptive mitigation measures during the calving and post-calving periods to reduce the potential impact on construction and operation of the mine on calving caribou. The proposed monitoring program should be scaled to changes in caribou density during the caribou cycle and local versus regional perspective (North Baffin).
173. Where more information is available, provide further justification of the level of confidence for project effects (i.e., linear mine infrastructure, especially the railroad) on movement of caribou and enhance discussion on the low and high cycles of caribou populations and quantify effects where possible.

174. Reassess the harvest data and Inuit knowledge to include the islands and sea ice as caribou habitat in the FEIS. Regional assessment area will include the islands.
175. Provide an assessment of the literature on ice crossings and the effect of ice-breaking ships.
176. Collect baseline samples of lichens to ensure an adequate reference point is available (as part of a future statistically designed monitoring program to track any changes in the lichens).
177. Propose additional monitoring (rather than the current "wait and see" approach and relying on employee sighting reports to establish increased or decreased habitat use) that will be able to detect changes in abundance (detection of a ZOI), impacts to movements, and reduce uncertainty for North Baffin caribou distribution and abundance.
178. Section 3.0 of the DEIS should be revised to provide a comprehensive summary of the findings and key elements of the Vegetation Baseline Study Report.
179. Within the updated abandonment and reclamation plan, Baffinland will commit to examination of re-vegetation success including the use of plots on previously disturbed sites near Mary River.
180. Calculate the footprint of the existing disturbance within the PDA.
181. Note the potential invasive species that are of greatest concern in the RSA and/or PDA and the risks they pose to vegetation abundance, diversity, and wildlife habitat.
182. Demonstrate how Baffinland intends to comply with the invasive species provisions of the Nunavut Wildlife Act, Section 91(2), which states, "No person shall release a member of a species into a habitat in which that species does not belong or never naturally occurred".
183. Ensure that the range of caribou has been defined using all available data, including multi-year radio collaring data. Within this range, Baffinland shall describe where caribou use space on a seasonal basis, including the calving, summer and winter seasons (where relevant) based on available radio collaring data.
184. Include an overview of the habitat features or characteristics that are potentially important to caribou in general, such as but not limited to vegetation, topography, aspect and snow depth based on available literature and data.
185. Describe the other project- specific sources of effects that may affect caribou, such as noise from mining and transportation operations.
186. Identify and describe the potential for indirect effects on caribou health and mortality such as loss of body condition, reproduction and calf survival; loss of habitat; and increased harvesting access.
187. Acknowledge that caribou have historically and currently exist and use the RSA.
188. Identify the geographic area (i.e. range and areas used by caribou seasonally) defined using available radio-collar data and provide the spatial context for the effects analysis.
189. Identify and describe each of the parameters incorporated in the Resource Selection Probability Function (RSPF) and describe the strengths and limitations of the data used

for each RSPF parameter such that the implications to the model outcome are fully understood.

190. Provide the updated RSPF analyses that include caribou collar data through to April 2011 to determine the extent of migration or movement by collar animals over this longer time period. Maps of seasonal ranges should be provided and used to develop criteria for categorizing caribou as resident or migratory.
191. Redefine the Zone of Influence (ZOI) on the basis of anticipated project-specific effects rather than replying entirely on Boulanger et al (2011) or justify the application of the 14km ZOI for this project.
192. Include an assessment of the caribou movement that incorporates an analysis of available radio-collar data in addition to the proponent's identification of caribou trails. This will consider the analysis and mapping of the movements of collared individuals.
193. Consider modifications to the design for the typical caribou crossing site to improve its potential to be effective by increasing their width to the maximum degree possible (as a minimum).
194. Clarify how a concept ("let the leaders pass") derived from an Inuit harvesting practice is applicable to mitigation to caribou movement effects from rail operations.
195. Re-evaluate the RSPF using geographic areas (i.e. range and areas used by caribou seasonally) defined using available radio-collar data.
196. Changes in the RSPF based on the ZOI must be considered in relation to the various habitat probability categories that were derived by the model. The loss of high quality habitat, including areas used for calving, is of particular interest.
197. Review the caribou protection measures contained in the Environmental Protection Plan, including Appendix 10B.There will be clear and unambiguous statements regarding the measures to be undertaken and the triggers for their application to meet the spirit and intent of the provisions of the North Baffin Regional Land Use Plan, Section 3.3.7 and Appendix I regarding caribou calving areas.
198. Re-evaluate the significance assessments for habitat loss, movement and mortality and health.
199. Provide an updated version of its project-specific follow-up program that commits to the undertaking of project- specific monitoring during each phase of the project.
200. Include an additional review of literature relevant to the permeability, accessibility and use of the rail line by caribou. All assumptions related to the assessment of the permeability, accessibility and use of the rail line by caribou will be clearly identified and explained.
201. GN will provide Baffinland with references for any GN known sources of relevant literature related to the permeability, accessibility and use of the rail line by caribou by the end of October 2011.
202. Provide a review of the relevant literature (e.g., pronghorn or moose on railway lines) and demonstrate the application of the precautionary principle in the design of the number of

crossing sites and design characteristics of the caribou crossings to minimize the barrier effect of the railway infrastructure to caribou.

203. Identify the range of variation in the frequency of the trains passing a particular point, and address the implications to caribou crossings and monitoring.
204. Include a discussion on the frequency of deeper than average snow winters or winters with fall icing to assess how winter conditions may affect caribou crossing and travel along the railway and roads.
205. Provide an updated version of its project-specific follow-up program that commits to the undertaking of project- specific monitoring during each phase of the project. Regional-level monitoring requirements could be integrated with the ongoing activities of the GN.
206. Provide an updated version of its project-specific follow-up program that commits to the undertaking of project- specific monitoring during each phase of the project. The follow-up program will identify objectives, monitoring activities, frequency of data collection, and thresholds.
207. Evaluate the project's potential to generate indirect impacts on caribou mortality, including: from increased assess, increased information regarding caribou locations, and increased support for hunters (e.g., fuel), changed predator-prey interactions. Additional sources of effects will be acknowledged. Additionally, remove reference to a no hunting policy for beneficiaries from the FEIS, and address the potential effects on caribou mortality.
208. Additional analysis of potential impacts to caribou health (i.e. body condition, reproduction and calf survival) will be undertaken. Consider indirect effects on caribou energetics.
209. Categorise the RSPF to quantity habitat quality and quantity and impacts associated in the ZOI. Design and apply multiple scenarios of caribou abundance to its impact assessment and ensure that scenarios span the range of possible changes in population over the life of the project rather than applying a single baseline scenario.
210. Re-evaluate the barrier effect of the railway infrastructure over its entire length to better locate and mitigate potential barriers to caribou movement (e.g. embankments, heights and slopes). A sensitivity analysis of the parameters used in the initial evaluation (i.e., embankment, heights and slope) could be undertaken to provide additional insight.
211. Clarify under what circumstances would trigger the application of limiting train traffic as a mitigation measure for caribou and provide information in mitigation plans to limit train traffic.
212. Re-evaluate the ELCs fundamental deficiencies identified as: 1) Lack of variability in observed vs. predicted values (table 3.14 of ELC baseline); 2) The predictive variable (surficial geology) is proved to be significant even with apparent data deficiencies; and 3) Assess the resulting cascading error from missing surficial geology data (figure 3.9 of the ELC baseline).

213. Confirm if dust suppressants are or are not going to be used, and if used, examine what influence the dust suppressants may have on the thermal regime of the road embankment and its integrity.
214. Describe all sources of dust from the various project components, physical works and activities throughout each project phase so that they can be considered in subsequent effects assessment.
215. Re-assess the geographic extent of dust fall. Where possible and appropriate use the experience and data for tundra mines (e.g. Ekati, Snap Lake, Diavik).
216. Re-assess various caribou abundance cycles and movements including how it relates in the ZOI. Consider comparing and contrast collar data versus traditional knowledge.
217. Based on current and predicted soil metals concentrations assess the range of potential metal levels in caribou forage including lichens. This re-assessment would include thresholds of possible toxicity to plants and risk assessment for caribou.
218. Analyze the probability of caribou exposure to metals in forage relative to the zone of influence.

Freshwater Environment, Freshwater Biota and Habitat

219. The waste rock management plan will discuss alternatives to encapsulation for treating effluents from waste rock.
220. Waste rock characterisation will be an ongoing program for the life of the Project.
221. A detailed waste rock characterisation and monitoring program will be presented in the FEIS.
222. As-built site drainage plans will be incorporated into a future surface water management plan, once constructed.
223. Baffinland will include an geochemistry testing protocol in an updated Borrow Sites and Quarry Management Plan.
224. Environment Canada's Green Kenue software coupled with a DEM of the Phillips Creek watershed will be used to compare more accurately the watershed characteristics of the tributary and Phillips Creek watersheds to determine the applicability of the Mean Annual Unit Runoff data to the entire watershed. Text will be added to the FEIS to include this additional level of analysis.
225. Update surface water quality and sediment quality baseline data with new data collected in 2011 and revise water quality effects assessment.
226. Define minor versus major wetlands within water quality assessment section of the DEIS.
227. The resultant effects of the redistribution of water on freshwater biota and water quality will be discussed in Sections 3 and 4 of Volume 7.
228. Baffinland will review the recommended 50 kPA instantaneous pressure change threshold recommended by DFO and consider its adoption in the FEIS.
229. Provide an updated wastewater management plan for future larger construction and operation camps within the FEIS. The plan will describe how equalization tanks will be

used at the Mine Site and Steensby Site to accommodate surges in sewage received from the satellite construction camps.

230. Clarify how propylene glycol used for aircraft de-icing is to be managed and how downstream receivers will be protected against potential dissolved oxygen depletion.
231. Quantities of hazardous waste produced and storage locations will be updated and presented within the waste management plan.
232. Waste rock characterisation will be ongoing throughout the life of the Project (#220). Available additional static test and humidity cell results from studies conducted during 2011 will be presented in the FEIS.
233. A sampling and testing program for the characterization of the waste rock for the period of 2012-2014 will be developed and will involve devising a representative sampling program for the waste rock based on the configuration of the ore body and the mining plan; analysis of the lithology, morphology and mineralogy of the waste rock; additional testing (both static and humidity cell). An independent expert will review and provide guidance for this program. The characterisation program will be ongoing for the Life of the Project and will guide the development adaptive management strategies for waste rock management (should this be required over the life of the Project). This program will be presented in the FEIS.
234. Outline the basis for their selection of wastewater treatment technology for waste rock and ore stockpile drainage considering the need to meet both MMER at end of pipe and site specific receiving water quality criteria (#268) for in stream water quality guidelines in the receiver.
235. Update and revise the project site water balances to address issues identified in AANDC comment #22. Includes reflecting the updated project description, ensuring volumetric "balance" on some of the system components, verifying consistency of potable water and sewage volumes, labeling balances for year of development and providing corresponding water balances representative of current conditions).
236. Continue to operate a hydrological monitoring program in order to develop a long-term record suitable for the design of future infrastructure.
237. FEIS will consider more recent hydrological data and revise storm water management pond, accordingly, if warranted based on the new data.
238. Include baseline data collected between 2005-2008 and 2011 (with potential 2012 data) within the freshwater baseline assessment.
239. Continue to engage EC on the subject of water quality monitoring with a focus on compliance monitoring of discharges and aquatic effects monitoring, prior to FEIS submission.
240. Provide information on the reference sites selected for sediment and water quality in order to aid in providing a true picture of baseline and provide framework for the aquatic effects monitoring plan by 2012.

241. EC commits to reviewing the standard operation procedures for sediment sampling developed by Baffinland, as Baffinland has committed to collecting top 1-2 centimetres of sediment as opposed to standard 5 centimetres for sediment quality characterization going forward. A standard protocol does not exist for such sampling and further discussions will be needed between EC and Baffinland.
242. Site specific water quality objectives will be developed for, but not limited to, aluminum, chromium, uranium and selenium.
243. Define minimum mixing zones for the receiving environment and consider low flow and average case scenarios. Provide revised mine contact water and treated sewage discharge quality criteria using worst case assumptions (i.e. For mine contact water discharge criteria, use 90th percentile of baseline data as opposed to means. For prediction of treated sewage discharge quality criteria, use 90th percentile for sewage monitoring data and baseline data for Sheardown Lake, Mary River and Nivek Lake and delineate minimum mixing zone as opposed to using entire lake volume for dilution). In addition, provide baseline data for sampling stations L1-02, L1-08, G0-09, F0-05, E0-10, Sheardown Lake and Nivek Lake in a modifiable format (i.e. excel).
244. Provide estimates of expected pit water quality in the FEIS including the acid and metal contributions made by the pit walls and adjacent waste rock piles. The FEIS will also include an assessment of the ability of proposed mine water treatment options to deal with the expected pit water quality. If necessary, alternative treatment options will be described.
245. Develop explosives handling procedure (similar to Diavik) and provide a plan within FEIS to manage ammonia releases associated with blasting.
246. A protocol for executing ARD/ML testing as part of quarry development will be included in an updated Borrow Pit and Quarry Management Plan in the FEIS.
247. Provide a discussion on alternative disposal methods for brine (leftover from tunnelling activities) and alternatives to the use of brine for dust suppression.
248. Provide an update and discussion on uses of calcium chloride (CaCl) at the Mary River site.
249. Provide information on how the fish passage flow (3Q10) was calculated for the railway water crossings given the limited stream gauge data.
250. Use the recently acquired stream flow data to assess and update the earlier flow models that were used to develop the peak flow equations for return periods of 2 years, 5 years, 10 years, 25 years and 100 years.
251. Provide the equation for the 200 year return period flow and the list of peak flow equations identified in the DEIS as the design flow for the railway crossings.
252. Assess fish passage for low and average flows as part of the culvert design process.
253. Expand the following tables: A 2.1, A 2.2, and A 2.3 from Appendix 2, Volume 10, Appendix D7 of the DEIS to include average water depth and velocity estimates for the culvert and channel for various (2,5,10, 25,100 and 200 year) flow estimates and the fish

passage flow (3Q10) as well as a summary of the available fish habitat located upstream and downstream of potential crossing locations.

254. Provide more detailed information related to the criteria used to determine if fish passage is required at a watercourse crossing to better understand the decision making process and potential risk to fish.
255. Provide a more detailed explanation on the criteria used to develop table 7-4.9, in order to understand the relationship between culvert size, slope and passage ability for the target fish species.
256. Clarify what criteria will be used to determine which mitigation measures are appropriate at each crossing. A monitoring program will be developed to determine if the mitigation measures implemented are functioning as intended and this will include a contingency plan if found that fish passage was not maintained as predicted.
257. Demonstrate that Baffinland has considered feasibility of using culvert shapes other than circular pipes that have been proposed as the design standard.
258. Provide an effects assessment on the impacts of the stream water diversions in the mine LSA, including mitigation measure which will be implemented to mitigate negatives impacts to fish and fish habitat.
259. Provide a review of quarry locations relative to fish habitat and assess effects on fish and fish habitat if warranted.
260. Provide the rationale for the thresholds used for productive capacity to determine the magnitude of effect on Arctic Char habitat in the determination of significance.
261. When the freshwater HADD resulting from the mine site diversions has been quantified, Baffinland will develop fish habitat compensation options.
262. Review the selected thresholds and threshold levels for determination of magnitude of effect to ensure that they are appropriately selected and adequately described for the freshwater environment. Where possible quantitative descriptions should be provided. Issues such as potential Project expansion are addressed as Cumulative Effects and, as such are discrete from the assessment of the Project as defined and proposed in the EIS.
263. Provide mass balance modeling estimates of nitrate losses from the use of explosives into the aquatic environment, with sufficient detail that modeling methods and assumptions can be assessed. In addition, assess the adverse effects and identify treatment options for nitrate if the mass balance modelling suggests there may be chronic sub-lethal effects on the aquatic biota (for example, hormonal disruption in arctic char).
264. Provide the following within the FEIS: the source characteristics and quantities of each effluent discharge to water, as well as maps; maps showing locations of discharge points; and effluent discharge criteria.
265. NWB will endeavour to provide to the QIA information on the outcome of the meeting held in Edmonton on July 21, 2011 in which issues related to Engineering Drawings and Standards for Water Licensing were discussed.

266. Identify in a summary table the agency and regulatory instrument associated with each effluent discharge.
267. Carry out acute and chronic toxicity testing of effluent as required by MMER.
268. Site-specific guidelines developed, as the basis of the assessment of environmental effects to water quality as a result of discharge of mine effluents.
269. Additional explanation will be provided to justify mixing assumptions between the point of discharge and the receiving environment.
270. Use the CWQG, or any site-specific guidelines developed, as the basis of the assessment of environmental effects to water quality as a result of discharge of mine effluents.

Socio-Economic Environment

271. The FEIS will reference the establishment of an Executive Committee to oversee the implementation of the IIBA, in line with the IIBA.
272. The FEIS will reference the establishment of a Management Committee within the framework of the IIBA to monitor the Project on a continuous basis and provide ongoing Inuit input for environmental and social monitoring of the management plans.
273. The FEIS will reference the maintenance of an active stakeholder management plan to inform and involve Inuit communities with the Mary River Project.
274. The FEIS will identify that compensation will be negotiated with QIA on behalf of those individuals who are unable to pursue travel activities across Steensby Inlet due to the ice track.
275. Baffinland commits to develop a conceptual monitoring framework that will be included in the FEIS. This framework will include the foundation for public monitoring initiatives, development of indicators, and adaptive management that could utilize data and data sharing.
276. The socio-economic monitoring framework set out in the FEIS will address the establishment of data-sharing relationships with key departments so that appropriate data can be utilized in both our EH&S-focused monitoring as well as in joint Executive Committee activities and public monitoring activities. Baffinland recognizes that these will need to take into account issues of data confidentiality. Partnerships with GN HSS, GN Education, among others, are anticipated.
277. The FEIS will note Baffinland's intent to establish relationships with key service providers who have mandates to build capacity in Nunavut, for example Kakivak Association, Department of Education, and Arctic College to ensure Baffinland’s initiatives related to human capacity development are supportive with other initiatives, and to build partnerships for joint initiatives where these are appropriate.
278. The FEIS will note Baffinland's commitment to work with QIA through the IIBA business support provisions, along with local Economic Development Officers, Kakivak Association, the Baffin Regional Chamber of Commerce, the Baffin and the Department

of Economic Development and Transportation to improve the success of business development opportunities presented by the Project.

279. The FEIS will note how Baffinland will work with local and regional partners who have identified specific skills shortages to identify if and how Project labour needs might align with these strategic labour force development areas.

280. The FEIS will make reference to Baffinland's intent to develop a Project-focused human resources management system to meet its operational labour force needs and to assist in achieving the mutually defined objectives arising from the IIBA and overseen by the joint Inuit – Baffinland Executive and Management committees. This system will include activities to identify individuals who are interested in working in various positions of the Project so that as opportunities arise, people can be recruited by the company and by its major contractors.

281. The FEIS will address, in general terms, how Baffinland will work with its monitoring partners to identify indicators related to versatile and sustainable skills and capacities.

282. The FEIS will note Baffinland's intent to meet with key service providers (including RCMP and GN Departments of Health & Social Services and Justice) to share information, within bounds of confidentiality, intended to enhance the relevant initiatives of these respective parties.

283. The FEIS will note Baffinland's intent to work with GN Health and Social Services and Department of Justice to discuss issues related to emergency and medical services and protocols. If these discussions indicate that a formal memorandum of understanding (MOU) will facilitate smooth coordination in these areas that could be arranged.

284. The FEIS will note Baffinland's intent to work with the Iqaluit Airport Division to discuss the proposed use of the Iqaluit airport. If substantial use of the Iqaluit airport is identified it will be included as subject of note within the FEIS.

285. The FEIS will note Baffinland's intent to work with the Department of Economic Development & Transportation (along with other agencies) within the context of IIBA commitments to business support.

286. The socio-economic monitoring framework set out in the FEIS will address how Inuit will be involved in the development of effective monitoring plans and in the development of adaptive management strategies.

287. The socio-economic monitoring framework set out in the FEIS will address how annual reporting will be accomplished with regard to valued socio-economic components.

288. Baffinland commits to develop a conceptual monitoring framework that will be included in the FEIS. Baffinland will collaboratively work together, as possible, with the QIA, GN, AANDC in the development of this framework. Baffinland anticipates that the following will be taken into consideration in constructing this framework: human health and well-being, social services, education, employment, demographics, life skills, substance abuse, crime (including family violence), food security, land use & harvesting and associated culture and skills.

289. Baffinland will describe in the FEIS how information related to the reasons employees terminate their employment with the Project will be monitored. This will be addressed in the monitoring framework outlined above.
290. The FEIS will address the means by which QIA and Baffinland will work collaboratively with the GN in areas related to health and social services, and education.
291. Review and consider socio-economic cumulative effects assessment in light of AANDC comments #8.
292. Provide reference socio-economic monitoring information related to other mining projects in remote locations. This information will be provided by November 11th so that Baffinland can consider it in its preparation of the socio-economic monitoring framework to be included in the FEIS.
293. In finalizing the FEIS, Baffinland will consider recent data presented at the 2011 Kivalliq SEMC meeting in Baker Lake related to the social effects of Meadowbank Mine, as well as a closer consideration of the social interactions addressed in the 2007 socio-economic monitoring report for the Jericho mine that was published in 2009. Other recent reports of relevant projects that are provided by AANDC prior to November 11th may also be considered.
294. Baffinland will provide new estimates in the FEIS of tax revenues to Nunavut based on updated assumptions.
295. The FEIS will address how Baffinland will meet with Transport Canada's marine surface and inter-modal security branch to discuss and gather required information in respect to shipping and security monitoring, and to identify relevant information to be shared with the RCMP and/or GN Department of Justice.
296. Baffinland will clarify in the FEIS who will be eligible to participate in the pre-employment training activities described in Appendix 10F-3 of the DEIS.
297. Expand the discussion currently addressed under the DEIS Volume 4 Section 4.5.3 “Boom and Bust” heading to include further analysis of temporary shut-down effects.
298. Consider including a discussion related to the effects of temporary and permanent closure of the mine and the associated economic, social and cultural effects within the FEIS.
299. Review the contents of Appendix A of QIA's Technical Submission to NIRB for the purpose of facilitating discussions with QIA's EA/IIBA Review Committees during future community engagement sessions.
300. Baffinland will include in the FEIS a consideration of the effects of potential in-migration into Iqaluit from outside the local study area, including effects on communities experiencing out-migration and effects on local housing issues.
301. Provide information on status and future plans for all archaeological sites listed in Appendix 4D as having been 'partially mitigated'.
302. Clarify plans to undertake radiometric or other technical analyses as a means of refining the temporal framework for the archaeological resources, and for incorporating the results into the recommendations for mitigation.

303. The Proponent must provide a final footprint for the project.
304. Provide a synthesis of the archaeological resource base (i.e., the prehistory of the development area), including an assessment of the heritage value of the archaeological component of the Mary River project cultural landscape.
305. Include a discussion of the important timing considerations associated with SDR, and how the proposed mitigation will address this issue.
306. Clarify why an additional 19 sites are recommended for SDR along the Tote Road; specifically, why these sites could not be protected/avoided through minor realignments of the road.
307. Clarify the extent to which recommendations made by consulting archaeologists formerly associated with the project have been actioned or otherwise incorporated into the proposed mitigation recommendations.
308. Expand on the mitigation recommendations for Steensby Island; specifically, (i) why 63% of the sites are proposed for SDR, and (ii) how 'off-limits' mitigation will protect 36 other sites identified as being at 'increased risk' of impacts.
309. Clarify the status of the Tote Road. CLEY agreed to a variance on the 30m buffer for staking sites located along the road on the understanding that it was a temporary (two year) road.
310. Identify the sites at Milne Port for which the SDR might change upon finalization of the planning for the port. Explain how and why the SDR would change.
311. Provide greater clarity concerning the mitigation terminology being used, and the application of specific measures on a case by case basis.
312. Clarify whether shovel testing of the main beach ridges in Milne Inlet was done and the results of that work.
313. Include the assessed significance of all sites in the summary tables.

Environmental, Health and Safety Management System

314. Provide a comprehensive, stand-alone Monitoring Plan to address monitoring requirements specific to water use and waste disposal activities.
315. The comments and recommendations made by AANDC and QIA (QIA-F-02, QIA-F-03 and QIA-F-05) will be taken into account during the revision/update of the various EMMPs. These include: clearly identify what mitigation measures will be implemented, how these measures will be monitored to confirm their performance, the data gaps and uncertainties identified in the DEIS and how these will be addressed through monitoring or mitigation. The revised EMMP could form the basis for a project commitments register.
316. Implement this Environmental Health and Safety (EHS) Management Framework which is based on the principle of adaptive management and continuous improvement.
317. Provide adequate resources to implement and maintain the EHS Management System, including the necessary human, material, and financial resources.

318. Integrate the application of the Precautionary Principle into the fabric of its EHS Management Framework.
319. As part of Baffinland's EHS framework a sustainability plan will be prepared that outlines objectives, indicators and specific measurements as part of long-term environmental and socio-economic monitoring.
320. Baffinland will be self-sufficient for Search and Rescue operations (SAR) and response to environmental emergencies as it relates to Mary River Project activities, but will share relevant information with the RCMP and GN Department of Justice.
321. Maintain necessary equipment and trained personnel at the Steensby Port at all times to enable the Company to respond effectively to SAR or sea borne environmental emergencies.
322. Include ongoing hazard and risk assessment as part of Baffinland EHS Management Framework (as outlined in Volume 10 of the DEIS) which is the basis of the Emergency Response and Spill Contingency Plan.
323. Maintain an Emergency Response and Spill Contingency Plan that is current and adapted to the level of activities at the Mary River Project.
324. Provide adequate resources to implement and maintain the Emergency Response and Spill Contingency Plan, including the necessary human, material, and financial resources.
325. Implement annual training programs (classroom and hands-on deployment field exercises) for emergency responders to ensure that emergency response and spills contingency procedures are effective and up to date.
326. Invite external organization (Transport Canada, CCG, community representatives) to participate in the training exercises.
327. Distribute its Emergency Response and Spill Contingency Plan to all relevant stakeholders.
328. Develop a centralized data repository and data management system for all project monitoring efforts; develop integrated assessments of project environmental impact from multiple monitoring results; develop consistent protocols for community engagement and IQ integration in monitoring.
329. Wastewater management plan will be updated for the FEIS and will reflect the requirements and design details for all phases of the proposed project (i.e. construction, operations and closure).
330. Provide an enhance description for the possible runoff from mine waste and provide alternative to treatment within the mine wastewater plan (additional management plans will be identified as needed).
331. Handling and storage of hazardous waste is part of the Waste Management Plan. Quantities of hazardous waste produced and storage locations will be updated and presented in the FEIS, as well as description of the purpose and design of all waste management facilities.

332. Enhance the description of the railway management plan, including scheduling of trains, emergency equipment at sites and the specifications of tank cars that are designed to withstand the impact of derailment.
333. An enhanced discussion of Baffinland's spill response plan to meet the challenges of the remoteness of the project site and the often severe weather which prevails, including those aspects of the Arcelor-Mittal experience pertinent to the Baffinland rail line.
334. Baffinland will work with Transport Canada and the Canadian Coast Guard to develop emergency and spill response plans.
335. Clarify the types of fuel it uses with the project and the types of fuel ships will be using for powering and whether an accidental spill would require specific clean-up.
336. Assess all opportunities for relocation, redesign and mitigation to avoid negative impacts to fish and fish habitat.
337. Based on DFO's HADD determination, Baffinland will identify a selection of concepts for fish habitat compensation, taking into consideration the hierarchy of preferences outlined in the DFO's Policy for the Management of Fish Habitat.
338. Provide the following management plans as required by the NIRB's EIS guidelines. If these plans have been incorporated into other plans, provide a reference to these plans and rationale for not providing these plans as stand-alone documents. 1) Follow-up and Adaptive Management Plan; 2) Risk Management and Emergency Response Plan; 3) Shipboard Oil Pollution Emergency Plan (it is understood that this plan is developed by the ship owner, however a generic Table of Content of a SOPEP will be presented); 4) Incineration Management Plan; 5) Hazardous Materials Management Plan; 6) Air Quality Monitoring Plan; and 7) Noise Abatement Management Plan.
339. Present a Table of Content for Environmental Protection Plan (EPP) to reflect additional procedures likely to be incorporated as the Project moves into the construction and operation phases.
340. Present a distinct Vegetation Management Plan as per the requirements of NIRB EIS Guidelines, and provide a more comprehensive Wildlife Mitigation and Monitoring Plan targeting terrestrial wildlife VECs (Caribou) and birds VECs (i.e. Raptor species).

Abandonment, Closure and Reclamation

341. Abide by existing regulations, policies and guidelines as they relate to mine closure in Nunavut.
342. Implement a progressive rehabilitation approach.
343. Update its Abandonment and Closure Plan on a regular basis.
344. Actively address, minimize and mitigate environmental effects as much as technically and economically feasible.
345. In terms of re-vegetation, Baffinland will describe and rationalize its strategy of encouragement and enhancement of natural re-vegetation in the FEIS.

346. Address comments made by QIA (F-06) and AANDC (comments #60 to 84) where appropriate regarding specific aspects of the conceptual closure plan within an updated Abandonment and Closure Plan which will be presented in the FEIS.

a. The closure plan will include a cross-reference table with the QIA closure guidelines and INAC 2007 closure guidelines.
b. Actively address, minimize, and mitigate the adverse environmental effects as much as technically and economically feasible.
c. Specific objectives and targets will be outlined in the closure plan.
d. The closure plan will outline objectives and targets.
e. The closure plan will address all Project components.
f. The closure plan will provide estimates of surface areas to be rehabilitated at final closure.
g. At final closure, Baffinland will undertake a comprehensive site environmental assessment to determine extent of contaminated areas and appropriate techniques and methods to deal with such sites.
h. The closure plan will address all facilities included in the Project. The quarry management plan and quarry permit application address closure of quarries.
i. At final closure, Baffinland will undertake a comprehensive site environmental assessment to determine extent of contaminated areas and appropriate techniques and methods to deal with such sites.
j. Modelling of the pit water quality will be presented in the FEIS. Predictions of pit water quality will be updated throughout the life of the Project as more information comes available on the geochemistry of the waste rock and the pit wall.
k. The closure plan will present a time frame for the expected release of ARD and discuss the impact of ARD release on final closure (need for ongoing monitoring, treatment, and, potential mitigations).
l. The Closure Plan will explain what is meant by inert waste.
m. At the onset, the waste rock pile is designed for closure considerations. The FEIS will provide design criteria for the waste rock dump, a waste rock management plan (deposition strategy), stability analysis of the waste rock dump as well as discussion on thermal profile within the waste rock.
n. The Closure Plan will address all the management of all wastes generated at temporary or final closure.
o. The Management Plan are "life of Project" commitments and address VECs, VSECs or specific activities. Management Plans remain in force during "Temporary Closure". Baffinland will comply with the terms and conditions of its water license with respect to ongoing monitoring and reporting obligations.
p. Provide a detailed description with clear commitments of how tunnels will be closed to protect humans in the long term.

q. Each quarry permit application presents a quarry development plan, drainage information as well as a closure plan.
r. The Closure Plan will provide justification for the proposed duration of port closure monitoring. A final closure plan will be submitted 6 month prior to final closure. Baffinland will comply with the terms and conditions of the final closure plan.
s. Re-examine the list of parameters to be monitored to include any constituents that potentially could be released (based on what is used and disposed of on-site) and all potential sources of effluents.
t. Provide supporting information on how creeks and rivers will be returned to pre-development conditions.
u. The cross-reference tables will be updated.
v. Conceptual reclamation method will be discussed in the closure plan.
w. Provide more details and specifics within the Closure Plan including a description of the size of impacts and mitigation plans and provide a discussion of how permanent closure is defined.
x. Provide a separate section of the Closure Plan that is dedicated to health and safety of workers and the public during closure and post-closure activities.
y. Expand the monitoring section of the Closure Plan in scope and detail including linkages to specific objectives and major targets for reclamation and closure.

347. Stability of the waste rock pile and pit wall will be addressed in the FEIS.
348. The discussion and requirements for “Temporary Closure” and “Long Term Closure” will be expanded in the updated Abandonment and Closure Plan submitted with the FEIS. For Closure, either temporary or long term, all hazardous waste will be shipped off site to a licensed hazardous waste treatment facility. Inert waste will be disposed of in the landfill sites at the Mine Site or Steensby Port and discussed within the FEIS.
349. In the updated Closure Plan, Baffinland will discuss conceptual reclamation methods, time frames and schedules, including notice periods to employees and public. The updated Abandonment and Closure Plan presented in the FEIS will also contain a cost estimate for abandonment and reclamation.
350. QIA will provide Baffinland with board approved A&R plan by November 15th, 2011.
351. Baffinland will consider QIA's A&R plans before implementing within abandonment and closure plan.

Additional Commitments in support of Natural Resource Canada’s Requests

352. “Baffinland will consult NRCan on an approach to conduct a shoreline change analysis at Milne and Steensby Port sites, provide some lines describing this approach in the FEIS and include further details of a practical method after consultation with NRCan experts in the Marine Mammal and Shipping Management Plan.”
353. “Baffinland will have ore carriers be subject to sea trials to measure wake characteristics at various vessel speeds and distances from the vessel. NRCan understands that these

trials will occur after the EIS is finalized; however FEIS will indicate the plans for such trials. Since NRCan understands that chartered freight vessel characteristics may not be known until shortly before use, Baffinland will use estimates, some conservatism, and experience from elsewhere instead of field trials for approximation of wake chartered freight vessels."

354. "Baffinland will address potential mitigation measures for nourishment of the shoreline fronting the airstrip at Milne Port in the FEIS."

355. "NRCan suggest Baffinland further clarify in the FEIS how long sedimentation and erosion at Milne Inlet will be interrupted/changed due to existence of a causeway."

356. "Baffinland will provide in the FEIS a first order evaluation of the hydrodynamics and sediment transport at Milne Port. In addition, if the first order evaluation indicates that considerable changes in erosion and sedimentation would result from the Milne Inlet dock and causeway infrastructure, Baffinland will provide further information and Baffinland will consult NRCan technical experts as required."

Appendix 2

Update to the NIRB/NPC Joint Review Process

APPENDIX 2

Nunavut Planning Commission and Nunavut Impact Review Board
Update on the Joint Review of Baffinland's Transportation Corridor Application
Pursuant to the North Baffin Regional Land Use Plan

Background

The North Baffin Regional Land Use Plan (NBRLUP) was approved on June 8, 2000, by the Federal Cabinet and the Territorial Executive Council. Under this approval responsibilities were given to all federal and territorial government departments and agencies, including provisions for a joint review process between the Nunavut Impact Review Board (NIRB or Board) and the Nunavut Planning Commission (NPC or Commission) with respect to prospective transportation corridors, as stated in the Nunavut Land Claims Agreement (NLCA) and further given effect by the *Nunavut Land Claims Agreement Act. S.C. 1993, c. 29.* [1]

Following approval of the NBRLUP, all applications for project proposals falling within the approved planning boundary are required to be reviewed by the NPC to determine conformity with the NBRLUP before being processed within the Nunavut regulatory system.[2]

The NPC formally initiated its review of Baffinland Iron Mines Corp.'s Mary River Project Proposal (the Project) for conformity with the NBRLUP in March 2008. On April 30, 2008, the NPC issued a positive determination to the proposal, stating:

> *"The NPC has completed its review of the above noted project proposal. The project conforms with the North Baffin Regional Land Use Plan (NBRLUP) and we are forwarding it to NIRB for screening. We draw your attention to the provisions of sections 3.5.11 and 3.5.12 of Appendix "C" of the NBRLUP, a copy of which is enclosed, and note that a joint process to address the prospective transportation corridor is*

[1] NLCA 11.5.9 Upon approval by Cabinet and the Executive Council, the plan shall be implemented on the basis of jurisdictional responsibility. All federal and territorial government departments and agencies shall conduct their activities and operations in accordance with the plan as approved.

[2] NLCA 11.5.10 The NPC shall review all applications for project proposals. Upon receipt and review of a project proposal, the NPC or members thereof or officers reporting to the NPC shall:

(a) determine whether the project proposals are in conformity with the plans and

(b) forward the project proposals with its determination and any recommendations to the appropriate federal and territorial agencies.

contemplated by those provisions. NPC looks forward to working with NIRB in accordance with those provisions." [3]

The NPC's determination included specific implementation requirements for the Project's proposed railway as a terrestrial transportation and/ or communications "corridor" in accordance with the following sections of the NBRLUP:

s. 3.5.10 *While ensuring the respect of applicable Canadian international obligation in the region, the NPC shall implement the concept of a transportation and /or communications "corridor" as a land use policy having general application, and applying to land and water routes throughout the region, based on the processes outlined in Appendices J and K.*

s. 3.5.11 *All parties wishing to develop a transportation and/or communications corridor shall submit to the NPC a detailed application for an amendment. This application must include an assessment of alternative routes, plus the cumulative effects of the preferred route. It shall provide reasonable options for other identifiable transportation and utility facilities.*

s.3.5.12 *The NPC, and either NIRB or a panel acting under section 12.4.7 of the* NLCA, *shall publically review the proposed corridor to determine whether the proposal adequately meets the guidelines set out in* Appendices J and K. *Once it is determined that a proposal does meet the guidelines, the NPC may request the ministers to amend the plan to include the new transportation corridor.*

Following the NIRB's Screening of the Project in accordance with Part 4 of Article 12 of the NLCA, on June 27, 2008, the NIRB issued a Screening Decision report to the then-Minister of Indian and Northern Affairs, the Honourable Chuck Strahl, (the Minister of INAC) indicating that the Project required Review. On February 11, 2009, the Minister of INAC referred the Project to NIRB for Review under Part 5 of Article 12 of the Agreement.

The Minister of INAC further encouraged the NIRB and the Commission to develop an arrangement that satisfies the outstanding requirements of the land use planning process, while not unduly encumbering the Board's Review process. The NIRB and the NPC were encouraged to communicate the agreed upon processes to all parties involved in the Review.

[3] The NPC Conformity Determination is available online at the NIRB's ftp site: http://ftp.nirb.ca/02-REVIEWS/ACTIVE%20REVIEWS/08MN053-BAFFINLAND%20MARY%20RIVER/1-SCREENING/01-APPLICATION/

On March 16, 2009, the NIRB and the NPC released a description of the proposed process for fulfilling the requirements of the NIRB Review and the implementation requirements of the NBRLUP.

To date, the NPC and the NIRB have worked together to complete the following steps in the joint review process:

- The NPC assisted the NIRB in the conformity review of the Draft Environmental Impact Statement (DEIS) against the information requirements of the NBRLUP, as included in the EIS Guidelines issued to Baffinland by the NIRB for the Project. Through this process the NPC determined that the information requirements of the NBRLUP were met. It was further noted that this determination was based on a presence or absence analysis only; it was not intended to evaluate the quality of the information presented. While the NPC's determination could also have led to identification of significant deficiencies in the NBRLUP amendment application (i.e. the DEIS), no such deficiencies were identified.
- During the technical review period, the NIRB and the NPC evaluated the information in the DEIS pertaining to Appendices J and K of the NBRLUP and requested that interested parties also provide their analysis within their respective technical review comments. Upon receipt of parties' technical review comment submissions, the NIRB forwarded copies of those comments pertaining to the joint review of the transportation corridor to the attention of the NPC.
- Following the technical review period, the NPC attended a Community Roundtable and Pre-Hearing Conference (PHC) held by the NIRB in Pond Inlet to facilitate further discussions on technical matters related to the DEIS.

As set out in the joint review process, following the PHC the NIRB and the NPC met to discuss the results of the joint review of the transportation corridor and whether or not the requirements of the NBRLUP had been satisfied.

Requirements of Appendix J of the NBRLUP

It is the opinion of the NIRB and the NPC that further information on the following is needed to satisfy the information requirements in Appendix J of the NBRLUP:

- A more comprehensive alternatives assessment of the railroad options, including selection of railway, port and shipping options;
- Details regarding the final railway route; and
- Information regarding the construction and operation of the railway and related impacts on caribou, fish and fish habitat, and Inuit harvesting and traditional pursuits.

The NIRB is satisfied that should Baffinland submit a Final Environmental Impact Statement (FEIS) that complies with the NIRB's PHC Decision, including Baffinland's commitments as set out in Appendix 1, the FEIS should satisfy the information requirements set out in Appendix J, items 1 and 2. The NPC notes it may require further information to satisfy item 3 of Appendix J.

Requirements of Appendix K of the NBRLUP

Both the NPC and the NIRB note that the NIRB's Review process includes consideration of several aspects of the assessment required in items 2 and 3 of Appendix K. This includes whether the proposed railway, located in part within the area covered by the NBRLUP, is appropriately designed for the topography, soil, permafrost and wildlife, and whether it might negatively impact on: affected communities; important fish and wildlife habitat and harvesting areas; and areas of high scenic, historic, culture and archeological value.

As further information is required to be submitted within the FEIS, the NIRB is not in a position at this time to advise the NPC on these aspects of the joint review. The NIRB will be able to provide the NPC with its views on the assessments required by Appendix K following its compliance review of the FEIS with the PHC Report.

The NIRB has noted that aspects of the planning guidelines set out in item 1 and certain aspects of item 2 of Appendix K, particularly relating to improvement of access to other resources, cannot reasonably be addressed through the Board's project-specific Review process. Consequently, it remains for the NPC to address next steps for completing the assessment set out in Appendix K, particularly with regard to item 1 (corridor width), and considerations of the role of the railway as a corridor more broadly to provide for improved access to other resources having high potential for development.

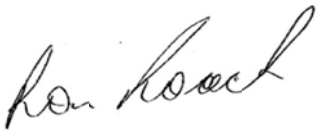
As the NIRB continues its other Review responsibilities, the joint review process is required to address whether the guidelines listed in Appendix K of the NBRLUP have been met. Following this, the NPC must determine whether it will recommend an amendment to the NBRLUP to the responsible Ministers. The NPC and the NIRB realize that a final location of the railway might only be determined upon NIRB's issuance of a final report to the responsible Ministers on the Mary River project. To ensure that all of the possible outcomes of the NIRB Review are being taken into consideration, the NPC may choose to provide its recommendation on the request for a plan amendment to the Ministers for consideration as outlined in NLCA s. 11.6.3 once a final location of the railway has been decided.

Conclusion

On this basis it is anticipated that the next steps in the joint review process will include the following:

1. The NPC will identify whether it requires further information to satisfy item 3 of Appendix J;
2. The NIRB will provide the NPC with its views on the assessments required by Appendix K following its compliance review of the FEIS with the PHC Report; and,
3. The NPC will address next steps for completing the assessment set out in Appendix K and considerations of the role of the railway as a corridor more broadly to provide for improved access to other resources having high potential for development.

Respectfully,



Ron Roach
Chairperson
Nunavut Planning Commission

Lucassie Arragutainaq
Chairperson
Nunavut Impact Review Board

Appendix 3

Update to the NIRB/NWB Coordinated Process

Appendix 3

Nunavut Water Board

Appendix to the Nunavut Impact Review Board
Preliminary Hearing Conference Decision
for the
Mary River Project

December 2011

Prepared By: Nunavut Water Board
Date: December 9, 2011

Table of Contents

Table of Contents 2

Background 3

NWB's Review of the Draft Type A Water Licence Application and Supporting Information 3

Type A Licence Application (Volume 1 of the DEIS) 4

Supporting Information 5

Issues Related to Water Use and Waste Disposal Activities Raised during the NIRB's Technical Meeting and Prehearing Conferences 8

Baffinland's Commitments 9

Conclusions 9

Attachment A: NWB Concordance Assessment

Attachment B: Nunavut Water Board's Technical Review Submission to the Nunavut Impact Review Board regarding Baffinland Iron Mines Corporation's Draft Environmental Impact Statement

Background

On February 24, 2009, the Nunavut Water Board (NWB) and the Nunavut Impact Review Board (NIRB) released a Detailed Coordinated Process Framework (DCP) to demonstrate how the NWB and the NIRB would coordinate their efforts to avoid unnecessary duplication in the review and processing of Type A water licence applications for projects undergoing a NIRB Part 5 Review, pursuant to Sections 13.5.2 and 13.6.1 of the NLCA. In response to comments, on September 4, 2009, the NWB and NIRB issued a revised DCP describing the planned coordination between the NWB and the NIRB.[1] Under the DCP, the individual mandates of both the NWB and NIRB are respected and maintained; however, reflecting the emphasis on the environmental review process, the DCP is primarily led by the NIRB.

Following a request from Baffinland to apply a coordinated process to the Mary River Project and the receipt of the Draft Environmental Impact Statement (DEIS) for the Mary River Project on January 21, 2011, the NWB has participated in the NIRB's Review of the Project including the NIRB Technical Meeting and Preliminary Hearing Conferences. Previous to that, the NWB participated in the NIRB scoping meetings for the Project, the development of Appendix C: Nunavut Water Board Information Requirements for Type A Water Licence Application contained in the *NIRB Guidelines for the Preparation of an Environmental Impact Statement for Baffinland Iron Mines Corporation's Mary River Project* dated November 16, 2009 (NIRB EIS Guidelines) setting out the information requirements related to water licensing, and provided technical review comments and technical advice to the NIRB through the technical review of the DEIS.

NWB's Review of the Draft Type A Water Licence Application and Supporting Information

On July 5, 2011, the NIRB invited interested parties to comment on the DEIS on or before the deadline of September 6, 2011, which was subsequently extended to October 5, 2011. Although the NWB's role in the process is parallel to that of the NIRB's and not necessarily that of an intervener, the NWB nevertheless provided comments to the NIRB related to the DEIS.

[1] Nunavut Impact Review Board (NIRB) and Nunavut Water Board (NWB) Detailed Coordinated Process Framework for NIRB Part 5 Reviews and NWB Licensing, September 2009

The NWB review and submission were generally limited to the sections or aspects of the DEIS that pertained to its mandate[2], which is to regulate the use of water and the deposit of waste into water. The review assessed the draft Type A Water Licence Application and associated information for completeness, conformity, and technical merit. Emphasis was placed on the draft Type A Water Licence Application (Volume 1, appendix 1-C3) and applicable sections of Volume 2, Volume 3, Volume 6, Volume 7, and Volume 10 of the DEIS as referenced in the DEIS. The NWB's Concordance Assessment is provided as Attachment A to this Appendix, and the NWB's Technical Review Comments for the DEIS as previously provided to the NIRB are included in Attachment B.

Type A Licence Application (Volume 1 of the DEIS)

In summary, the NWB's review determined that the draft Type A Water Licence application that accompanied the DEIS is deficient and recommends that Baffinland address the following, in the revised Type A Water Licence application, with supporting information contained as an appendix, that Baffinland committed to providing within the Final Environmental Impact Statement (FEIS):

- Updated information on the potential amendment to the North Baffin Regional Land Use Plan to allow for the transportation corridor that is being considered by the Nunavut Planning Commission (NPC);
- Supplemental information for the various types of undertakings identified in the application including hydrostatic testing, landfarm facilities and on-site storage of hydrocarbon contaminated soil;
- Information on the total quantity of water required on a daily and yearly basis for all of the project related activities combined;
- Information on the water rights of existing and other users of water, including any existing, pending and/or potential water compensation agreement(s);
- Comprehensive information on financial security, bonding and reclamation costs associated with the project for all activities and/or facilities proposed;
- Proposed term (years) of the Type A licence;
- Application fee and fee for the right to use water;

[2] Article 13, Part 2, Nunavut Land Claims Agreement.

- Information on reporting parameters, format and structure of Annual Reports for the project;
- Project location maps drawn to a scale of 1:50, 000 instead of 1:250, 000. In correspondence to BIMC, dated November 7, 2011, the NWB stated that given the immensity of the project area, the NWB will accept maps drawn to a scale that is larger than 1:50,000 only for areas within the project's boundaries for which minimal or no activities would be undertaken;
- Project summary or description that is specific to the water licence application;
- Information on alternative methods or options for treatment and disposal of waste;
- Updated information on other authorizations relevant to the current and proposed activities and/or facilities; and
- Appropriate and more precise referencing in the water licence application and concordance table to studies and other relevant information that are required for the water licensing process.

Supporting Information

Following the NWB's review of the supporting information for the draft Type A Water Licence Application the NWB recommends that Baffinland also address the following in the FEIS:

Volume 2 of the DEIS

- Information with respect to existing and/or ongoing water compensation agreement(s) and how those agreements might be impacted by relevant proposed activities; and
- Updated information associated with the issuance and expiration dates of permits and authorizations relevant to the project.

Volume 3 of the DEIS

- Information on the quantity of sewage generated by each camp and contingency measures aimed at complementing off-site treatment in the event of emergencies;
- Information on the location, characteristics and quantity of water required from all sources, including alternative sources, that are associated with each of the proposed temporary and permanent camps;

- Information related to the water demand and waste generated by the proposed emergency shelters; and
- Information on the characteristics, name, location, and type of alternative water sources proposed for use during emergencies.

Volume 6 of the DEIS

- Results of continued Geochemical studies aimed at assessing the effectiveness and viability of encapsulation as a method for treating potential Acid Rock Drainage/Metal Leaching (ARD/ML) materials;
- Results of continued ARD/ML assessments being conducted on quarries and borrow pits within the project area; and
- Information on major and minor eskers or wetlands situated within the Local Study Area (LSA).

Volume 7 of the DEIS

- Increases in data points for baseline data for water quality and sediment quality for the Milne Tote Road area; and
- Justification for using Mean Annual Runoff data obtained from just one monitoring station in the characterization of the Phillips Creek watershed.

Volume 10 of the DEIS

In addition, several plans were submitted for consideration under Volume 10 of the DEIS. The NWB review, comments and recommendations, were limited to the plans or components thereof that are directly related to the water licensing requirements, including:

- Environmental Protection Plan (EPP)
- Environmental Spill Response Plan
- Milne Port – Oil Pollution Emergencies Plan
- Steensby Port – Oil Pollution Emergencies Plan
- Explosives Management Plan
- Surface Water and Aquatic Ecosystems Management Plan

- Wastewater Management Plan
- Waste Management Plan
- Waste Rock Management Plan
- Borrow Pit and Quarry Management Plan
- Road Management Plan
- Railway Management Plan and
- Preliminary Mine Closure and Reclamation Plan.

Baffinland is encouraged to address NWB's detailed recommendations and/ or comments set out in Attachment B when resubmitting these listed plans in the FEIS. The NWB also emphasizes that functional plans are required for the activities and/or facilities that will act as precursors or support for other proposed activities.

Design Drawings, Operation and Maintenance Plans and Monitoring Plans

The NWB further recommends that Baffinland include the following plans and documents in the FEIS.

- A comprehensive monitoring plan that addresses waste disposal and water related activities and facilities; and
- Sufficiently detailed design drawings and Operation and Maintenance Plans for all relevant waste disposal and water related facilities to meet NWB licensing standards.

Miscellaneous Items

While the following items or activities may not be directly linked to water licensing considerations, the NWB advises Baffinland to consider addressing the following additional items in the FEIS:

- Information on the externality effects of the project on municipal water and waste disposal facilities in communities proximal to the project area; and
- The inclusion of the traditional names of all freshwater sources associated with the project.

Issues Related to Water Use and Waste Disposal Activities Raised during the NIRB's Technical Meeting and Prehearing Conferences

Some sections of technical review comments submitted to the NIRB by the intervening parties, including but not limited to Aboriginal and Northern Development Canada (AANDC), Environmental Canada (EC), Natural Resources Canada (NRCan), Fisheries and Oceans Canada (DFO), and the Qikiqtani Inuit Association (QIA) focused on a number of issues related to water use and waste disposal activities. [3] Many of the issues raised in the written comments were reiterated at the Technical Meeting organized by the NIRB and held in Iqaluit, Nunavut, October 18 – 20, 2011 and at Community Roundtable and Prehearing Conferences (PHC) held in the communities of Igloolik, November 6–7, 2011, and Pond Inlet November 9 –10, 2011.

The following is a summary, arranged by intervening party, of the main issues related to water use and waste disposal activities and the related recommendations to Baffinland to address these issues in the FEIS:

Aboriginal and Northern Development Canada (AANDC):

- *Provision of stability analyses to support the design for the waste rock stockpile and to demonstrate that the waste rock stockpile will be stable during warming of the permafrost and after the foundation thaws;*
- *Provision of an updated wastewater management plan for future larger construction and operation camps within the FEIS. The plan will describe how equalization tanks will be used at the Mine Site and Steensby Site to accommodate surges in sewage received from the satellite construction camps; and*
- *Consideration in the FEIS of more recent hydrological data and revise storm water management pond, accordingly, if warranted based on the new data.*

Environment Canada (EC)

- *Provision of a detailed waste rock characterization and monitoring program in the FEIS;*
- *Defining minimum mixing zones for the receiving environment and consider flows for worse case and average case scenarios; and*
- *Update surface water quality and sediment quality baseline data with new data collected in 2011 and revise water quality effects assessment.*

Fisheries and Ocean Canada (DFO)

[3] Aboriginal Affairs and Northern Development Canada(AANDC), October 5, 2011; Environment Canada (EC), October 2011, Natural Resources Canada (NRCan), October 5, 2011, Fisheries and Ocean Canada (DFO), October 5, 2011, and the Qikiqtani Inuit Association (QIA), October 5, 2011.

- *Expand the following tables: A 2.1, A 2.2, and A 2.3 from Appendix 2, Volume 10, Appendix D7 of the DEIS to include average water depth and velocity estimates for the culvert and channel for various (2, 5, 10, 25,100 and 200 year) flow estimates and the fish passage flow (3Q10) as well as a summary of the available fish habitat located upstream and downstream of potential crossing locations*.

Natural Resources Canada (NRCan)

- *Provision of detailed design, thermal modeling to determine whether proposed berm design would maintain a permafrost barrier and prevent shallow subsurface seepage to the surrounding environment*.

Qikiqtani Inuit Association (QIA)

- *Mitigation measures for blasting activities near water;*
- *Additional explanation to justify mixing assumptions between the point of discharge and the receiving environment;*
- *Review the selected thresholds and threshold levels for determination of magnitude of effect to ensure that they are appropriately selected and adequately described for the freshwater environment;*
- *Provision of receiving water quality thresholds used to assess water quality effects; and*
- *Provision of mass balance modeling estimates of nitrate losses from the use of explosive into the aquatic environment, with sufficient detail that modeling methods and assumptions can be assessed. Specific attention should be given to fish bearing waters. (Timeline FEIS)*

Baffinland's Commitments

Following the NIRB Technical Meeting, Baffinland filed a commitment list set out in Appendix 1 of the NIRB's PHC Decision for the Project. Baffinland provided confirmation of its intent to address in the FEIS many of the issues related to the use of water and the deposit of waste as identified in the technical review comments submitted to the NIRB by the NWB and the respective intervening parties. The NWB commends Baffinland for making these commitments.

Conclusions

The DEIS developed and submitted by Baffinland for the Mary River Project is a very comprehensive document that is aimed at satisfying and addressing the regulatory

requirements of the NIRB's impact review process as well as other regulatory processes including the NWB's licensing process. The draft Type A Water Licence Application and supporting information contained in the DEIS covered many of the issues that are critical to the water licensing process; however, as identified in the NWB's review as well as in the comments provided by intervening parties, considerable deficiencies exist and gaps remain in the information required to complete and support the application. These deficiencies and gaps are substantive and must be addressed in the proposed resubmission of the Type A Water Licence Application, as an Appendix to the FEIS, in order for the water licensing process to proceed.

In the event that the Type A Water Licence Application submitted with the FEIS addresses these deficiencies and the NWB deems the application complete, the NWB will acknowledge receipt of the application and coordinate its technical review period with that of the NIRB's technical review period for the FEIS. As discussed at the PHC, the NWB anticipates being in a position to hold a technical meeting in relation to the finalized Type A Water Licence Application, following the NIRB's Final Hearing. Input to the NWB's process timing will be sought at the time of the technical review request issued by the NIRB.

Attachment A:

NWB Concordance Assessment

Section Title	Section No.	Information Requirement	Indicate whether Information Requirement is applicable by inserting 'Y' or 'NA'	If 'NA' provide justification	Insert Title, Author and Date of Document where information is provided	Insert electronic file name of document where information is provided	Insert Section of document where Information is Provided where of	NWB Concordance Assessment
Minimum Application Requirements	1	General Water Licence Application Form (see the NWB's Guide 4: Completing and Submitting a Water Licence Application for a New Licence) or Application for Water Licence Amendment Form, if appropriate (see NWB's Guide 7: Licensee Requirements Following the Issuance of a Water Licence).	Y	—	Mary River Project Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 1.pdf	Volume 1, Appendix 1C-2.	Y
	2	Information required to satisfy the requirements of the SIG including plans, reports and designs.	Y	—	Mary River Project Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 1.pdf	Volume 1, Appendix 1C-2.	Y - Information provided for the Landfarm Facilities and Hydrostatic Testing should be elaborated on in the FEIS as they were not comprehensively address in the DEIS.
	3	Executive summary in English.	Y	—	Mary River Project Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 1.pdf	Executive Summary	Y - An executive summary in English was provided for the entire project. However, it is recommended that a summary in English be included in the FEIS for the facilities and/or activities specific to the Type A Water Licence Application.
	4	Translated executive summary in appropriate language and dialect.	Y	—	Mary River Project Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 1.pdf	Executive Summary	Y - An executive summary in Inuktitut was provided for the entire project. However, it is recommended that a summary in Inuktitut be provided in the FEIS for the activities and/or facilities specific to the Type A Water Licence Application.
	5	Application fee.	NA	Not required during draft licence application process	—	—	—	N -The application fee should accompany the Type A Water Licence Application in the FEIS.
	6	Water use fee.	NA	Not required during draft licence application process	—	—	—	N - Water use fee or the fee for the right to use water should accompany the Type A Water Licence Application in the FEIS.
	7	A table indicating concordance of the application and supporting documents to the Guidelines. These generic Guidelines are provided in excel as a tool for applicants to provide the necessary concordance table.	Y	—	Completed SIG Tables	Volume 1.pdf	Volume 1, Appendix 1C-2.	Y

Qualifications:

1 Applications that do not include all of the items listed above will be returned to the applicant as incomplete with a request for the deficient information.

2 The application must address the entire scope of the project including not only the primary undertaking, but also related activities for all phases of the project.

3 Information between all documents that make up the application package must be consistent and must be accurately cross referenced.

4 The application must distinguish between recommendations or options and actual commitments to chosen alternatives.

5 For additional guidance regarding the submission of electronic documentation, see the NWB's Guide 6: Electronic Documentation: Submissions and Registry.

6 The applicant, where practical, may combine components of the information requested in the SIG into more concise plans to provide clarity and eliminate duplication. If this practice is considered, then the applicant must clearly outline, through proper referencing and clearly detailed statements, how the NWB should consider the documents that have combined elements of information. Information management is the

7 The applicant must submit a concise executive summary of the application package. In addition, the Applicant shall submit an executive summary for each separate supporting document, report or study. All executive summaries shall be provided in English, Inuktitut and/or Inuinnaqtun (where applicable).

The applicant must complete the yellow columns of the worksheet(s). Blue columns are for NWB use only.

Section Title	Section No.	Information Requirement	Indicate whether Information Requirement is applicable by inserting ' Y ' or ' NA '	If 'NA' provide justification	Insert Title, Author and Date of Document where information is provided	Insert electronic file name of document where information is provided	Insert Section of document where information is provided	NWB Concordance Assessment	NIRB Guideline Section No.
Applicant	**1**	Provide the full name of the applicant and contact information (including phone number, address, fax number and email address).	Y	—	Draft Water Licence Application Form	Volume 1.pdf	Volume 1, Section 1.0	Y	
Applicant Representative	**2**	Provide the name and contact information of any party submitting the application on behalf of the applicant.	NA	No third party.	—	—	—		
	3	Provide a signed letter authorizing a party to be its representative in the licensing process.	NA	No third party.	—	—	—		
Name of Project	**4**	Provide the name of the project.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 1.pdf	Volume 1, Section 1.0	Y	
Location of Undertaking	**5**	Provide coordinates of the project extents taking into account the Local Project Area (LPA) and the Regional Project Area (RPA), where applicable.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf	Volume 3, Figures 3-1.1 and 3-1.2. Also refer to Draft Water Licence Application	Y	
	a	Provide location by Latitude and Longitude.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf	Volume 3, Figures 3-1.1 and 3-1.2. Also refer to Draft Water Licence Application	Y	
	b	Provide location by UTM coordinates, if available.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf	Volume 3, Figures 3-1.1 and 3-1.2. Also refer to Draft Water Licence Application	Y	
	c	Provide the distances to the nearest communities.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 2.pdf	Volume 2, Figure 2-1.1	Y	
Map	**6**	Provide a map at a 1:50,000 scale based on the National Topographic series indicating the location of the undertaking, watercourses and the location of waste deposits. Additional maps at various scales may be provided if those maps will provide additional information or clarification. All additional maps must indicate the scale, and map sheet number.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf	Volume 3, Figures 3-1.1 to Figure 3-2.9, incl.	Y - The maps provided for the location of the undertaking are in a scale of 1:250,000 instead of the required scale of 1:50,000. For the FEIS, these maps should be provided in the required scale. However, for areas of the project site where minimal or no activities are proposed, maps in a smaller scale will be acceptable.	
Nature of Interest in the Land	**7**	Provide the nature of the interest in the land associated with the proposed undertaking, including:	Y	—	See below	—	—		
	a	Sub-surface leases from Nunavut Tunngavik Incorporated (NTI) and/or Indian and Northern Affairs Canada (INAC) as well as surface authorizations from INAC for crown land use, a Designated Inuit Organization (DIO) for Inuit Owned Land (IOL) use, or the Government of Nunavut for Commissioner's land use.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 2.pdf	Volume 2.0, Section 2.1	Y	
	b	The date or expected date of issuance of any authorization and the date of expiry.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 2.pdf and Volume 3.pdf	Volume 2, Section 2.0 Volume 3, Section 1.3, Figures 3-1.3 and 3-1.4	Y - Volume 2, Section 2.26 , Table 2.2-3, should be updated in the FEIS to reflect the most current information available on authorizations issued for the project.	
	8	Indicate whether the applicant is the name of the entity holding the authorization for the interest in the land and if not, provide the name of the entity holding the authorization.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 2.pdf	Volume 2.0, Section 2.1	Y	

Section Title	Section No.	Information Requirement	Indicate whether Information Requirement is applicable by inserting ' Y ' or ' NA '	If 'NA' provide justification	Insert Title, Author and Date of Document where information is provided	Insert electronic file name of document where information is provided	Insert Section of document where information is provided	NWB Concordance Assessment	NIRB Guideline Section No.
NPC Determination	**9**	Provide written confirmation from the NPC confirming that NPC's requirements under the NLCA regarding land use plan conformity (Article 11 of the NLCA) have been addressed.	Y	—	NPC Conformity Determination, Brian Aglukark, April 30, 2008	App 1C-2.pdf	Volume 1, Appendix 1C-2.	Y - A status update should be obtained from the NPC and included in the FEIS, confirming whether or not the North Baffin Regional Land Use Plan will be amended.	
NIRB Determination	**10**	Provide written confirmation from the NIRB confirming that NIRB's requirements under the NLCA regarding development impact assessment (Article 12 of the NLCA) have been or are in the process of being addressed. Documentation may include:	Y	—	Guidelines for Preparation of an Environmental Impact Statement for Baffinland Iron Mines Corporation's Mary River Project (NIRB File No. 08MN053), Nunavut Impact Review Board, November 2009	http://ftp.nirb.ca/02-REVIEWS/ACTIVE%20REVIEWS/08MN053-BAFFINLAND%20MARY%20RIVER/2-REVIEW/03-SCOPING%20%26%20GUIDELINES/02-EIS%20GUIDELINES/4-FINAL/091116-08MN053-Final%20EIS%20Guidelines%20for%20Mary%20River%20Project-OT1E.pdf	NIRB Website	N - The FEIS should include an actual copy of the correspondence from the NIRB, confirming that the NIRB requirements have been or are in the process of being addressed instead of a link to the NIRB's ftp site	
	a	NIRB's screening determination;	Y	—	NIRB Screening Decision Report, June 2008, NIRB	http://ftp.nirb.ca/02-REVIEWS/ACTIVE%20REVIEWS/08MN053-BAFFINLAND%20MARY%20RIVER/1-SCREENING/03-DECISION/080627-08MN053-Screening%20Decision%2	NIRB Website	N - An actual copy of the NIRB Screening Determination should be included in the FEIS instead of a link to the NIRB's ftp site.	
	b	NIRB's recommendation to the Minister regarding the type of review;	Y	—	NIRB Screening Decision Report, June 2008, NIRB	http://ftp.nirb.ca/02-REVIEWS/ACTIVE%20REVIEWS/08MN053-BAFFINLAND%20MARY%20RIVER/1-SCREENING/03-DECISION/080627-08MN053-Screening%20Decision%20Report-OT1E.pdf	NIRB Website	N - A actual copy of the NIRB's recommendations to the Minister should be included in the FEIS instead of a link to the NIRB's ftp site	
	c	Minister's written decision regarding the review of the development proposal;	Y	—	NIRB Screening Decision Report, June 2008, NIRB	http://ftp.nirb.ca/02-REVIEWS/ACTIVE%20REVIEWS/08MN053-BAFFINLAND%20MARY%20RIVER/1-SCREENING/03-DECISION/080627-08MN053-Screening%20Decision%20Report-OT1E.pdf	NIRB Website	N - A copy of the Minister's written decision should have been included instead of a link to the NIRB's ftp site. The FEIS should include an actual copy of the Minister's Decision.	
	d	List of activities requested for exception in accordance with NLCA s. 12.10.2;	Y	—	To be provided by Baffinland at a later date.	To be provided by Baffinland at a later date.	To be provided by Baffinland at a later date.	Y - All changes to the scope of those activities should be reflected in the FEIS.	
	e	Type B water application for any activities to be considered for interim, short term approval in accordance with NLCA s. 13.5.5.	Y	—	To be provided by Baffinland at a later date.	To be provided by Baffinland at a later date.	To be provided by Baffinland at a later date.	Y - All changes to the scope of the activities under a Type B application should be reflected in the FEIS.	
Description of Undertaking	**11**	Provide a complete description of the undertaking with detailed site plan(s) of all project infrastructure for the Local Project Area (LPA) and/or the Regional Project Area (RPA), where applicable, and differentiate temporary components from permanent components.	Y	—	Mary River Project Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf	Volume 3, Sections 2.0, 3.0 and 4.0, Volume 3, Figures 3-1.1 to Figure 3-2.9, incl.	Y	
Options (Alternatives)	**12**	Provide a brief explanation of the alternative methods or locations that were considered to carry out the project.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf	Volume 3, Section 6.0	Y	
Water Use	**13**	Provide a detailed description of all types of water uses, including:	Y	—	See below	—	—		
	a	Obtain water for domestic purposes	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D-2	Y	
	b	Obtain water for industrial purposes	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D-2	Y	
	c	To cross a water course	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D-2	Y	

Section Title	Section No.	Information Requirement	Indicate whether Information Requirement is applicable by inserting ' Y ' or ' NA '	If 'NA' provide justification	Insert Title, Author and Date of Document where information is provided	Insert electronic file name of document where information is provided	Insert Section of document where information is provided	NWB Concordance Assessment	NIRB Guideline Section No.
	d	To alter the flow of water, or store water	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D-2	Y	
	e	Flood control	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D-2	Y	
	f	To divert a watercourse	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D-2	Y	
	g	To modify the bed or bank of a watercourse	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D-2	Y	
	h	Others:	NA	—	—	—	—		
Water Use: Quality and Quantity	**14**	Provide for each type of water use:	Y	—	See below	—	—		
	a	The source of water including the name of the water body and the location of the water source as shown on a map;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D-2	Y	
	b	A description of the quality of the water from the source as well as the capacity of the water source;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 2.0 and 3.0	Y	
	c	The estimated amount of water taken from each source and the method of extraction including specific pumping rates, pumping procedures and potential for draw down;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 7.pdf and Volume 10.pdf	Volume 3, Sections 2.0 and 3.0, Volume 7, Section 2.0 Volume 10, Appendix 10D-2	Y	
	d	The estimated amount of water to be returned to the source;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 7.pdf	Volume 3, Sections 2.0 and 3.0 Volume 7.0	Y	
	e	Methods to ensure the quality of water returned to the source is of an acceptable quality.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10.pdf	Volume 10, Sections 2.0 and 7.0, Appendix 10-D2	Y	
Waste Disposal	**15**	Provide a detailed description of all forms of waste disposal indicating the type of waste(s) generated and/or to be deposited.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3 Section 2.1.10 Volume 10, Sections 2.0 and 7.0 Volume 10, Appendix 10D-4	Y	
Waste Disposal: Quality and Quantity	**16**	Provide a description for each type of waste generated, its composition, quantity (cubic meters per day), method of treatment and disposal, including:	Y	—	See below	—	—		
	a	System for the treatment and/or disposal of solid waste, liquid effluent, and gaseous materials expected from the operations, including any measures proposed to minimize the production of wastes;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3, Sections 2.1.10, 2.1.7, 2.2.3, 2.4.5, 2.5.11, 2.6.6, 3.4.6, 3.6.5, and 4.3.9. Volume 10, Sections 2.0, 3.4, 3.7, and 7.0. Volume 10, Appendices 10D-3 and 10D-4.	Y	
	b	Substances and their amounts that will be released to the environment, methods of release and any associated control technology.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	As above.	Y	
Other Authorizations	**17**	Provide a list of any authorizations required in addition to the water licence and a description of how those authorizations may affect the NWB's water licensing process.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 2.pdf	Volume 2, Section 2.0	Y	

Section Title	Section No.	Information Requirement	Indicate whether Information Requirement is applicable by inserting ' Y ' or ' NA '	If 'NA' provide justification	Insert Title, Author and Date of Document where information is provided	Insert electronic file name of document where information is provided	Insert Section of document where information is provided	NWB Concordance Assessment	NIRB Guideline Section No.
	18	Provide an indication of whether any other authorizations are required in relation to the project. Provide the name of the authorization, the administering agency, the project activity requiring the authorization, the date or expected date of issuance and the date of expiry.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 2.pdf	Volume 2, Section 2.0	Y	
	19	Provide an overview of and a description of the status of any existing water licences currently held with the NWB and future plans for the administration of existing licences.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 2.pdf	Volume 2, Section 2.0	Y	
	20	Provide formal applications to the Navigable Waters Protection Program (NWPP) for any works.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 2.pdf	Volume 2, Section 2.0	Y	
	21	Provide a timetable for filing the appropriate plans and procedures required by government parties.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 2.pdf	Volume 2, Section 2.0	Y	
Predicted Environmental Effect and Proposed mitigation measures	**22**	Identify the potential effect of water use and waste disposal on the following components:	Y	—	See below	—	—		
	a	Groundwater and Surface Water including:	Y	—	See below	—	—		
		changes in flow (including seasonal rate of flow)	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 6.pdf and Volume 7.pdf	Volume 6, Section 2.1.5 Volume 7, Section 2.3	Y	
		quantity and quality	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 6.pdf and Volume 7.pdf	Volume 6, Section 2.1.4, 2.1.5, and 2.5. Volume 7, Section 2.3 and 3.4	Y	
	b	Land including:	Y	—	See below	—	—		
		geologic structure change	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 6.pdf	Volume 6, Section 2.0	Y	
		soil contamination	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 6.pdf	Volume 6, Section 2.4.1	Y	
		compaction, settling and erosion	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 6.pdf	Volume 6, Section 2.0	Y	
		alteration of the permafrost regime	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 6.pdf	Volume 6, Section 2.0	Y	
		riparian zone loss	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 3.0	Y	
	c	Vegetation including:	Y	—	See below	—	—		
		species composition and abundance	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 6.pdf	Volume 6, Section 3.0	Y	
		non-native species introduction	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 6.pdf	Volume 6, Section 3.0	Y	
		accumulation of toxins and heavy metals (in relation to remediation objectives for closure)	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 6.pdf	Volume 6, Section 3.0	Y	
	d	Aquatic Ecosystems including:	Y	—	See below	—	—		

Section Title	Section No.	Information Requirement	Indicate whether Information Requirement is applicable by inserting ' Y ' or ' NA '	If 'NA' provide justification	Insert Title, Author and Date of Document where information is provided	Insert electronic file name of document where information is provided	Insert Section of document where information is provided	NWB Concordance Assessment	NIRB Guideline Section No.
		fish	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 4.0	Y	
		benthic invertebrates	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 4.0	Y	
		plankton	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 4.0	Y	
	23	Identify effects separately for each project phase.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 4.0	Y	
	24	Describe the methods used to predict effects.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 4.5.1	Y	
	25	Provide a cumulative effects assessment of the project's water use and waste disposal activities in relation to other activities in the same drainage basin. Predict the effects of the activities in combination with other past, present, and reasonably foreseeable future projects.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 9.pdf	Volume 9, Section 1.4.3 and 1.5	Y	
	26	Identify effects arising from accidental events or malfunctions.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 9.pdf	Volume 9, Section 3.0	Y	
	27	Provide a description of all proposed mitigation, management and monitoring programs to mitigate adverse impacts.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10.pdf	Volume 10, Sections 2.0, 4.0, 6.0 and 7.0 Volume 10, Appendices 10B, 10D, and 10G	Y	
	28	Provide a description of the measures to be taken to mitigate impacts on historical resources or traditional uses of water and procedures to be followed should artifacts be discovered.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10.pdf	Volume 10, Appendix 10F-2	Y	
Existing and Other User Water Rights	**29**	Provide the names, addresses, and nature of use for any known persons or properties that may be adversely affected by the proposed undertaking, including those that that hold licences for water use in precedent to the application, domestic users, in-stream users, authorized waste depositors, owners of property, occupiers of property, and/or holders of outfitting concessions, registered trapline holders, and holders of other rights of a similar nature.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 2.pdf and Volume 4.pdf	Volume 2, Sections 1.0 and 2.0. Volume 4, Section 10.0	Y	
	30	Indicate whether compensation has been paid and/or agreement(s) for compensation have been reached with any existing or other users.	Y	—	To be provided by BIMC	Volume 4.pdf	Volume 4, Section 12.0	N - Information related to water compensation paid and/or agreements appears to be absent and should be included in the FEIS.	
	31	Provide a description of the applicant's consultation plan and the concerns expressed during consultation.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 2.pdf	Volume 2, Section 1.0	Y	
	32	Describe how the results of consultation were incorporated into the determination of effects.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 2.pdf	Volume 2, Section 1.0 and 3.0	Y	
	33	Describe how the results of consultation were incorporated into the design of mitigation, management and monitoring programs.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 2.pdf	Volume 2, Section 1.0 and 3.0	Y	

Section Title	Section No.	Information Requirement	Indicate whether Information Requirement is applicable by inserting ' Y ' or ' NA '	If 'NA' provide justification	Insert Title, Author and Date of Document where information is provided	Insert electronic file name of document where information is provided	Insert Section of document where information is provided	NWB Concordance Assessment	NIRB Guideline Section No.
	34	Provide a description of any potential effects of the project on other licensees or pre-existing applicants, domestic users, in-stream users, authorized waste depositors, owners of property, occupiers of property, and/or holders of outfitting concessions, registered trapline holders or holders of other rights of a similar nature.	NA	None identified.	—	—	—	N - An explanation should be provided as to how this determination was made.	
	35	Provide a description of the measures incorporated into the project design to mitigate effects of the project on other licensees or pre-existing applicants, domestic users, in-stream users, authorized waste depositors, owners of property, occupiers of property, and/or holders of outfitting concessions, registered trapline holders or holders of other rights of a similar nature.	NA	Not required.	—	—	—	N - This item should be addressed in concert with item No. 34.	
Inuit Water Rights	**36**	Provide a description of any potential effects of the project on the quality, quantity, or flow of waters flowing through Inuit Owned Land (IOL).	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Sections 2.0 and 3.0	Y	
	37	Advise the Board of any substantial affect of the quality, quantity or flow of waters flowing through IOL, and indicate whether negotiations have commenced or an agreement to pay compensation for any loss or damage has been reached with one or more DIO.	NA	Water quality and flows through IOL are not indicated to be significantly impacted by project activities.	—	—	—	Y - An explanation should be provided in terms of the degree of impact that is considered as significant or insignificant.	
	38	Provide a description of the measures incorporated into the project design to mitigate effects of the project on the quality, quantity, or flow of waters flowing through IOL.	NA	Water quality and flows through IOL are not indicated to be significantly impacted by project activities.	—	—	—	N - This information should be in included in the FEIS.	
	39	The applicant and/or DIO shall advise the Board in writing, if either party is unable to reach an agreement on compensation.	NA	Not applicable at this time.	—	—	—	N - Updated information on compensation reached or not reached should be provided in the FEIS.	
Security	**40**	Provide a financial security assessment that is prepared in a manner consistent with principals respecting mine site reclamation and implementation found in the *Mine Site*	Y	—	See below	—	—	See comments below	
		Reclamation Policy for Nunavut, Indian and Northern Affairs Canada, 2002. The financial security assessment must include:	Y		See below	—	—	See comments below	
	a	An estimate of the total financial security for final reclamation equal to the total outstanding reclamation liability for land and water combined sufficient to cover the highest liability over the life of the undertaking;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3, Section 4.0. Volume 10, Section 9.0 and Appendix 10G.	Y - Total financial security information provided for final reclamation is for the activities conducted under the bulk sampling program. However, it does not include information for all of the activities proposed in the DEIS. The FEIS should include financial security information for final reclamation associated with all activities and/or facilities proposed.	
	b	The cost of having the necessary reclamation work done by a third-party contractor if the operator defaults;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3, Section 4.0. Volume 10, Section 9.0 and Appendix 10G.	Y - Total cost of having the reclamation work carried out by a third party contractor does not take into consideration reclamation cost for the proposed activities and/or facilities. This should be included in the FEIS.	
	c	Contingency factors appropriate to the particular work to be undertaken.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3, Section 4.0. Volume 10, Section 9.0 and Appendix 10G.	Y - Contingency factors are for existing and not necessarily proposed activities. Contingency factors should also take into consideration proposed activities in the FEIS.	

Section Title	Section No.	Information Requirement	Indicate whether Information Requirement is applicable by inserting ' Y ' or ' NA '	If 'NA' provide justification	Insert Title, Author and Date of Document where information is provided	Insert electronic file name of document where information is provided	Insert Section of document where information is provided	NWB Concordance Assessment	NIRB Guideline Section No.
Abandonment and Restoration	**41**	Provide plans for the abandonment and restoration of the project. Plans must address all phases of the project including construction, operation, care & maintenance, final closure and post closure.	Y	—	Mary River Project Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3, Section 4.0. Volume 10, Section 9.0 and Appendix 10G.	N - The Abandonment and Restoration Plan does not address care and maintenance and operation. The Plan accompanying the FEIS should address these and other relevant activities associated with all phases of the project.	
	42	Provide a description of all remediation plans and remediation objectives. Discuss the results of any human health and ecological risk assessment used to establish remediation objectives.	Y	—	Mary River Project Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3, Section 4.0. Volume 10, Section 9.0 and Appendix 10G.	Y	
	43	Provide a list and description of any existing abandoned or restored site facilities.	Y	—	Mary River Project Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3, Section 4.0. Volume 10, Section 9.0 and Appendix 10G.	Y	
	44	Provide details regarding the timing of the removal of any dewatering dikes (if applicable) and the implications of this action on water quality.	NA	None onsite.	—	—	—		
	45	Provide detailed information regarding the method used to remove/breach any dewatering dykes (if applicable), including details of any mitigation measures for any adverse impacts.	NA	None onsite.	—	—	—		
Financial Information	**46**	Provide a statement of financial responsibility.	NA	Not applicable to the current phase of the project.	—	—	—	N - A statement of financial responsibility will be required as part of the Type A Water Licence Application package accompanying the FEIS.	
	47	If the applicant is an entity for which audited financial statements are issued, a copy of the most recent audited financial statements must be attached to the statement of financial responsibility.	NA	Not applicable to the current phase of the project.	—	—	—	N - A copy of the most recent financial audit should accompany the Type A Water Licence Application accompanying the FEIS.	
	48	Provide the name of the corporation, limited company or other business entity, with a list of the officers of the company and a copy of the Certificate of Incorporation or evidence of registration of the company name.	NA	Not applicable to the current phase of the project.	—	—	—	N - This information should accompany or be included in the FEIS.	
Studies and Designs	**49**	Provide a list of studies, reports and plans relevant to the application that have been undertaken to date including:	Y	—	See below	—	—		
	a	Design rational, design requirements, design criteria, design parameters, design standards/analysis/method;	Y	—	Mary River Project Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3. Volume 10, Section 1.5.	Y	
	b	Design assumptions and the limitations associated with such design assumptions;	Y	—	Mary River Project Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3. Volume 10, Section 1.5.	Y	
	c	The inclusion of clear, definable engineering qualifiers with all design drawings and reports;	Y	—	Mary River Project Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3. Volume 10, Section 1.5.	Y	
	d	Site specific data and analysis to support the design and management decisions made;	Y	—	Mary River Project Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3. Volume 10, Section 1.5.	Y	
	e	Materials that appropriately delineate the particulars of a design or plan.	Y	—	Mary River Project Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3. Volume 10, Section 1.5.	Y	
	50	Provide construction methods and procedures regarding how infrastructure will be put in place on-site.	NA	Not applicable to the current phase of the project, to be provided during detailed engineering	—	—	—	N - This information should accompany the FEIS.	

Section Title	Section No.	Information Requirement	Indicate whether Information Requirement is applicable by inserting ' Y ' or ' NA '	If 'NA' provide justification	Insert Title, Author and Date of Document where information is provided	Insert electronic file name of document where information is provided	Insert Section of document where information is provided	NWB Concordance Assessment	NIRB Guideline Section No.
	51	Provide a timetable for submission of preliminary and final for-construction engineered designs (note: for construction designs are required for NWB approvals).	Y	—	Mary River Project Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf	Volume 3, Section 1.3	N - A timetable for the submission of preliminary and for-construction engineering drawings and plans was not presented in the DEIS. This information should be included for all water and waste related facilities proposed in the FEIS.	
Proposed Time Schedule	52	Provide the proposed start and completion dates for each phase of development (construction, operation, closure and post closure) and any anticipated periods of seasonal shut down.	Y	—	Mary River Project Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf	Volume 3, Section 1.3	Y	
Proposed Term of Licence	53	Provide a proposed term of licence including the expected date of licence issuance and the expected date of licence expiry.	N/A	To be determined.	—	—	to be provided by BIMC	N - In the Type A Water Licence Application accompanying the FEIS, the term required for the licence should be included.	
Annual Reporting	54	Provide detailed information regarding the content of annual reports and a proposed outline or template of the annual report. The annual report should include the following:	NA	See below	—	—	—	N - A proposed outline or template for Annual Reporting should be included in the water licence application accompanying the FEIS	
	a	Water related monitoring results;	NA	—	—	—	—	N - This information should accompany the FEIS.	
	b	Comparison of water quality and quantity monitoring data with the water quality and quantity predictions presented in the application;	NA	—	—	—	—	N - This information should accompany the FEIS.	
	c	A description of how the conditions in the NIRB project certificate related to the NWB mandate have been implemented;	NA	—	—	—	—	N - This information should accompany the FEIS.	
	d	Project changes under adaptive management;	Y	—	Mary River Project Environmental Impact Statement, Baffinland Iron	Volume 10.pdf	Volume 10, Section 10.0	Y	
	e	Any actions taken in response to direction provided by the Inspector.	NA	—	—	—	—	N - This information should accompany the FEIS.	
Renewals and Amendments	55	If the application is for a renewal or amendment of an existing licence, provide a status report. This report must document for each condition of the existing water licence, what action the licensee has taken.	NA	Not a renewal or amendment.	—	—	—		
	56	If the application is for a renewal or amendment of an existing licence, provide a compliance assessment. This assessment must indicate when facilities were inspected by regulatory agencies such as INAC or GN and which agencies. The compliance assessment must include any inspection reports and/or directions issued by the Inspector and any responses provided by the licensee. The compliance assessment must also list any spills that have occurred including a description, location shown on a map, and the action taken to address the affected area.	N/A	Not a renewal or amendment.	—	—	—		

Section Title	Section No.	Information Requirement	Indicate whether Information Requirement is applicable by inserting ' Y ' or ' NA '	If 'NA' provide justification	Insert Title, Author and Date of Document where information is provided	Insert electronic file name of document where information is provided	Insert Section of document where information is provided	NWB Concordance Assessment	NIRB Guideline Section No.
Description of Undertaking	**1**	Provide a complete description of the undertaking with detailed site plan(s) of all project infrastructure for the Local Project Area (LPA) and/or the Regional Project Area (RPA), where applicable, and differentiate temporary components from permanent components. Consider the following in providing the description:	Y	—	See below	—	—		
	a	Raw water intake;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf	Volume 3, Sections 2.0 and 3.0	Y	
	b	Water storage and treatment facilities including distribution systems;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf	Volume 3, Sections 2.0 and 3.0	Y	
	c	Existing water bodies/courses and any changes to these water bodies/courses that may have or may occur as a result of water use or waste disposal facilities. Provide an outline of the drainage basin within the RPA;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 2.0	Y	
	d	Location of receiving water bodies and drainage pathways;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 2.0	Y	
	e	Transportation access routes and details of water course crossings;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf	Volume 3, Sections 2.0 and 3.0	Y	
	f	Locations of environmental monitoring sites;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10.pdf	Volume 10, Section 7.0 Volume 10, Appendices 10D	Y - In the FEIS, site monitoring should be expanded to capture all relevant activities and/or facilities instead of the activities and/or facilities primarily covered under the existing Type B licence.	
	g	Traditional water use and land use areas that may be impacted by the project;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 4.pdf	Volume 4, Section 10.0	Y	
	h	Sewage treatment facilities;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D-3	Y	
	i	Wastewater treatment area and discharge outlet locations;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D-3	Y	
	j	Solid waste disposal areas and drainage patterns;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Section 3.7 and Appendices 10D-2 and 10D-4	Y	
	k	Landfarm;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Section 3.7 and Appendix 10D-4	Y - The information provided for the proposed Landfarm facilities should be expanded to address all of the requirements of the landfarm questionnaire.	
	l	Waste rock piles (PAG and non-PAG);	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 6.pdf, and Volume 10.pdf	Volume 3, Section 3.0 Volume 6, Section 2.1.4. Volume 10, Appendix 10D-5	Y	
	m	Stockpiles;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 6.pdf, and Volume 10.pdf	Volume 3, Section 3.0 Volume 6, Section 2.1.4. Volume 10, Appendix 10D-5	Y	
	n	Tailings containment areas;	NA	no tailings facility on site	—	—	—		
	o	Laydown areas;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf	Volume 3, Section 2.0 and 3.0	Y	
	p	Quarries;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 6.pdf, and Volume 10.pdf	Volume 3, Sections 2.0 and 3.0 Volume 6, Section 2.1.3 and 2.1.4 Volume 10, Appendix 10D-6	Y	

Section Title	Section No.	Information Requirement	Indicate whether Information Requirement is applicable by inserting ' Y ' or ' NA '	If 'NA' provide justification	Insert Title, Author and Date of Document where information is provided	Insert electronic file name of document where information is provided	Insert Section of document where information is provided	NWB Concordance Assessment	NIRB Guideline Section No.
	q	Hazardous waste disposal area;	NA	No hazardous waste disposal facility onsite	—	—	—		
	r	Waste discharge distribution lines;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendices 10C-1, 10D-2, 10D-3.	Y	
	s	Fuel and chemical storage;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendices 10C-1, 10C-2, 10C-3, and 10D-4	Y	
	t	Explosives manufacturing and storage;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf and Volume 10.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10C-1 and 10C-4	Y	
	u	Abandoned and/or restored facilities;	Y	—	Mary River Project Bulk Sample Program March 2010 Abandonment and Reclamation Plan	2010 AR Plan_March 30 2010_excl attachments.pdf	Section 3.0	Y - The Abandonment and Restoration Plan provided did not thoroughly cover all aspects of operation and entire life of the project.	
	v	Existing on site infrastructure	Y		Mary River Project Bulk Sample Program March 2010 Abandonment and Reclamation Plan	2010 AR Plan_March 30 2010_excl attachments.pdf	Section 3.0	Y	
	w	Others:	NA	—	—	—	—		
	2	Provide a Mine Plan Overview including:	Y	—	See below	—	—		
	a	Description of the location, physical nature, geology and mineralogy of the ore deposit and host rock.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 6.pdf	Volume 6, Section 2.0	Y	
	b	Mine development plan and methods.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf	Volume 3, Sections 2.0 and 3.0	Y	
	c	Description of any existing mine shafts or openings.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf	Volume 3, Section 1.0	Y	
	d	Description of earthworks for mine development.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf	Volume 3, Sections 2.0 and 3.0	Y	
	e	Milling operations including capacity of the mill.	NA	no onsite milling	—	—	—		
	f	Predicted rate of production.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf	Volume 3, Section 3.0	Y	
	g	Expected life of the mine.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf	Volume 3, Sections 1.0 and 3.0	Y	
	h	Camp and mine site population projections for each phase of the project.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf	Volume 3, Section 5.0	Y	

Section Title	Section No.	Information Requirement	Indicate whether Information Requirement is applicable by inserting ' Y ' or ' NA '	If 'NA' provide justification	Insert Title, Author and Date of Document where information is provided	Insert electronic file name of document where information is provided	Insert Section of document where information is provided	NWB Concordance Assessment	NIRB Guideline Section No.
Environmental Setting	**1**	Provide a description of the regional and local setting.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 1.pdf	Volume 1, Section 2.1	N - The section referenced as containing the information required appears to be improperly referenced.	
	2	Provide a description of the regional and local surface water regime.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 1.0	Y	
	3	Provide a description of receiving lakes (lake id, hydrology, water quality).	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Sections 2.0 and 3.0	Y	To be provided with application by BIMC
	4	Provide a description of the groundwater regime.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 6.pdf	Volume 6, Section 2.1.5	Y	
	5	Provide a description of the usual break-up and freeze-up periods.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 5.pdf, Volume 7.pdf, and Volume 8.pdf	Volume 5, Section 1.1, Volume 7, Section 1.0, Volume 8, Section 2.0	Y	
	6	Provide a description of the site conditions, including the location, topography, geologic and hydrologic characteristics, climate conditions and predicted future climate trends, seismicity, permafrost conditions and soil and rock conditions (provide test pit/ drill hole logs and laboratory test results).	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 5.pdf, and Volume 6.pdf	Volume 5, Section 1.0 Volume 6, Section 2.0	Y	
	7	Provide a description of the ground condition for design and engineering of earthwork infrastructure, including:	Y	—	See below	—	—		
	a	Interim and permanent waste rock facilities	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 6.pdf, Volume 10.pdf, and App 10D-5.pdf	Volume 3, Sections 2.0 and 3.0. Volume 6, Section 2.0 Volume 10, Appendix 10D-5	Y	
	b	Tailings containment area	NA	non onsite	—	—	—		
	c	Landfills	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 6.pdf, Volume 10.pdf, and App 10D-4.pdf	Volume 3, Sections 2.0 and 3.0. Volume 6, Section 2.1.3 Volume 10, Appendix 10D-4	Y	
	d	Landfarms	NA	non expected	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 6.pdf, Volume 10.pdf, and App 10D-4.pdf	Volume 3, Sections 2.0 and 3.0. Volume 6, Section 2.1.3. Volume 10, Appendix 10D-4	Y - Information requirements of the landfarm questionnaire should be included in the FEIS.	
	e	Fuel and chemical storage facilities	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 6.pdf, Volume 10.pdf, and App 10D-4.pdf	Volume 3, Sections 2.0 and 3.0. Volume 6, Section 2.1.3. Volume 10, Appendix 10D-4	Y	
	f	Explosives management areas and facilities	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 6.pdf, Volume 10.pdf, and App 10C-4.pdf	Volume 3, Sections 2.0 and 3.0. Volume 6, Section 2.0. Volume 10, Appendix 10C-4	Y	

Section Title	Section No.	Information Requirement	Indicate whether Information Requirement is applicable by inserting ' Y ' or ' NA '	If 'NA' provide justification	Insert Title, Author and Date of Document where information is provided	Insert electronic file name of document where information is provided	Insert Section of document where information is provided	NWB Concordance Assessment	NIRB Guideline Section No.
	g	Quarries or borrow pits	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 6.pdf, Volume 10.pdf, and App 10D-6.pdf	Volume 3, Sections 2.0 and 3.0. Volume 6, Section 2.0. Volume 10, Appendix 10D-6	Y	
	h	Hazardous waste facilities	NA	non onsite	—	—	—	N - According to the draft Type A Water Licence Application, hazardous waste storage will be carried out. Appropriate referencing and/or information should be provided for all hazardous waste storage areas.	
	i	Wastewater treatment facilities	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 6.pdf, Volume 10.pdf, App 10D-2.pdf, and App 10D-3.pdf	Volume 3, Sections 2.0 and 3.0. Volume 6, Section 2.0. Volume 10, Appendices 10D-2 and 10D-3	Y	
	j	Ore stockpiles and waste rock piles	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 6.pdf, Volume 10.pdf, and App 10D-5.pdf	Volume 3, Sections 2.0 and 3.0. Volume 6, Section 2.0. Volume 10, Appendix 10D-5	Y	
	k	Overburden piles	NA	non onsite	—	—	—		
	l	Dewatering dikes	NA	non onsite	—	—	—		
	m	Mine rock geochemistry	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 6.pdf, and App 6B.pdf	Volume 6, Section 2.1.4 and Appendix 6B	Y	
	8	Provide a description of the historical uses of the waters affected by the project.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 4.pdf	Volume 4, Section 10.0	Y	
	9	Provide a description of any traditional uses of water in the project area.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 4.pdf	Volume 4, Section 10.0	Y	
	10	Indicate whether fish, shellfish, or other wildlife are present and harvested in or near discharge areas and, if applicable, indicate the species harvested and the level of harvest.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 4.pdf	Volume 4, Section 10.0	Y	
	11	Provide the following streamflow data in cubic metres per second for each watercourse included in the application:	Y	—	See below	—	—		
	a	mean annual flow;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 2.0	Y	
	b	mean summer flow;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 2.0	Y	
	c	minimum summer flow;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 2.0	Y	
	d	minimum annual flow;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 2.0	Y	
	e	mean annual flood;	y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 2.0	Y	

Section Title	Section No.	Information Requirement	Indicate whether Information Requirement is applicable by inserting ' Y ' or ' NA '	If 'NA' provide justification	Insert Title, Author and Date of Document where information is provided	Insert electronic file name of document where information is provided	Insert Section of document where information is provided	NWB Concordance Assessment	NIRB Guideline Section No.
	f	maximum summer flood;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 2.0	Y	
	g	mean summer flood;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 2.0	Y	
	12	Provide bathymetric information for each water body in the application.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 2.0	Y	
	13	Provide results of any assessment of the permeability of any faults and taliks beneath water bodies.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 6.pdf	Volume 6, Section 2.0	Y	
	14	Provide baseline data and an evaluation of baseline data describing surface and groundwater quality in the project area (physical, chemical, and biological characteristics).	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 3.0	Y	
Fisheries	15	Provide baseline data and an evaluation of baseline data describing fish and fish habitat in the project area.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 4.0	Y	
	16	Provide a fisheries assessment including:	Y	—	See below	—	—		
	a	Detailed area description (including photographic record);	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 4.0	Y	
	b	Description of fish habitat (including river or lake bottom substrates such as silt, sand, or cobble);	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 4.0	Y	
	c	Presence of sensitive habitats (spawning, migration corridors etc.);	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 4.0	Y	
	d	Description of aquatic and riparian vegetation;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 4.0	Y	
	e	Fish community and lifestage present;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 4.0	Y	
	f	Depth and width of watercourse;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 4.0	Y	
	g	Max/min water flows, currents, tides;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf and Volume 8.pdf	Volume 7, Section 4.0; Volume 8, Section 1.2	Y	
	h	Turbidity and sediment loads (total suspended solids);	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 3.0	Y	
	i	Sport, commercial, subsistence fishery present.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 4.pdf	Volume 4, Section 10.0	Y	
Studies	17	Provide a list of baseline studies, reports and plans relevant to the application that have been undertaken to date including:	Y	—	See below	—	—		
	a	Geotechnical studies;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 6.pdf	Volume 6, Section 2.1.3	Y	

Section Title	Section No.	Information Requirement	Indicate whether Information Requirement is applicable by inserting ' Y ' or ' NA '	If 'NA' provide justification	Insert Title, Author and Date of Document where information is provided	Insert electronic file name of document where information is provided	Insert Section of document where information is provided	NWB Concordance Assessment	NIRB Guideline Section No.
	b	Geochemical studies;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 6.pdf	Volume 6, Section 2.1.4	Y	
	c	Water quality studies;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 3.0	Y	
	d	Hydrological and hydrogeological studies;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 2.0	Y	
	e	Traditional use studies;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 4.pdf	Volume 4, Section 10.0	Y	
	f	Aquatic studies;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 4.0	Y	
	g	Meteorological studies;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 5.pdf	Volume 5, Section 1.0	Y	

Section Title	Section No.	Information Requirement	Indicate whether Information Requirement is applicable by inserting ' Y ' or ' NA '	If 'NA' provide justification	Insert Title, Author and Date of Document where information is provided	Insert electronic file name of document where information is provided	Insert Section of document where information is provided	NWB Concordance Assessment	NIRB Guideline Section No.
Water Use	**1**	Provide a detailed description of all types of water uses. (See the NWB definition of "use" in the NWB Guide 2: Terminology and Definitions). Categorize water consumption use(s) as either mining/industrial use and/or domestic use.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 3.pdf, Volume 10.pdf, and App 10D-2.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10 Appendix 10D 2	Y	
Water Use: Quality and Quantity Water Intake	**2**	Provide the name of the primary water source as well as the name of any alternative water source(s).	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 3.pdf, Volume 10.pdf, and App 10D-2.pdf	Volume 3, Sections 2.0 and 3.0 Volume 3, Figures 3-1.1 to Figure 3-2.9, incl. Volume 10 Appendix 10D 2	Y - Information on the names and location of alternative water sources should be provided.	
	3	Provide a description of the source of water and the location of the water source as shown on a map.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 3.pdf, Volume 10.pdf, and App 10D-2.pdf	Volume 3, Sections 2.0 and 3.0 Volume 3, Figures 3-1.1 to Figure 3-2.9, incl. Volume 10 Appendix 10D 2	Y	To be provided with application by BIMC
	4	Indicate the type of water source(s) as lake, river, well, or other type.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 3.pdf, Volume 10.pdf, and App 10D-2.pdf	Volume 3, Sections 2.0 and 3.0 Volume 3, Figures 3-1.1 to Figure 3-2.9, incl. Volume 10 Appendix 10D 2	Y	
	5	Provide a description of the quality of the water from the source for each season (summer, fall, winter, spring).	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 7.pdf	Volume 7, Section 3.0	Y	
	6	Provide the capacity of the water source.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 7.pdf	Volume 7, Section 2.0	Y	
	7	Indicate the amount of water taken from each source and provide a description of the method of extraction including specific pumping rates, pumping procedures and potential for draw down.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 3.pdf, Volume 10.pdf, and App 10D-2.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D 2	Y	
	8	Provide the acquisition rate in cubic metres per day and cubic metres per year.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 3.pdf, Volume 10.pdf, and App 10D-2.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D 2	Y	
	9	Provide a description of the water intake method including the intake facility, the operating capacity of the pump used, the details of any screening to exclude fish, and the distance the pump will be placed from the ordinary high water mark of the watercourse.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 3.pdf, Volume 10.pdf, and App 10D-2.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D 2	Y	
	10	Provide a description of the general condition of any existing water intake facility. Rate the condition of the facility as satisfactory or unsatisfactory and explain the rating.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 3.pdf, Volume 10.pdf, and App 10D-2.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D 2	Y	
	11	Indicate whether water is drawn from the source intermittently or continuously and if intermittently indicate during what months it is drawn and for what period it is drawn (days/weeks/months).	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 3.pdf, Volume 10.pdf, and App 10D-2.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D 2	Y	
	12	Indicate the amount of water to be returned to the source.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 3.pdf, Volume 10.pdf, and App 10D-2.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D 2	Y	
	13	Provide a description of the methods to ensure water returned to source is of an acceptable quality.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 3.pdf, Volume 10.pdf, and App 10D-2.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D 2	Y	
	14	Provide a description of any hydrostatic testing programs, including water sources, and treatment/disposal requirements.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 3.pdf, Volume 10.pdf, and App 10D-2.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D 2	Y	
	15	Indicate the quantities of water required for ice road construction and provide a description of the methods of ice road construction.	NA	No ice road	—	—	—	N - the Predevelopment Work application mentioned ice road; therefore, confirmation should be provided in the FEIS on whether Ice Roads will be constructed and quantity of water that will be required.	
	16	Describe measures to reduce water consumption.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 10.pdf, and App 10D-2.pdf	Volume 10, Section 3.0 and Appendix 10D-2	Y	
Water Storage	**17**	Provide a description of any water storage facilities including the type (reservoir/pond, storage tank), location, design, and the water storage volume in cubic meters.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 3.pdf	Volume 3, Sections 2.0 and 3.0	Y	
	18	If the water storage facility is a reservoir, indicate whether the reservoir is lined, the type of liner and when it was or will be installed.	NA	no reservoirs onsite	—	Volume 3.pdf	—	Y	
	19	Provide a description of the general condition of any existing water storage facility and provide an explanation if it is unsatisfactory.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 3.pdf	Volume 3, Section 2.0	Y	

Section Title	Section No.	Information Requirement	Indicate whether Information Requirement is applicable by inserting ' Y ' or ' NA '	If 'NA' provide justification	Insert Title, Author and Date of Document where information is provided	Insert electronic file name of document where information is provided	Insert Section of document where information is provided	NWB Concordance Assessment	NIRB Guideline Section No.
Water Distribution	**20**	Provide a description of water distribution systems (i.e.. piped water, trucked)	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 3.pdf, Volume 10.pdf, and App 10D-2.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D 2	Y	
	21	For each phase of development, calculate the total water consumed per day (L/day) by multiplying the estimated number of persons on the system by the estimated average water consumption (Litres/ capita/day). Calculate the total water consumed for each individual distribution system if more than one is used (i.e.. piped water, trucked water).	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 3.pdf, Volume 10.pdf, and App 10D-2.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D 2	Y	
	22	Provide a description of the general condition of any existing water distribution system and provide an explanation if it is unsatisfactory.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 3.pdf, Volume 10.pdf, and App 10D-2.pdf	Volume 3, Section 2.0 Volume 10, Appendix 10D 2	Y	
Watercourse Crossings and/or Trainings	**23**	Provide a description of any watercourse crossings including pipelines, bridges, culverts or roads.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 3.pdf	Volume 3, Sections 2.0 and 3.0	Y	
	24	Provide a description of any watercourse trainings including channel and bank alterations, culverts, spurs, erosion control, and artificial accretion.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 3.pdf	Volume 3, Sections 2.0 and 3.0	Y	
Flood Control	**25**	Provide a description of any flood control structures.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 3.pdf	Volume 3, Sections 2.0 and 3.0	Y	
Diversions	**26**	Provide a description of any diversions including ditches and dikes.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 3.pdf	Volume 3, Sections 2.0 and 3.0	Y	
Alterations in flow	**27**	Provide a description of any activities or structures that could alter the flow of a watercourse including dams, spillways, berms, cofferdams, and dikes.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 3.pdf	Volume 3, Sections 2.0 and 3.0	Y	
Dewatering	**28**	Provide a description of dewatering programs, if planned, including estimated quantities, qualities, methods and schedule of withdrawal, end use or discharge location.	NA	Dewatering not anticipated for the project	—	—	—	N - Information on dewatering of the mine pit appears to not have been included. This information should be included in the FEIS.	
	29	Provide an estimate of the quality and flow of groundwater that will flow into any open pits.	NA	Dewatering not anticipated for the project	—	—	—	N - This requirement should be accordingly addressed in the FEIS.	
Water works	**30**	For each water work component provide the design plans stamped for construction. Design plans shall consider the following:	NA	For the items a to p, incl., below, drawings and specifications to be issued for construction will be provided during detailed engineering phase. Preliminary design plans, drawings and	—	—	—	N - This requirement should be accordingly addressed in the FEIS.	
	a	Name of the water body(s) affected.	NA	—	—	—	—	N - This requirement should be accordingly addressed in the FEIS.	
	b	Site photos, site map, or air photos of the location.	NA	—	—	—	—	N - This requirement should be accordingly addressed in the FEIS.	
	c	Description of the existing condition of the site (see section 5).	NA	—	—	—	—	N - This requirement should be accordingly addressed in the FEIS.	
	d	Details of structures that will be placed in water on a temporary or permanent basis.	NA	—	—	—	—	N - This requirement should be accordingly addressed in the FEIS.	
	e	In water work timing restriction for fisheries.	NA	—	—	—	—	N - This requirement should be accordingly addressed in the FEIS.	
	f	Start and completion dates for construction.	NA	—	—	—	—	N - This requirement should be accordingly addressed in the FEIS.	
	g	Construction sequence taking into account any timing restrictions.	NA	—	—	—	—	N - This requirement should be accordingly addressed in the FEIS.	
	h	Methods of installation.	NA	—	—	—	—	N - This requirement should be accordingly addressed in the FEIS.	
	i	Machinery to be used.	NA	—	—	—	—	N - This requirement should be accordingly addressed in the FEIS.	
	j	Sedimentation and erosion control measures.	NA	—	—	—	—	N - This requirement should be accordingly addressed in the FEIS.	
	k	Construction monitoring plans.	NA	—	—	—	—	N - This requirement should be accordingly addressed in the FEIS.	
	l	Assessment of impacts to fish and fish habitat (see Section 6 item 39).	NA	—	—	—	—	N - This requirement should be accordingly addressed in the FEIS.	
	m	Bank stabilization measures (size range of material).	NA	—	—	—	—	N - This requirement should be accordingly addressed in the FEIS.	
	n	Operation and maintenance plans including instrumentation, monitoring and inspection requirements.	NA	—	—	—	—	N - This requirement should be accordingly addressed in the FEIS.	
	o	Contingency plans.	NA	—	—	—	—	N - This requirement should be accordingly addressed in the FEIS.	
	p	Remediation plans.	NA	—	—	—	—	N - This requirement should be accordingly addressed in the FEIS.	

Section Title	Section No.	Information Requirement	Indicate whether Information Requirement is applicable by inserting ' Y ' or ' NA '	If 'NA' provide justification	Insert Title, Author and Date of Document where information is provided	Insert electronic file name of document where information is provided	Insert Section of document where information is provided	NWB Concordance Assessment	NIRB Guideline Section No.
		Final plans and drawings for construction must be stamped by a Professional Engineer licensed to practice in Nunavut. (See Section 7 of the NWB's Guide 4: Completing and Submitting a Water Licence Application for more information regarding design drawings).	NA	—	—	—	—	N - This requirement should be accordingly addressed in the FEIS.	
Predicted Environmental Effects and Proposed mitigation measures	**32**	Provide a description of the effects of water usage on the river or lake from which water will be drawn.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 7.pdf	Volume 7, Section 2.0	Y	
	33	Provide a description of any expected changes in surface water flow or storage.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 7.pdf	Volume 7, Section 2.0	Y	
	34	If the cross-section of any watercourse is changed, provide a description of the change and its effect on the flow capacity of the channel.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 7.pdf	Volume 7, Section 2.0	Y	
	35	If the course of any channel is changed, provide a description of measures to maintain stream bed and bank stability.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 10.pdf, and App 10D-2.pdf	Volume 10, Appendix 10D 2	Y	
	36	Provide a description of mitigation measures that will be implemented when working in close proximity to water.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 10.pdf, and App 10D-2.pdf	Volume 10, Appendix 10D 2	Y	
	37	Describe measures of preventing surface water from coming into contact with waste and measures of managing surface water that does come into contact with waste (surface water management plan).	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 10.pdf, and App 10D-2.pdf	Volume 10, Appendix 10D 2	Y	
	38	Describe measures of preventing groundwater from coming into contact with waste and measures of managing groundwater that does come into contact with waste (groundwater management plan).	NA	Groundwater not applicable due to permafrost	—	—	—	N - This requirement should be accordingly addressed in the FEIS.	
Fisheries	**39**	Provide a description of any potential impacts to fish and/or fish habitat. (Indirect effects may include project effects, water quality, or aquatic organisms. Direct effects may include degradation or alteration of fish habitat). The applicant is advised to consult with DFO regarding fish and fish habitat related issues.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 7.pdf, Volume 10.pdf, and App 10D-7.pdf	Volume 7, Section 4.0 Volume 10, Appendix 10D 7	Y	
	a	Potential effects on fish or fish habitat;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 7.pdf, Volume 10.pdf, and App 10D-7.pdf	Volume 7, Section 4.0 Volume 10, Appendix 10D 7	Y	
	b	The area in square metres to be impacted;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 7.pdf, Volume 10.pdf, and App 10D-7.pdf	Volume 7, Section 4.0 Volume 10, Appendix 10D 7	Y	
	c	Measures to avoid sensitive periods and habitat areas (i.e., spawning beds, migration corridors);	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 7.pdf, Volume 10.pdf, App 10D-7.pdf, and App 10D-2.pdf	Volume 7, Section 4.0 Volume 10, Appendix 10D 7 Volume 10, Section 3.5, Appendix 10D-2 and Appendix 10D-7	Y	
	d	Measures to avoid physical impacts on habitat;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 7.pdf, Volume 10.pdf, App 10D-7.pdf, and App 10D-2.pdf	Volume 7, Section 4.0 Volume 10, Appendix 10D 7 Volume 10, Section 3.5, Appendix 10D-2 and Appendix 10D-7	Y	
	e	Measures to maintain flows and fish passage;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 7.pdf, Volume 10.pdf, App 10D-7.pdf, and App 10D-2.pdf	Volume 7, Section 4.0 Volume 10, Appendix 10D 7 Volume 10, Section 3.5, Appendix 10D-2 and Appendix 10D-7	Y	
	f	Measures to avoid sedimentation;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 10.pdf, App 10D-7.pdf, and App 10D-2.pdf	Volume 10, Appendix 10D 7 Volume 10, Section 3.5, Appendix 10D-2 and Appendix 10D-7	Y	
	g	Measures to avoid spills;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 10.pdf, and App 10C-1.pdf	Volume 10, Section 6.0 Appendix 10C-1	Y	
	h	Detailed habitat no-net-loss plan and site restoration plan;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 10.pdf, and App 10D-7.pdf	Volume 10, Appendix 10D 7	Y	
Studies	**40**	Provide a list of studies, reports and plans relevant to the application that have been undertaken to date, including:	Y	—	See below	—	—		
	a	Water management plan including water balance;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 10.pdf, and App 10D-2.pdf	Volume 10, Appendix 10D 2	Y	

Section Title	Section No.	Information Requirement	Indicate whether Information Requirement is applicable by inserting ' Y ' or ' NA '	If 'NA' provide justification	Insert Title, Author and Date of Document where information is provided	Insert electronic file name of document where information is provided	Insert Section of document where information is provided	NWB Concordance Assessment	NIRB Guideline Section No.
	b	Construction plan and construction schedule for water works;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 3.pdf, and Volume 10.pdf	Volume 3, Section 1.3 Volume 10, Section 11.0	Y	
	c	Operation and maintenance plan;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 10.pdf, App 10B.pdf, and App 10D-2.pdf	Volume 10, Sections 7.0 and 11.0, Appendices 10B and 10D-2	Y - Actual Operation and Maintenance (O&M) Plans should be provided in the FEIS in addtion to basic information pertaining to Operation and Maintenance as was provided in the DEIS.	
	d	Implementation schedule for construction of works, submission of studies and mitigation plans for operations and closures;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 3.pdf, and Volume 10.pdf	Volume 3, Section 1.3 Volume 10, Sections 7.0 and 10.0.	Y	
	e	Remediation plans for water works infrastructure;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 10.pdf	Volume 10, Appendix 10G	Y	
	f	Fisheries assessment;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 7.pdf	Volume 7, Section 4.0	Y	
	g	Monitoring plan.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation December 2010	Volume 3.pdf, Volume 10.pdf, and App 10D-1.pdf to App 10D-11.pdf	Volume 7, Section 4.0 Volume 10, Section 7.0 and 11.0, Appendices 10D	Y	

Section Title	Section No.	Information Requirement	Indicate whether Information Requirement is applicable by inserting ' Y ' or ' NA '	If 'NA' provide justification	Insert Title, Author and Date of Document where information is provided	Insert electronic file name of document where information is provided	Insert Section of document where information is provided	NWB Concordance Assessment	NIRB Guideline Section No.
Waste Disposal	**1**	Provide a detailed description of all forms of waste disposal (see the NWB definition of Waste in the NWB *Guide 2:*	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 10.pdf, App 10D-3.pdf, and App 10D-4.pdf	Volume 3, Section 2.0 and 3.0. Volume 10, Section 3.7, Appendix 10D-3 and 10D-4.	Y	
		Terminology and Definitions) indicating the type of waste(s) generated and/or to be deposited.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10, pdf, App 10D-4.pdf	Volume 10, Appendix 10D-4	Y	
Waste Disposal: Quality and Quantity	**2**	For each type of waste, provide the composition and quantity generated. Also provide the location, rate, timing, frequency and duration of the deposit.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10, pdf, App 10D-4.pdf	Volume 10, Appendix 10D-4	Y	To be provided with application by BIMC
	3	For each type of waste, provide the proposed methods and processes for collecting, storing, treating and discharging the waste. Indicate the capacity of these facilities.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10, pdf, App 10D-4.pdf	Volume 10, Appendix 10D-4	Y	
	4	For each waste facility, provide a description of the construction methods, type and composition of the materials to be used in the construction of the structure, equipment to be used, schedule, quality assurance/ quality control measures, and inspection and maintenance procedures.	NA	These details will be provided during the detailed engineering phase	—	—	—	N - Referencing to this information should be provided in the FEIS.	
	5	For each waste facility provide the design plans stamped for construction. The designs shall include:	NA	For the items a to v, incl., below, drawings and specifications to be issued for construction will be provided during detailed engineering phase. Preliminary design plans, drawings, and management plans are presented in Volume 3 and 10 that provide sufficient detail for DEIS requirements.	—	—	—	N - Referencing to this information should be provided in the FEIS.	
	a	A description of the types of waste entering the facility (if applicable, provide a description of the source, type, and quantity of the waste);	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10, pdf, App 10D-4.pdf	Volume 10, Appendix 10D-4	Y	
	b	The concentration of waste entering the facility;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10, pdf, App 10D-4.pdf	Volume 10, Appendix 10D-4	Y	
	c	The geochemical characterization of waste entering the facility, where applicable;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 6.pdf, Volume 10.pdf, and App 10D-5.pdf	Volume 6, Section 2.1.4, Volume 10, Appendix 10D-5	Y	
	d	Details of the drainage basin;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf, Volume 10.pdf, and App 10D-2.pdf	Volume 7, Section 1.0 and 2.0 Volume 10, Appendix 10D-2	Y	
	e	Distance of the facility from watercourses and fish bearing waters;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf, Volume 10.pdf, App 10D-4.pdf, App 10D-5.pdf,	Volume 7, Section 4.0 Volume 10, Appendices 10D-4, 10D-5, and 10D-7	Y	
	f	All sources of seepage encountered near watercourse and fish bearing waters as well as the volumes (m3/day) and direction of any seepage;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 6.pdf, Volume 10.pdf, and App 10D-5.pdf	Volume 6, Section 2.1.4, Volume 10, Appendix 10D-5	Y	
	g	Existing and proposed drainage modifications;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 10.pdf, App 10D-2.pdf, and App 10D-5.pdf	Volume 3, Sections 2.0 and 3.0, Volume 10, Appendices 10D-2 and 10D-5.	Y	
	h	Details of retaining structures;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf	Volume 3, Sections 2.0 and 3.0.	Y	
	i	Level of treatment (primary, secondary or tertiary);	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 10.pdf, App 10D-2.pdf, App 10D-3.pdf,	Volume 3, Sections 2.0 and 3.0 Volume 10, Section 3.4, Appendices 10D-2, 10D-3, 10D-4, and 10D-5.	Y	
	j	By products of treatment which may require further treatment, characterization, handling and disposal;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10.pdf, App 10D-3.pdf, App 10D-4.pdf, and App 10D-5.pdf	Volume 10, Appendices 10D-3, 10D-4, and 10D-5.	Y	
	k	Capacity and retention time of the facility;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 10.pdf, App 10D-3.pdf, App 10D-4.pdf,	Volume 3, Sections 2.0 and 3.0. Volume 10, Appendices 10D-3, 10D-4, and 10D-5.	Y	
	l	Identification of final discharge point (last point of control);	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 7.pdf, App 10D-2.pdf, App 10D-3.pdf, App 10D-4.pdf, and App 10D-5.pdf	Volume 3, Sections 2.0 and 3.0, Volume 7, Section 3.0, Appendices 10D-2, 10D-3, 10D-4, and 10D-5.	Y	
	m	Method and type of discharge (seasonal, annual, continuous);	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 7.pdf, App 10D-2.pdf, App 10D-3.pdf, App 10D-4.pdf, and App 10D-5.pdf	Volume 3, Sections 2.0 and 3.0, Volume 7, Section 3.0, Appendices 10D-2, 10D-3, 10D-4, and 10D-5.	Y	
	n	Estimated rates for discharge;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 7.pdf, App 10D-2.pdf, App 10D-3.pdf, App 10D-4.pdf, and App 10D-5.pdf	Volume 3, Sections 2.0 and 3.0, Volume 7, Section 3.0, Appendices 10D-2, 10D-3, 10D-4, and 10D-5.	Y	

Section Title	Section No.	Information Requirement	Indicate whether Information Requirement is applicable by inserting ' Y ' or ' NA '	If 'NA' provide justification	Insert Title, Author and Date of Document where information is provided	Insert electronic file name of document where information is provided	Insert Section of document where information is provided	NWB Concordance Assessment	NIRB Guideline Section No.
	o	Restrictions on discharge;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3,pdf, Volume 7.pdf, App 10D-2.pdf, App 10D-3.pdf, App 10D-4.pdf, and App 10D-5.pdf	Volume 3, Sections 2.0 and 3.0, Volume 7, Section 3.0, Appendices 10D-2, 10D-3, 10D-4, and 10D-5.	Y	
	p	Discharge effluent criteria proposed;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7,pdf, Volume 10.pdf, App 10D-2.pdf, App 10D-3.pdf, and App 10D-5.pdf	Volume 7, Section 3.0. Volume 10, Section 3.4, Appendices 10D-2, 10D-3, 10D-5.	Y	
	q	Receiving water quality objectives;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7,pdf, Volume 10.pdf, App 10D-2.pdf, App 10D-3.pdf, and App 10D-5.pdf	Volume 7, Section 3.0. Volume 10, Section 3.4, Appendices 10D-2, 10D-3, 10D-5.	Y	
	r	Capacity of the receiving environment;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 3.0.	Y	
	s	Details regarding direction and path of wastewater flow from the area or infrastructure;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 10.pdf, and App 10D-2.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D-2.		
	t	Mitigation measures;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10.pdf, App 10D-2.pdf, App 10D-3.pdf, App 10D-4.pdf,	Volume 10, Appendices10D-2, 10D-3, 10D-4, and 10D-5.	Y	
	u	Contingency measures;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10.pdf, App 10D-2.pdf, App 10D-3.pdf, App 10D-4.pdf, and App 10D-5.pdf	Volume 10, Sections 6.0, Appendices 10D-2, 10D-3, 10D-4, and 10D-5.	Y	
	v	Remediation objectives;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 10.pdf, and App 10G.pdf	Volume 3, Section 4.0 Volume 10, Appendix 10G	Y	
	6	Final plans and drawings for construction must be stamped by a Professional Engineer licensed to practice in Nunavut. (See Section 7 of the NWB's *Guide 4: Completing and Submitting a Water Licence Application for more information regarding design drawings).*	NA	Construction drawings yet to be issued	—	—	—	N - This information should be provided in the FEIS	?
	7	Describe any measures proposed to minimize the production of wastes.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10.pdf, App 10D-3.pdf, and App 10D-4.pdf	Volume 10. Section 2.0 Appendices 10D-3 and 10D-4	Y	
	8	Provide detailed plans regarding the disposal of any lake bottom sediments	NA	Activity is not planned.	—	—	—	N - Preliminary Information should be provided in the FEIS if detailed information is not available.	
	9	Provide a description of the general condition of any existing waste facilities and provide an explanation if it is unsatisfactory.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10.pdf, App 10D-3.pdf, and App 10D-4.pdf	Volume 10, Appendices 10D-3 and 10D-4	Y	
Predicted Environmental Effects and Proposed mitigation measures	10	Provide detailed treatment plans for discharges from any tailings containment area, as well as treatment plans for discharges from attenuation ponds or reclaim ponds. Water treatment plans should include estimates of treatment efficiency for each parameter of concern and a description of pH adjustment methods.	NA	no tailings impoundments onsite	—	—	—	Y	
	11	Clearly outline proposed discharge criteria, how the criteria were developed, standards to be applied, and how these criteria will be used to prevent ecological effects in the receiving environment.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7,pdf, Volume 10.pdf, App 10D-2.pdf, App 10D-3.pdf, and App 10D-5.pdf	Volume 7, Section 3.0. Volume 10, Section 3.4, Appendices 10D-2, 10D-3, 10D-5.	Y	
	12	If waste is expected to infiltrate into the ground, provide a description of the sub-surface soil compositions and provide information on groundwater elevations for the project area. Also provide the proximity between the proposed waste disposal system and the groundwater elevation.	NA	Wastes are not expected to infiltrate into the ground	—	—	—		
	13	Provide a discussion of the consequences of long-term stratification in any pit lakes and associated contingency plans.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, and Volume 10.pdf	Volume 3, Section 4.0 Volume 10, Appendix 10G	Y	
	14	Provide the geochemical characteristics of any quarry or borrow material and the methods used to determine the characteristics.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 6.pdf, App 6B-2.pdf, and App 6B-3.pdf	Volume 6, Appendices 6B-2 and 6B-3	Y	
	15	Provide the geochemical characteristics of host rock, ore, waste rock and tailings and the methods used to determine the characteristics.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 6.pdf, and App 6B-1.pdf	Volume 6, Appendix 6B-1	Y	
	16	Provide designs for the fuel tank farm facilities including a description of the nearest water bodies. Provide an evaluation of impacts and mitigation measures in case of a fuel spill.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 9.pdf, App 10C-1.pdf, App 10C-2.pdf, and App 10C-3.pdf	Volume 3 Sections 2.0 and 3.0 Volume 9. Section 3.0 Appendices 10C, 10C-1, 10C-2, 10C-3	Y	

Section Title	Section No.	Information Requirement	Indicate whether Information Requirement is applicable by inserting ' Y ' or ' NA '	If 'NA' provide justification	Insert Title, Author and Date of Document where information is provided	Insert electronic file name of document where information is provided	Insert Section of document where information is provided	NWB Concordance Assessment	NIRB Guideline Section No.
	17	Provide detailed contingency plans for the treatment of turbid water during dewatering activities and/or increased suspended solids during operations (i.e. dewatering).	NA	No dewatering	—	—	—		
Operations and Maintenance	**18**	If the project includes sewage and/or solid waste disposal, provide an Operations and Maintenance Manual in accordance with the "Guidelines for the Preparation of an Operations and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories, 1996".	Y	To be provided upon the completion of final design engineering.	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10.pdf, and App 10D-3.pdf	Volume 10, Appendix 10D-3 provided example.	N - Operation and Maintenance Manual should be provided for all relevant facilities proposed in the FEIS	
Hazardous Materials	**19**	Provide a description of the type of petroleum products, chemicals and/or hazardous materials on site.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 10.pdf, and App 10D-4.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D-4	Y	
	20	Provide details regarding the handling and storage of petroleum products, chemicals or other hazardous or potentially hazardous materials.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 10.pdf, and App 10D-4.pdf	Volume 3, Sections 2.0 and 3.0; Volume 10, Appendix 10D-4	Y	
Emergency Response and Spill Contingency	**21**	Provide an Emergency Response and Spill Contingency Plan (ERSCP) consistent with established Water Board guidelines.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10.pdf, and App 10C.pdf	Volume 10, Appendix 10C	Y	
	22	Plan(s) shall address phases of the project including construction, operation, and care & maintenance.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 10.pdf, App 10C-1.pdf, App 10C-2.pdf, and App 10C-3.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Section 7.0 and Appendices 10C-1, 10C-2, and 10C-3.	Y	
	23	Provide an explanation of how the applicant will ensure project contractors meet the applicant's due diligence standards with respect to oil and hazardous material spill prevention, preparedness, response, and restoration.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10.pdf, and all Volume 10 Appendices (App 10A.pdf to App 10H.pdf)	Volume 10, All Sections. Volume 10, Appendices.	Y	
Studies	**24**	Provide a list of studies, reports and plans relevant to the application that have been undertaken to date including design and management decisions. Studies, reports and plans may include:	Y	—	See below	—	—	Y	
	a	Waste management;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 10.pdf, and App 10D-4.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D-4	Y	
	b	Waste rock management;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 6.pdf, Volume 10.pdf, App 6B.pdf, and App 10D-5.pdf	Volume 6, Section 2.0, Appendix 6B, Volume 10, Appendix 10D-5	Y	
	c	Tailings management;	NA	no tailings onsite	—	—	—		
	d	Metal leaching/acid rock drainage management;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 6.pdf, Volume 10.pdf, App 6B.pdf, and App 10D-5.pdf	Volume 6, Section 2.0, Appendix 6B, Volume 10, Appendix 10D-5	Y	
	e	Landfill management;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 10.pdf, and App 10D-4.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D-4	Y	
	f	Landfarm management;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 10.pdf, and App 10D-4.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D-4	Y	
	g	Quarry Management;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 6.pdf, Volume 10.pdf, App 6B.pdf, and App 10D-6.pdf	Volume 6, Section 2.0, Appendix 6B, Volume 10, Appendix 10D-6	Y	
	h	Incineration management;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 10.pdf, and App 10D-4.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D-4	Y	
	i	Hazardous waste management;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 10.pdf, and App 10D-4.pdf	Volume 3, Sections 2.0 and 3.0 Volume 10, Appendix 10D-4	Y	
	j	Water management;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 7.pdf, Volume 10.pdf, App 10D-2.pdf, App 10D-3.pdf, App 10D-4.pdf, and App 10D-5.pdf	Volume 3, Sections 2.0 and 3.0, Volume 7, Section 2.0 and 3.0 Volume 10, Appendix 10D-2, 10D-3, 10D-4, and 10D-5.	Y	
	k	Geotechnical and geothermal assessment;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 6.pdf	Volume 6, Section 2.0	Y	
	l	Permafrost protection;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 6.pdf, Volume 10.pdf, and App 10D-8.pdf	Volume 6, Section 2.0 Volume 10, Appendix 10D-8	Y	
	m	Water quality modeling;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 7.pdf	Volume 7, Section 3.0	Y	
	n	Snow drift assessments;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 5.pdf	Volume 5, Section 1.0	Y	

Section Title	Section No.	Information Requirement	Indicate whether Information Requirement is applicable by inserting ' Y ' or ' NA '	If 'NA' provide justification	Insert Title, Author and Date of Document where information is provided	Insert electronic file name of document where information is provided	Insert Section of document where information is provided	NWB Concordance Assessment	NIRB Guideline Section No.
	o	Leachate and groundwater collection systems;	NA	only minor groundwater due to permafrost	—	—	—	N - Referencing to this information should be provided in the FEIS.	
	p	Wastewater treatment;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 10.pdf, App 10D-3.pdf	Volume 3, Section 2.0 and 3.0 Volume 10, Appendix 10D-3	Y	
	q	Operation and maintenance plan;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10.pdf	Volume 10, Sections 1, 4, 6 and 7	Y	
	r	Inspection plan;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10.pdf	Volume 10, Sections 1, 4, 6 and 7	Y	
	s	General monitoring;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10.pdf, and App 10D-1.pdf to App 10D-11.pdf	Volume 10, Appendices 10D	Y	
	t	Tailings monitoring;	NA	no tailings onsite	—	—	—		
	u	Mine site water quality monitoring;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10.pdf, and App 10D-2.pdf	Volume 10, Appendix 10D-2	Y	
	v	Receiving water quality monitoring;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10.pdf, and App 10D-2.pdf	Volume 10, Appendix 10D-2	Y	
	w	Aquatic effects monitoring;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 7.pdf, Volume 10.pdf, App 10D-2.pdf, App 10D-3.pdf, and App 10D-5.pdf	Volume 3, Section 2.0 and 3.0 Volume 7, Section 3.0, Volume 10, Appendix 10D-2, 10D-3, and 10D-5	Y	
	x	Geotechnical and structural monitoring;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10.pdf, and App 10D-4.pdf	Volume 10, Sections 3.0 and 7.0. Appendices 10D-4	Y	
	y	Quality assurance and quality control;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10.pdf, and App 10D-1.pdf to App 10D-11.pdf	Volume 10, Section 7.0. Appendices 10D	Y	
	z	Spill contingency and emergency response plans;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10.pdf, and App 10C.pdf	Volume 10, Appendix 10C	Y	
	aa	Interim and final abandonment and reclamation plans for the mine site;	NA	Preliminary plan has been developed	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 10.pdf, and App 10G.pdf	Volume 3, Section 4.0 Volume 10, Appendix 10G	Y - A Preliminary Abandonment and Restoration Plan is acceptable for the FEIS. However, the Plan should address all activities and facilities and address all aspects of operation.	
	bb	Remediation plans for waste disposal infrastructure;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 10.pdf, and App 10G.pdf	Volume 3, Section 4.0 Volume 10, Appendix 10G	Y	
	cc	Human health and ecological risk assessment for establishment of remediation objectives for closure;	NA	Preliminary plan has been developed	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf, Volume 10.pdf, and App 10G.pdf	Volume 3, Section 4.0 Volume 10, Appendix 10G	Y	
	dd	The collection of weather data for purposes of mine design;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 5.pdf, and App 5A.pdf	Volume 5, Appendix 5A	Y	
	ee	Construction plan and construction schedule for waste disposal infrastructure;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf	Volume 3, Section 1.3	Y	
	ff	Implementation schedule for construction of works, submission of studies and mitigation plans for operations and closure;	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf	Volume 3, Section 1.3	Y	
	gg	Options analysis.	Y	—	Mary River Project Draft Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 3.pdf	Volume 3, Section 6.0	Y	

Section Title	Section No.	Information Requirement	Indicate whether Information Requirement is applicable by inserting ' Y ' or ' NA '	If 'NA' provide justification	Insert Title, Author and Date of Document inserting • Y • or • NA 'information where information is provided	Insert electronic file name of document where information is provided	Insert Section of document where is provided	NWB Concordance (Yes (Y)/No (N)) Assessment	NIRB Guideline Section No.
Monitoring	**1**	Provide a Monitoring Plan including a description of the methods, procedures, standards, and schedules proposed. Monitoring may be required for water use; effluent, surface and/or groundwater water quality, quantity, or flow; ground temperature; ground settlement; etc. The Monitoring Plan must consider the life of the project, temporary closure and permanent closure.	Y	—	Mary River Project Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10.pdf, and all Volume 10 Appendices (App 10D-1.pdf to App 10D-11.pdf)	Volume 10, Section 7.0 Appendices 10D	Y - The information provided addresses monitoring requirements in a very general way. A comprehensive, standalone monitoring plan should be provided in the FEIS to address all monitoring requirements of the project's activities and/or facilities as they relate to the Type A water Licence.	
	2	Indicate who is responsible for sampling including that person's position, contact information and level of training.	NA	to be provided prior to the commencement of construction	—	—	—	N - This information should be included separately or as part of the Monitoring Plan accompanying the FEIS.	
	3	Indicate the name and contact information of the certified laboratory performing the analysis of samples.	NA	to be provided prior to the commencement of construction	—	—	—	N - This information should be included separately or as part of the Monitoring Plan accompanying the FEIS.	To be provided with application by BIMC
	4	Provide an Inspection Plan including a description of the methods, procedures, standards, and schedules proposed. Inspections may be required for engineered facilities related to the management of water and waste as well as spills. The Inspection Plan must consider the life of the project, temporary closure and permanent closure.	Y	—	Mary River Project Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10.pdf, and all Volume 10 Appendices (App 10D-1.pdf to App 10D-11.pdf)	Volume 10, Section 7.0 Appendices 10D	Y	
	5	Provide a summary table of all monitoring commitments that details all Surveillance Network Program (SNP) locations. The table should include parameter(s), location, frequency, and mining phase, along with, cross-referencing to sub-documents where detailed information is provided. Where appropriate, a map detailing the location of monitoring sites is to be provided.	Y	To be developed during future technical consultations. Existing/conceptual monitoring plans are available.	Mary River Project Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10.pdf, and all Volume 10 Appendices (App 10D-1.pdf to App 10D-11.pdf)	Volume 10, Section 7.0. Appendices 10D	Y - The information provided is for the existing Type B Water Licence Application. Information on parameters(s) location, frequency, etc., should be included in the relevant section of the Monitoring Plan accompanying the FEIS.	
	6	Provide a summary table of the expected quality and quantity of waters, over time in all sumps, SNP stations, and discharge points, along with i) if applicable, adaptive management criteria to benchmark if mitigation/contingency are to be implemented, ii) if applicable, water quality criteria, and iii) management action.	Y	Partially developed at present time. To be fully developed after completion of final design work and future technical consultations. Existing/conceptual monitoring plans are available.	Mary River Project Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10.pdf, and App 10D-2.pdf	Volume 10, Appendices 10D-2	Y - The discharge points provided are existing under the current Type B Water Licence. The location of proposed discharge points for all facilities identified in the FEIS should also be provided.	
	7	Provide a monitoring plan for incinerator emissions (including, but not limited to, stack testing and annual reporting).	Y	—	Mary River Project Environmental Impact Statement, Baffinland Iron Mines Corporation, December 2010	Volume 10.pdf, and App 10D-4.pdf	Volume 10, Section 7.0 and Appendix 10D-4	Y - Information related to the monitoring of incinerators was submitted as part of Waste Management Plan. A separate stand-alone Plan, however, is required and should be submitted as part of the FEIS.	

Attachment B:

Nunavut Water Board's Technical Review Submission to the Nunavut Impact Review Board regarding Baffinland Iron Mines Corporation's Draft Environmental Impact Statement

P.O. Box 119
Gjoa Haven, NU X0B 1J0
Tel: (867) 360-6338
Fax: (867) 360-6369

ᓄᓇᕗᑦ ᐃᒪᓕᕆᔨᑦ ᑲᑎᒪᔨᑦ
NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYIT
OFFICE DES EAUX DU NUNAVUT

NIRB File No.: 08MN053
AANDC File No.: N2008T0014
DFO File No.: 2008 MR
NRCan File No.: NT-056
NWB File No.: 2AM-MRY----
QIA File No.: LUA-2008-008
TC File No.: 7184-17-5

October 5, 2011

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

RE: ***NIRB File No. 08MN053 – Nunavut Water Board's Technical Review Submission to the Nunavut Impact Review Board regarding Baffinland Iron Mines Corporation's Draft Environmental Impact Statement***

Dear Mr. Barry:

Please find attached the Nunavut Water Board's (NWB or Board) technical review comments and recommendations relevant to Baffinland Iron Mines Corporation's (BIMC) Draft Environmental Impact Statement (DEIS). The submission is in response to the Nunavut Impact Review Board's (NIRB) correspondence dated July 5, 2011, in which interested parties were invited to review and provide submissions regarding the DEIS by September 6, 2011. The NIRB subsequently extended the deadline for

submissions to October 5, 2011, in response to a request from the Qikiqtani Inuit Association (QIA).

In its review, the NWB placed particular emphasis on aspects of the DEIS aimed at fulfilling the Type-A water licensing requirements including the draft water licence application, environmental management plans and sections pertaining to water use and waste disposal activities. Comments and/or recommendations have been provided for certain sections of the DEIS.

The NWB is appreciative of this opportunity to comment on the contents of the DEIS at this stage in the NIRB's Review Process. The Board trust that recommendations provided will assist in preparing the information required for the Type-A water licence application that will accompany the Final Environmental Impact Statement (FEIS).

With respect to the NIRB Technical Meeting and Pre-Hearing Conference scheduled for October and November 2011, respectively, the NWB will be represented by, at most, two participants for both the meeting and conference.

If you have any comments and or questions regarding the NWB's submission, please contact the undersigned at 867-360-6338 or at sjoseph@nunavutwaterboard.org or David Hohnstein, Director of Technical Services at 780-443-4406 or at dts@nunavutwaterboard.org.

Regards,

Original signed by:

Sean Joseph

Attachment: NWB Technical Review Submission

Nunavut Water Board

Nunavut Water Board's Technical Review Submission

to the

Nunavut Impact Review Board

Pertaining to

Baffinland Iron Mines Corporation's Draft Environmental Impact Statement for the Proposed Mary River Project

October 2011

Table of Contents

Summary (English) 5

Summary (Inuktitut) 7

Introduction 9

General comments 9

Volume 1: Main Document, Draft Type-A Water Licence Application (Appendix 1C-3) 10

Volume 1: Main Document, Concordance Table (Appendix 1C-2) 16

Volume 2: Consultation, Regulatory Framework and Assessment Methodology 17

Volume 3: Project Description 17

Volume 6: Terrestrial Environment 18

Volume 7: Freshwater Environment 19

Volume 10: Environmental, Health, and Safety Management Systems 21

- Appendix 10B: Environmental Protection Plan 21
- Appendix 10C-1: Emergency and Spill Response Plan, SD-ERP-001 (Appendix 10C-1) 22
- Appendix 10C-2: Milne Port – Oil Pollution Emergencies Plan, SD-ERP-02 24
- Appendix 10-C: Steensby Port – Oil Pollution Emergencies Plan, SD-ERP-02 25
- Appendix 10C-4: Explosives Management Plan, SD-ERP-04 27
- Appendix 10D: Surface Water and Aquatic Ecosystems Management Plan, SD-EMMP-002 28
- Appendix 10D-3: Wastewater Management Plan, SD-EMMP-003 28
- Appendix 10D-4: Waste Management Plan, SD-EMMP-004 29
- Appendix 10D-5: Waste Rock Management Plan, SD-EMMP-005 29
- Appendix 10D-6: Borrow Pit and Quarry Management Plan, SD-EMMP-006 30
- Appendix 10D-8: Road Management Plan, SD-EMMP-006 31
- Appendix 10D-9: Railway Management Plan 32
- Appendix 10G: Preliminary Mine Closure and Reclamation Plan 32
- Other Plans 33

Design Drawings and Operation and Maintenance (O&M) Plans 33

Summary (English)

Baffinland Iron Mines Corporation (BIMC or Proponent) submitted to the Nunavut Impact Review Board (NIRB) a Draft Environmental Impact Statement (DEIS) containing a detailed project description and supporting information for various components and activities associated with the proposed Mary River Project, located on northern Baffin Island within the Qikiqtani Region of Nunavut. The DEIS is aimed at satisfying the information required under the project's Guidelines[1] issued by the NIRB. Section 1.4.2 of the Guidelines, identifies the condition under which the NIRB and the Nunavut Water Board (NWB) can coordinate the NIRB review process and the NWB water licensing process in accordance with the NIRB and NWB Detailed Coordinated Process Framework (DCPF)[2].

The DCPF allows the Proponent to include in the DEIS specific information required for either the NIRB process or the NWB process. It also provides an opportunity for the proponent to satisfy, where possible, information requirements of both the NIRB and NWB processes, simultaneously, by submitting the information to the NIRB at the initial stage(s) of the process. In addition, it provides directions to the NIRB and NWB concerning the approach that can be taken when conducting a joint review of the DEIS.

The NIRB distributed the DEIS and addendums to the DEIS to interested parties including the NWB for review and/or comments on July 5, 2011. The NWB has reviewed the sections of the DEIS and relevant addendums and provided comments specifically on items in volumes 1, 2, 3, 6, 7 and 10. Particular emphasis was placed on the concordance table and aspects of the draft Type-A water licence application, environmental management plans, and studies, reports and research related to water use and waste disposal activities. Comments and recommendations are organized sequentially by volume number, except where they apply to more than one volumes/sections of the DEIS. In such cases, the comments and/or recommendations are

[1] Guidelines for the Preparation of an Environmental Impact Statement for Baffinland Iron Mines Corporation's Mary River Project (NIRB File No. 08MN053), November 16, 2009.
[2] Nunavut Impact Review Board (NIRB) and Nunavut Water Board (NWB) Detailed coordinated process framework for NIRB Part 5 Review and NWB Licensing, September 2009.

listed under the general comments section. The following is a summary list of general items identified during the review:

- Lack of and/or insufficient information included in some sections of the water licence application and/or over-reliance on information contained in other sections of the DEIS to satisfy information requirements that could be easily included in the application.

- Use within the Concordance Table of website addresses as the source of information, but not including the actual information in the DEIS.

- Inconsistency in the scope of activities covered under some of the Management Plans and concerns surrounding functionality of some Plans.

- Considerable duplication of information contained in some environmental management plans.

- Design drawings submitted for some of the proposed facilities are preliminary or conceptual and would not necessarily satisfy NWB licence application requirements.

For the sections of the DEIS identified as lacking or containing insufficient information, recommendations have been provided concerning the information that should be included in the revision of appropriate sections of the DEIS. Recommendations have also been made with respect to the extent to which the scope of some plans should be expanded, as well as ways to consolidate and streamline management plans so as to increase functionality and reduce redundancies. It is believed that the comments and recommendations provided will assist in preparing the Type-A water licence application that will accompany the Final Environmental Impact Statement (FEIS).

Summary (Inuktitut)

ᐸᕆᓪᓕᐢ ᐊᐃᕐᓂᐢ ᐅᓴᖅᓯᐅᖏᑎᑦ ᓄᐊᕐᓵᓴᐢ (BIMC ᑭᓄᐊᓗᓂᑦ ᐅᑦᑐᕐᑎᓕᑦ) ᑐᓂᓯᔪᑦ ᑭᓄᓇᖅ ᓇᓇᕗᑦ ᐊᐢᑎᓕᓴᓂᑦ ᖃᑎᒌᑦ (NIRB) ᑕᓯᒥᖅ ᐅᑦᑐᕐᑎᑦ ᐊᐢᑎᓕᓴᓐᓂᑦ ᐊᑲᐊᒃᑦ ᐅᖏᐅᓯᑦ (DEIS) ᐱᑕᖏᖅᑐᑦ ᐅᓂᒃᑎᐊᖏᓯᔪᓂᒃ ᐱᓕᓴᐃᔪᔨᖅ ᐅᓂᒃᐅᓯᖅᑎᓂᒃ ᐊᓯᒪᓗ ᐃᒃᔪᖅᓯᐅᑎᔪᑦ ᑐᓴᒪᒃᑕᐃᑦ ᐊᒃᓕᒋᐧᐋᓂ ᐃᓕᓯᒪᓂᓂᓂ ᐊᓯᒪᓗ ᐱᓕᓴᐃᔪᔨᑦ ᐱᖏᑕᐅᔪᑦ ᑕᓯᓗᓂᖅ ᓄᓪᓗᓯᒪᓂᖅ ᐱᐊᓕᓴᖏᓐᓂᒃ, ᐃᓂᖏᖅᑐᖅ ᑕᒪᓐ ᐅᐊᓚᖏᓂ ᖁᑭᖅᑕᓗᒃ ᐃᓗᓕᓂᖅ ᐊᐊᓕᓴᖏᓐᓂᒃ ᐊᐅᓚᓂᖅ, ᐃᓂᖏᖅᑐᖅ ᑕᒪᓐ ᐅᐊᓚᖏᓂᖅ ᖁᑭᖅᑕᓗᒃ ᐃᓗᓕᓂᖅ ᐊᐅᓚᓂᖅ ᐊᐢᑎᓕᓴᓂᑦ. ᓴᖅᑭᑦ ᐊᐢᑎᓕᓴᐃᑦ ᑐᓴᖅᓚᔪᑦ ᐊᖃᐅᓯᖏᓐᓂᑦ ᑕᒪᑭᑦ ᑐᓴᒪᓴᖅᓚᑦ ᐱᔾᔪᐊᖅᖃᓂᖓ ᐊᑐᖅᑐᑦ ᐱᓕᓴᐃᔪᔨᑦ ᐃᓗᓕᓂᖅ ᐊᐢᑎᓕᓴᓐᓂᑦ ᐊᓯᒪᓗ ᐃᓗᓕᓂᖅ ᐅᓂᒃᑎᐊᖏᓯᔪᓂᒃ ᐃᒃᔪᖅᓯᐅᑎᔪᑦ ᐱᓕᓴᐃᔪᔨᑦ

- ᐱᑕᖃᖏᑦᓂᖅᓴᓂᑦ ᐊᓪᓚᓗ/ᐅᕙᓗᓂᑦ ᓄᓚᒃᓴᓪᓚᖏᑦᓂᓂᖅ ᑐᓴᒃᑲᐃᑦ ᐃᓕᓴᐅᑎᓂᖏᑦ ᐃᓕᖏᑦ ᐃᓕᖅᓂᓂ ᑭᒃᐞᑦ ᐃᒪᖓᑦ ᓯᐃᓴᐅᑎᑦ ᐊᓪᓚᓗ/ᐅᕙᓗᓂᑦ ᐊᑐᖃᐅᓗᐊᖃᓴᓂᖏᓂᓂᑦ ᑭᒃᐞᑦ ᑐᓴᒃᑲᐃᑦ ᐱᑕᖃᖅᓂᖏᑦ ᐊᓯᖏᓂ ᐃᓕᖏᓂ ᑭᒃᐞᑦ DEIS ᐊᕐᑎᓕᔾᔪᑎᑦ ᓄᓚᒃᑲᖅᓂᖏᓂᓂᑦ ᑐᓴᒃᑲᐃᑦ ᐱᒃᓗᐊᖃᖅᓂᖏᑦ ᐃᓕᓕᐅᑎᑦᔪᑎᖏᑦ ᑭᒃᐞᓂᖓ ᑐᓴᕐᕋᐅᑎᑦ.

- ᐊᑐᖅᑐᑦ ᑭᒃᐞᓂᓂ ᒪᓕᒃᓴᖅᓂᖏᑦ ᐊᑐᓴᒃᓕᓕᐊᑦ ᑭᒃᐞᓂᖓ ᖃᓗᓴᐅᒃᓴᐃᑦ ᑐᓴᕐᑎᖏᑦ ᐱᑕᖃᓄᑕᐅᓂᖏᓂᓂᑦ ᑐᓴᒃᑲᐃᑦ, ᑭᓯᐊᓂᒃ ᐃᓕᓕᐅᑎᓯᒪᖏᑦᓂᓂᖏᑦ ᑭᒃᐞᓂᓂ DEIS ᐊᕐᑎᓕᔾᔪᑎᑦ.

- ᒪᓕᒃᓴᖏᑦᓂᓂᖏᓂᓂ ᑭᒃᐞᓂᓂ ᐃᓯᒪᑎᓕᓯᐊᑦ ᓄᓚᒃᓴᓪᓚᖏᑦᓂᓂᖏᓂᓂ ᐱᑦᔦᑕᐅᓯᒪᓂᖏᑦ ᐊᑐᖅᑐᑦ ᐊᐅᓪᔦᑦᔨᐅᓂᖏᓂᓂᑦ ᐱᑦᔦᑕᐅᓯᒪᓂᖏᑦ ᐊᑐᖅᑐᑦ ᐃᓕᖏᓂ ᑭᒃᐞᑦ ᐊᐅᓪᓚᓗ ᐃᓯᒪᓂᓕᐅᓯᐅᓂᖏᑦ ᐱᑦᔦᑕᐅᓯᒪᓂᖏᑦ ᐊᑐᖅᑐᑦ ᐃᓕᖏᓂ ᐸᖃᓄᑦ.

- ᐊᒥᓯᖃᓕᐃᑦ ᐊᔪᐅᑦ ᑐᓴᒃᑲᐃᑦ ᐱᑕᖃᖅᓂᖏᑦ ᐃᓕᖏᓂ ᐊᕐᑎᓕᔾᔪᑎᓂᑦ ᐊᐅᓕᓂᖏᑦ ᐸᖃᓄᑦ.

- ᓴᓇᑦᔦᓯᖅᓴᐃᑦ ᑎᑎᕋᐅᔾᖃᓯᒪᓕᔦᑦ ᑐᓴᕐᑐᐅᓂᖏᑦ ᐃᓕᖏᓂᓂ ᑭᒃᐞᑦ ᐅᐃᑐᕈᑕᐅᔦᑦ ᐱᓕᓀᑦᔨᑎᑦ ᓯᐁᓕᖃᐸᖃᓄᐅᓇᐃᓇᓂᖏᑦ ᐊᑐᓀᖃᖅᓀᓂᑦ ᐃᓕᒋᓕᐅᑐᐅᓂᖏᓂᓂᑦ ᐃᓕᓕᓀᔨᑦ ᓯᐃᓴᐅᑎᑦ ᐊᑐᖅᑐᑦ ᐊᐅᓀᖃᖅᓂᖏᑦ.

-

ᑭᒃᐞᓂᖓ ᐃᓕᖏᓂᓂ ᑭᒃᐞᑦ ᕿᓀᓕᐳ ᐊᕐᑎᓕᔾᔪᑎᓂᑦ ᓇᓗᓇᐃᖅᑕᐅᓂᖏᑦ ᐱᑕᖃᖅᓂᕐᑐᑦ ᐅᕙᓗᓂᑦ ᐃᓗᐊᓂᕐᑐᑦ ᐃᓗᓕᓴᐅᖅᓂᖏᑦ ᐊᑐᕐᑐᑦ ᐃᓕᒋᓕᐅᑐᐅᓂᖏᑦ ᐃᓕᖏᓂ ᐊᐅᓀᖃᖅᓂᖏᑦ ᐊᑐᖅᑐᑦ ᐃᓕᒋᓕᐅᑐᐅᓂᖏᑦ ᐊᐅᓀᖃᖅᓂᖏᓂᓂᑦ ᐃᓕᓕᓀᔨᑦ ᐊᑐᖅᑐᑦ ᐃᓕᖏᓂ ᐸᖃᓄᑦ ᐃᓕᑲᓂᖅᓂᖏᓂᓂᑦ ᐊᑐᖅᑐᑦ ᐃᓕᖏᓂ ᐸᖃᓄᑦ ᐊᐅᓀᖃᖅᓂᖏᑦ ᐊᑐᖅᑐᑦ ᐃᓕᖏᓂ ᐸᖃᓄᑦ ᐊᐅᓀᖃᖅᓂᖏᓂᓂᑦ ᐃᓕᓕᓀᔨ

Introduction

On July 5, 2011, the Nunavut Impact Review Board (NIRB) invited interested parties to review and provide submissions pertaining to the Draft Environmental Impact Statement (DEIS), received by the NIRB on January 21, 2011 from Baffinland Iron Mines Corporation (BIMC) for the proposed Mary River Project. The Mary River Project involves the construction, operation, closure, and reclamation of an open pit iron mine, capable of producing 18 million tonnes of ore per annum, on the northern Baffin Island, within the Qikiqtani Region of Nunavut. The entire lifespan of the proposed project, from construction to reclamation of the mine, is approximately thirty-three (33) years. Ore produced is expected to be shipped to markets in Europe.

In its request for submissions, the NIRB indicated that BIMC had requested a joint review for the proposal in accordance with the NIRB and NWB Detailed Coordinated Process Framework (DCPF) and that the NIRB and NWB have agreed to coordinate their review processes. The DCPF allows the Proponent to include in the DEIS specific information required for either the NIRB process or the NWB process. It also provides an opportunity for the proponent to satisfy, where possible, information requirements of both the NIRB and NWB processes, simultaneously, by submitting the information to the NIRB at the initial stage(s) of the process. In addition, it provides directions to the NIRB and NWB concerning the approach that can be taken when conducting a joint review of the DEIS

Information provided in the DEIS associated with the water licensing process is contained within several volumes of the DEIS. The NWB has reviewed the relevant sections of the DEIS and compiled below a list of comments and/or recommendations arranged sequentially by volume, in order to assist the NIRB and BIMC in the preparation of a Final Environmental Impact Statement. Comments and/or recommendations that apply to more than one volume are listed under the general comments section.

General comments

- Minimum set-back distance above the ordinary high water mark of freshwater bodies for situating proposed infrastructure is being listed as thirty (30) metres instead of thirty-one (31) metres in some of the plans and sections of the DEIS. It is recommended that the set-back distance in all plans and relevant sections of the

DEIS be revised to thirty-one (31) metres, except in cases where authorized, to allow for consistency with that of Indian and Northern Affairs Canada's (INAC) Land Use guidelines and the NWB general licensing conditions.

- There are inconsistencies in the scope of activities covered under the various plans. Some cover activities under the Bulk Sampling Program while other cover activities proposed in the Draft EIS. It is suggested that, the where applicable, all project activities be considered in each plan.

- Where applicable some of the plans should be streamlined as to reduce redundancies and increase fluidity thus making it easy to locate appropriate information when required.

- Consistency in the use of terms should be looked at when revising the plans. For example, the Milne Inlet bulk fuel storage facility and the Milne Port fuel facility appear to be synonymous as are the Mary River camp and the Mine camp.

- Some Plans rely solely or excessively on information contained in other Plans that should have been included in those Plans. To ensure that the users of those Plans are able to access the information as readily as possible, it is suggested that attempts be made to decrease referencing other plans for information that should and could be easily included in a specific plan.

Volume 1: Main Document, Draft Type-A Water Licence Application (Appendix 1C-3)

The draft Water Licence Application that was submitted for consideration under Appendix 1C-3 of the EIS was reviewed for completeness and consistency with NWB Guide 4.[5] The review determined that the following items should be addressed:

Block #4 of the Water Licence Application – Location of the Undertaking

In response to the requirements of this item, inconsistent information is provide on the application form and in Volume 3, Table 3-1.1 and Figure 3-1.2 of the DEIS for proposed and/or existing camps. In order to ensure that the NWB captures water use and waste disposal activities associated with all existing and/or proposed camp facilities, it is

[5] Guide 4, Completing and Submitting a Water Licence Application for a New Licence, April 2010

recommended that the number of camps be confirmed in all sections of the DEIS including the water licence application. Once the information is confirmed and revised, it is recommended that Table 3-1.1 and Figure 3-1.2 be accordingly updated. Also, Figure 3-1.2 should depict the name of each camp next to the appropriate symbol on the map.

In addition, it should be noted that a Type-A licence and multiple Type-B licenses could be issued to a project, depending on the activities undertaken. It is therefore recommended that the water licence application identify the camps (i.e. temporary/permanent) requiring approval under the Type A application.

Block #5 of the Water Licence Application – Maps

To address the requirement in this section, a project location map and a location of project activities map, Figures 3-1.1 and 3-1.2, respectively, were provided to a scale other than that specified by NWB in Guide 4, 1:50,000. It is recommended that appropriately scaled maps be provided to satisfy the requirements of Guide 4.

Block #6 of the Water Licence Application – Nature of Interest in the Land

Information on the expiry dates for some leases and authorizations are not included in the response to this item. Volume 2, Section 2.0 of the DEIS is referenced as containing information relevant to this item. Some dates that are excluded from the application form are included in Table 2-2.3 of the DEIS. It is suggested that, in cases where limited information is required and available, that the information be included on the application form in addition to referencing appropriate sections of the DEIS.

Block #7 of the Water Licence Application – NPC Determination

As a response to this item, Volume 2, Section 2.2.1 of the DEIS is referenced. This section states that the Nunavut Planning Commission (NPC) views the railway as a proposal for a transportation corridor, which would possibly require an amendment to the North Baffin Regional Land Use Plan. For information purposes, it is recommended that an update be provided, if available, on the status of the potential amendment that the NPC appears to be contemplating.

Block #9 of the Water Licence Application – Description of the Undertaking

Volume 3 of the DEIS is being referenced as containing a detailed project description in response to this item. The information provided in Volume 3 is very comprehensive; however, many of the proposed activities do not necessarily fall under the NWB's mandate. It is therefore recommended that an executive summary in English and Inuktitut that specifically addresses the requirements of the water licence application be included as an attachment to the application. This will enable parties to consistently recognize which proposed activities and/or facilities are being considered when reviewing the water licence application and related documents.

Block #10 of the Water Licence Application – Options or Alternative Methods

To satisfy the requirement of this item, Volume 2, Section 6.0 of the DEIS is being referenced as containing information on alternative methods; however, the volume and section referenced contains information on definitions and abbreviations instead of information on alternative methods. It is recommended that the appropriate referencing be provided.

Block #11 of the Water Licence Application – Classification of Primary Undertaking

According to the response to this item, the undertaking that is being applied for is classified as Mining and Milling (including exploration/drilling/exploration camp). In addition, the types of undertaking being applied for, in accordance with Schedule II of the *Northwest Territories Waters Regulations*, are described as follow: Hydrostatic Testing, Landfarm & On-site Storage of Hydrocarbon Contaminated Soil, Mineral Exploration/Remote Camp, Advance Exploration, Mine Development, General Water Works, and Power. As part of the requirements of the water licence application, supplemental information pertaining to the types of undertaking must be provided with the application. It is recommended that the information requirements under this item be provided as an attachment to the water licence application and/or by referencing the appropriate volume(s) and/or section(s) of the DEIS.

Block #13 of the Water Licence Application – Quantity of Water Involved

Several sections of DEIS identified in the application contain the information required under this item. However to expand on the information provided, Volume 3, Table 3-1.1 and Volume 10, Appendix 10D-2, Table 4.4, of the DEIS, the following are recommended: Table 3-1.1 should include the combined annual water demand for all project sites and the overall water demand for the entire project for the term of the licence being contemplated. Table 4.4 should include the total annual water demand for all activities listed under each project site and the total water demand for the entire project for the term of the licence contemplated. In addition, both tables seem to suggest that the annual water demand for the Railway consists of the combined water requirements for the Mid-Rail, Ravn River, Tunnels and S. Cockburn camps. It is recommended that the water demand for each of those camps be included as a subset of the total demand for the Railway.

Block #15 of the Water Licence Application – Quantity and Quality of Waste Involved

The information required under this item is contained in the sections referenced in the DEIS. To expand on the information provided, Volume 10, Appendix 10D-4, Table 3.2 should be revised to list the volume of waste generated by each of the camps associated with the railway as a subset of the combined volume of waste generated for Railway camps. In addition, Volume 10, Appendix 10D-4, Table 3.4, should include approximate quantities of hazardous waste generated and disposal method(s) for all hazardous wastes listed. Information should also be provided for all wastes generated by the two emergency shelters.

Block #16 of the Water Licence Application – Other Authorizations

The appropriate section of the DEIS referenced, Volume 2, Section 2.0, contains the information required under this item; however, some of the information is now outdated. It is suggested that the information referenced in the DEIS, including Table 2-2.3, be updated to include new, renewed, and pending authorizations, leases and permits.

Block #18 of the Water Licence Application – Water Rights of Existing and other Users of Water

The response to this item indicates that there are no known water users within the project area who will be affected by the proposed undertaking and, as such, matters related to compensation agreements are not applicable. Information should be provided to support this determination.

Block #19 of the Water Licence application – Inuit Water Rights

It is stated that there will be no "substantial effect" to the quality, quantity or flow of water through Inuit Owned Land (IOL) due to the undertaking. The term "substantial effect" should be qualified or explained; the inclusion of appropriate referencing to the DEIS is also suggested.

Block #21 of the Water Licence Application – Security Information

The item requires that an estimate of the total financial cost for final reclamation be provided. Volume 3, Section 4.0, and Volume 10, Appendix 10G are referenced as containing the required information. However, the review of the information provided in Volume 3, Section 4.0, identifies information related to reclamation activities; however, no reclamation cost estimate has been provided. The review of the information contained in Volume 10, Appendix 10G-A, Sections 8.0 and 9.0, identified reclamation cost estimates; however, the estimate provided appears to be covering reclamation activities for components of the existing licence, 2BE-MRY1114, instead of the scope of activities proposed in this application (DEEIS). It is recommended that a revised reclamation cost estimate be provided using the most recent version of RECLAIM model.

Block #22 of the Water Licence Application – Financial Information

The response to this item states that financial information related to the BIMC is forthcoming. Prior to the issuance of a licence, assurance is needed that the potential licensee is committed and capable of accepting all financial responsibilities associated with the undertaking. It is suggested that the information required under this item be provided.

Block #23 of the Water Licence Application – Studies undertaken to date

As a response to this item, it is stated that a completed compilation of studies, reports and research is provided in the 2010 DEIS, without specifying which parts of the DEIS contain the information. Since all studies, reports and research contained in the DEIS are not related to the water licence application, it is recommended that a list of the ones relevant to the application be included on the application form in addition to appropriate referencing to the DEIS.

Block #24 of the Water Licence Application – Proposed Schedule

In response to this item Volume 3, Section 1.3 of the DEIS is being referenced. In addition to referencing the DEIS, it is suggested that tentative dates be included in the application as the schedule provided in the DEIS might not necessarily be consistent with the projected schedule for activities proposed in the water licence application.

Block #25 of the Water Licence Application – Proposed Term of Licence

Specifics are not provided with respect to the actual term for which the licence is required in the response to this item. Because the term of a licence plays a crucial role in the decision surrounding issuance of a water licence, it is suggested that a proposed term for the licence be provided.

Block #26 of the Water Licence Application – Annual Reporting

The response to this item states that the details on the content of the annual report for the project will be determined from future technical meetings. Even though future technical meetings will contribute to the final form and content required for technical reporting, there is a requirement for a proposed reporting outline or template to be included in the water licence application. It is suggested an outline or template for the annual report be provided as it may prove helpful during discussions related to reporting during technical meetings.

Miscellaneous Items

As required by the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Northwest Territories Waters Regulations* (Regulations), a complete application shall include the Application Fee of $30.00 CDN and a deposit equal to the Water Use Fee payable under subsection 9(1) of the Regulations, in respect of the first year of the licence that is being applied for, calculated using Indian and Northern Affairs Canada, Northern Affairs Organization, Land and Water Management, NCR, Water Use Fee Calculator, (Ver. 1.4).

Volume 1: Main Document, Concordance Table (Appendix 1C-2)

The review of the information contained in the concordance table accompanying the water licence application has determined that the referencing to the DEIS provided are mostly valid. There are some instances, however, where no referencing is provided because the information was apparently not available for inclusion during the preparation of the DEIS, and other instances where, instead of including the information in the DEIS, a website is being referenced. In order to ensure that the information related to the water licence application is consistent and readily accessible in the DEIS for consideration during the review process, it is recommended that the DEIS and the concordance table be updated accordingly in any revision of the DEIS:

- The section that applies to the "NIRB Determination" states that the required information is available on the NIRB's website without actually including the information in the DEIS. For expediency and consistency reasons, it is suggested that the information be also included in the DEIS.

- The section that applies to "Financial Information" states that the required information is not applicable for the current phase of the project. This information should be included for review.

- The sections related to the "Proposed Term of Licence" and "Annual Reporting" requirements should be addressed as they contribute to the decision process related to issuance of a licence.

Volume 2: Consultation, Regulatory Framework and Assessment Methodology

Section 2.2.5, Pg. 23, **s**tates that if it is determined through the environmental review process that the project activities are expected to substantially affect the quality, quantity or flow of water on Inuit-owned lands, the proponent will be required to enter into a water compensation agreement with the QIA. Information on whether there is any existing compensation agreements related water use under the current type "B" Licence and how any existing water compensation agreement(s) could be affected should be provided.

Table 3-1.1, Pg. 26, Table, 2-2.3 lists current authorizations associated with exploration activities for the project. Some of the authorizations listed are expired and/or renewed, as well as new ones probably issued subsequent to the submission of the DEIS. In order to ensure that the information in the table is as current as possible, it is suggested the table be updated with the most recent information.

Volume 3: Project Description

Table 3-1.1, Pg. 3-4, lists key facts about the project, including a useful break-down of the quantities of certain types of resources that will be allocated during various phases of the projects. To add to the information contained in the table, it is recommended that the following changes be included in any revision:

- Under the "Treated (Sewage) Effluent" section, information is provided with respect to the combined volume of sewage generated by the Raven River, Cockburn Lake and Cockburn South camps. Sewage generated by these camps is intended to be treated offsite by at least two different wastewater treatment facilities. To assist in assessing whether contingency measures for sewage disposal are appropriate for each camp during any interruption in off-site treatment, it is therefore suggested that information related to the quantity of sewage generated by each camp be provided.

- Under the "Water Demand" section of the table, it appears that the water demand for the Railway encompasses the combined water demand for the Mid-Rail, Raven River, Cockburn Lake, and Cockburn South camps. To enable the NWB to assess the potential demand placed on the respective water source supplying

each camp, it is recommended that the quantity of water for each camp facility be provided as a subset of the demand for the Railway.

- The emergency shelters at Tote Road site are included on the list of camps in Table 3-1.1, however no information is provided with respect to the water demand and quantities of sewage generated by each of those facilities. It is suggested that this information be included.

- The "Fuel Storage" section provides information pertaining to an unspecified number of temporary 20,000-litre Iso-containers that may potentially be installed at the Milne Port, Tote Road, Railway, and Steensby sites. In order to easily confirm the quantity of fuel at a given time at each site, it is recommended that the number of Iso-containers at the various sites be included in the table.

Section 2.1.8, Pg. 22, states that a tank-farm consisting of two 30-ML tanks will be constructed at the Milne Port site. However, a modification requested for the Milne Inlet bulk fuel storage facility, dated June 2011 and approved by the NWB on August 12, 2011, indicates that the tank-farm will consist of four 10-ML tanks, one 5-ML, and one 3-ML tank. It is recommended that confirmation be provided on the number of fuel tanks that will be installed at the Milne Inlet site.

Volume 6: Terrestrial Environment

Section 2.1.4.1, Pg. 25, states that the current mine plan includes encapsulating Potential Acid Generating (PAG) rocks within the core of the waste rock pile, and that based on the Metal Leaching/Acid Rock Drainage (ML/ARD) study conducted, encapsulation appears to be a viable option for minimizing any metal ML/ARD effects on the environment. However, additional geochemical studies including kinetic testing are continuing to evaluate and refine this option. It is recommended that information on alternatives to encapsulation be provided should further evaluations determine that encapsulation would not produce the required and/or desired runoff quality. The results of the continuing studies should also be provided once available.

Section 2.1.4.2, Pg. 26, states that a screening level ML/ARD assessment completed on quarries and borrow pits along the existing Milne Tote Road determined that proposed

quarries and borrow pits along the area appear to have a low potential for ML/ARD and are therefore suitable as quarry or borrow sources. However, the density sampling conducted is insufficient and more sampling is planned. It is recommended that the timeline for conducting additional density sampling and results, once available, be provided.

Section 2.4.2, Pg. 48, states that no major eskers or wetlands within the Local Study Area (LSA) will be affected by the project. It is suggested that this section be expanded to include information on the factors used in determining what a major esker or wetland is. Information on wetlands not considered as being major should also be included.

Volume 7: Freshwater Environment

Section 1.2, Pg. 3, states that the methodology used assumes that an impact to freshwater may be fully mobile and able to move both upstream and downstream but the impacts are confined to the water and therefore cannot move from one watershed to another. An explanation should be provided as to the types of impacts being referred to and how those impacts are going to be confined to the initial watershed; even though, water is transferred between watersheds, from the perspective of contaminants.

Section 1.2, Pg. 3, states that one baseline monitoring station located on a tributary of Phillips Creek monitors one-quarter of the entire Phillips Creek watershed, which is 900 km^2. It is assumed that because of similar watershed characteristics, the estimated annual distribution of stream flow can apply to the entire Phillips Creek watershed. It will be helpful to confirm whether the watershed characteristic is similar or consistent throughout the entire Phillip Creek watershed and the extrapolation made for using data for the Mean Annual Unit Runoff (MAUR) obtained from one monitoring station is justified.

Section 2.2.4, Pg. 19, refers to a storm water management plan that will be developed for the Mary River Freshwater RSA to address runoff from non-key areas including lay-down areas, camps, airstrip and other mine use areas. It is suggested that a storm water management plan be developed for other areas as well.

Section 3.1, Pg. 112, refers to baseline data obtained for surface water and sediment quality prior to future development. However, during the baseline sampling program, it was not possible to collect data that could reflect pre-disturbed state in areas affected by the Milne Inlet Tote road Bulk Sampling Program associated infrastructure including wastewater treatment and discharge, water abstraction, etc. It is recommended that the information be provided on whether or not any analyses have been carried out to determine the extent to which the data collected differ from data that would have been obtained under pre-disturbed conditions.

Section 3.4.3.1, Pg. 145, indicates that given limitations in mitigation measures it is anticipated that total suspended solids (TSS) loading will occasionally exceed the CCME threshold of +5 mg/L relative to baseline conditions. It is also suggested that in the likely event that the effects of increased TSS coincide with freshet conditions, the magnitude of the potential effect will be mitigated due to added buffer capacity. It is suggested that actual measures proposed for implementation to prevent and/or mitigate exceedences be provided.

Section 3.4.3.1, Pg. 156, states that given the limitations of mitigation measure, it is anticipated that uncontrolled discharges of water from quarries and borrow sources may occasionally exceed applicable CCME thresholds. However, the excedences are likely to coincide with freshet conditions during snow melt, which will likely mitigate potential effects. It is suggested that the proponent provide information on how these elevated levels of contaminants will be addressed not accounting for dilution factors associated with freshet.

Section 3.4.3.2, Pg. 176, mentions that an alternative that is being proposed for the project to deal with runoff water is to construct storm water management ponds over the permafrost, which would provide a hydrogeological barrier that prevents vertical seepage from occurring and preclude the movement of mine contact water into the groundwater below the permafrost. It is suggested that details on the size, structure and treatment methods, and possible discharge points be provided.

Volume 10: Environmental, Health, and Safety Management Systems

Several Environmental Management Plans are submitted for consideration under Volume 10 of the DEIS. The NWB, however, has limited its review to plans or components thereof that directly affect the water licensing requirements and/or its mandate. The plans reviewed are as follows: Environmental Protection Plan, Environmental Spill Response Plan, Milne Port – Oil Pollution Emergencies Plan, Steensby Inlet –Oil Pollution Emergencies Plan, Explosives Management Plan, Surface Water and Aquatic Ecosystems Management Plan, Wastewater Management Plan, Waste Management Plan, Waste Rock Management Plan, Borrow Pit and Quarry Management Plan, Road Management Plan, Railway Management Plan, Preliminary Mine Closure and Reclamation Plan. Comments specific to each plan are appropriately addressed under the section allocated for that plan

Appendix 10B: Environmental Protection Plan

The Environmental Protection Plan is developed as source of quick reference for project personnel to monitor compliance and to make suggestions for improvements. Although the document contains information required for some activities proposed in the DEIS, most of the content in is aimed at the Bulk Sampling Program. It is recommended that the following sections be revised to include proposed activities covered in the DEIS: 1.2, 1.4, 2.4, 2.5, 2.7, 2.9, 2.15-2.18, 2.20-2.22 and 3.0. Some of the specific items that should be addressed are as follow:

- Section 1.2 of the Plan states that the plan is designed to ensure that personnel understand and implement environmental protection procedures for both routine activities and unplanned events associated with the Bulk Sampling Program. Since the activities proposed in the draft Type A water licence application included in the DEIS as well as their potential environmental impacts are more extensive in scope than that encompassed by the Bulk Sampling Program, it is recommended that the objective of the Plan be broaden to include those activities.

- Section 1.4 provides information on environmental approvals. This section should be updated to reflect new and renewed permits and leases issued to the project subsequent to submission of the DEIS. In addition, information on pending permits and leases related to the project should also be included in this section.

- Section 2.4 provides information on water use for camps and drilling activities allowed for under the Bulk Sampling Program. It is recommended that this

section be broaden to include water use for camps, mining and drilling activities proposed in the draft Type A water licence application listed in the DEIS.

- Section 2.7 refers to fuel storage and handling requirements for just the Bulk Sampling Program. It is suggested that the scope of this section be expanded to include fuel storage and handling requirements proposed in the DEIS.

- Information on hazardous substances, including waste oils and lubricants currently stored or proposed to be stored should be included in the Plan.

- Section 2.9 states that turbidity levels will be monitored by environmental monitors during and after construction of water courses. It is recommended that levels be monitored prior to construction to establish inherent or baseline turbidity levels.

- Section 2.15 should be expanded to include the volume of sewage generated and methods of treatment for all existing and/or proposed camp facilities in the draft EIS.

- Section 2.16 should be expanded to include Hazardous Materials generated by current activities and facilities proposed in the DEIS.

- Section 3.0 should include procedures and forms for reconciling fuel, logs forms for water use, logs forms for sewage treated, logs forms for waste disposed of on-site, and an inspection form for the water treatment facilities.

Appendix 10C-1: Emergency and Spill Response Plan, SD-ERP-001

The objective of the Emergency and Spill Response Plan is to address and identify potential emergencies that could arise during construction and operation of the proposed mine. NWB review of the plan has identified the following items that should be addressed:

- Table 1.0 contains a list of organizations to which the spill contingency plan is distributed. It is suggested that copies of the revised plans be provided to Aboriginal Affairs and Northern Development Canada (AANDC) and Environment Canada (EC) as both organizations have a vested interest in the potential impacts of spills on the environment.

- Section 2.1, Pg. 11, states that a list of different spill kits and their content are provided in *Attachment 2*. However, Attachment *2* indicates that the information is contained in *Annex 4* (Resident Spill Response Equipment, Milne Port OPEP (SD-ERP-002)). *Annex 4*, however, is not included in the document referenced.

- Table 3.2, Pg. 15, contains information pertaining to the characterization of emergency related operational incidents/accidents. The table seems to suggest that the assignment of a particular risk rating is dependent on the environmental impact created by a single event and not necessarily impacts created by multiple events occurring concurrently. It is recommended that an explanation be provided as to how multiple events, having a cumulative risk rating equivalent to any of the single event outlined in Table 3.2, will be handled.

- Section 3.2.1.4, Pg. 17, states that, if necessary, fresh water will be trucked from alternative sources if the ones that are approved for use are compromised. It is recommended that a list of potential alternative sources and withdrawal rate(s) be included in the Plan. This information will assist the NWB in determining whether potential alternative sources will be capable of meeting the potential demand. In addition, it should be noted that NWB's approval is required prior to using water sources not approved for use under a particular Licence.

- Section 3.2.1.6, Pg. 17, indicates that in the event of sewage system failure latrine toilets may be used as an alternative to disposing sewage. The plan should note that if latrine toilets are not approved for use under the licence, NWB approval will be required prior to constructing and using such facilities.

- Section 3.2.3.1, Pg.18, includes information in relation to the impact that floods can have on the roads and railway. Since the impact of floods may not necessarily be confined to the roads and railway, it is recommended that other project related infrastructure that could be affected by floods be included in this section.

- Section 3.2.4.2, Pg.20, states that appropriate mitigation and preventative programs will be developed subsequent to incidents involving ground instability. It is suggested that a more proactive approach, involving the development of preventive and mitigation measures, be considered prior to the occurrence of such events and effectiveness of measures developed be assessed after first event.

- Section 6.1.1.2, Pg. 31, addresses spill scenario involving Day Tanks/Temporary Storage Areas. However, no information is included on the number of such

facilities that are proposed. It is recommended that an inventory of the aforementioned facilities, existing and/or proposed, be included in the Plan.

- Section 6.3, Pg.35, Table 6.4, provides information with respect to sewage generated, treated and discharged by temporary and permanent camp facilities. Based on the information, it is unclear how much sewage will be generated from each camp. It is suggested that each camp be listed along with sewage storage and/or treatment facilities and the amount of sewage generated. In addition, this section should include spill response procedures for addressing broken/dislodged sewer lines.

- Section 7.0, Pg. 37, states that *Schedule B* contains reportable quantities of hazardous substances; however, the schedule appears to be missing from the Plan.

- The contact person for the Department of Fisheries and Ocean Canada in Section 7.0, Table 7.1 of Plan should be updated as the person listed is no longer employed with DFO.

- The Plan should include an inventory of all hazardous substances stored on site.

- Procedures for responding to spills involving the rail and fuel transport truck should be included in the Plan.

- Actual copies of the MSDS for all hazardous substances stored on site should be included in the Plan.

- A site map that is specifically designed to emphasize spill response elements should be provided. The map should depict spill response equipment, fuel caches, nearby water bodies, camp infrastructures, and other relevant information.

- Responses to the spill incidents involving on-site wastewater storage facilities should be included in the Plan.

Appendix 10C-2: Milne Port – Oil Pollution Emergencies Plan, SD-ERP-02

Although the Milne Port Oil Pollution Emergencies Plan is developed to assist in the implementation of measures to protect the marine environment, there are certain sections of the Plan that are aimed at addressing land-related spills. The NWB has reviewed those sections and identified the following items, which should be addressed:

- Section 3.2, Pg. 6, provides information about the existing bulk fuel storage facility at Milne Inlet, which consists of fuel bladders. The section does not address the proposed bulk fuel storage facility and temporary fuel storage facility identified in the project description of the DEIS. To ensure that all fuel storage facilities associated with the Milne Inlet site are documented in the Plan, it is suggested that this section be revised to include all existing and proposed fuel storage facilities.

- Section 4.1, Pg. 10, refers to ship-to-shore fuel transfer procedures associated with the existing Bulk Fuel Storage Facility only. It is suggested that the scope of this section be expanded to include the proposed tank farm facility in the DEIS.

- Section 5.1, Pg. 11, states that copies of the relevant Material Safety Data Sheets (MSDS) are provided in *Annex 8*; however, *Annex 8* appears to be absent from the document.

- Section 5.5, Pg. 18, Table 5.2, the contact person for DFO-Iqaluit should be updated as the contact is no longer employed with DFO.

- Section 6.3, Pg. 24, Table 6.3, should be expanded to include spill response scenarios for spills occurring within the tank farm facility.

- Section 7.1 Pg. 26, references section 7.1.1 of the same Plan for information pertaining to training. However section 7.1.1 appears incorrectly labeled in the Plan

- It is suggested that proposed procedures and/or information related to hydrostatic testing for the proposed bulk fuel storage facility be included in the Plan.

- It is recommended that the appendices, *Annexes* 1 to10, be included in the Plan.

- Information on overfill protection devices, such as, level sensors and backflow prevention devices that can assist in preventing spills should be included in the Plan.

Appendix 10-C: Steensby Port – Oil Pollution Emergencies Plan, SD-ERP-02

The Steensby Port Oil Pollution Emergencies Plan is developed to assist in the implementation of measures aimed at protecting the marine environment. Nevertheless,

there are aspects of the Plan that are geared to addressing spills on land. The NWB reviewed those sections and identified the following items, which should be addressed:

- Section 3.2, Pg. 11, provides information related to proposed permanent fuel storage facilities. It is suggested that the Plan address all fuel storage facilities, including any current temporary fuel storage facility associated with the site.

- Section 5.1, Pg. 16, states that copies of the Material Safety Data Sheets (MSDS) for substances stored on site are provided in *Annex 8*; however, *Annex 8* appears to be absent from the document.

- Section 5.5, Pg. 23, Table 5.2, the contact person for DFO-Iqaluit should be updated as the contact is no longer employed with DFO.

- Information on overflow protection devices, such as, level sensors and backflow prevention devices that can assist in preventing spills should be included in the Plan.

- Section 6.5, Pg. 28, states that spills less than $5m^3$ will be handled by response personnel in accordance with the Plan. For spills larger than $5m^3$, it is stated that the onsite coordinator will determine the response level required without actually specifying procedures for dealing with spills larger than $5m^3$. It is recommended that any revision of the Plan should include actual procedures for dealing with large spills.

- Section 7.1, Pg. 29-30, contains two sub-sections, 1.1.1 – Training Content and 1.1.2 – Short -Notice Training, which appear to be improperly labeled.

- It is suggested that proposed procedures and/or information related to hydrostatic testing for the proposed fuel storage facility be included in the Plan.

- It is recommended that the appendices, *Annexes* 1 to10, be included in the Plan.

- If the guidelines for the DEIS do not require separate plans, it is suggested, that both Oil Pollution Emergencies Plans be combined since there are significant overlaps in the information provided in each Plan. A combined Plan may help to increase effectiveness and functionality of the Plans.

- There appears to be some ambiguities concerning where the Oil Pollution Emergency Plan starts and ends and where the Emergency and Spill Contingency Plan begins. This can potentially impact the functionality of both plans. Even

though there is the recognition that overlaps should and do exist between the two Plans, it is recommended that a more precise separation, with respect to the content and usage of the plans, be established.

Appendix 10C-4: Explosives Management Plan, SD-ERP-04

An Explosives Management Plan is developed in response to the NIRB and NWB directives. Although the plan is conceptual at this stage, the NWB has reviewed it and identified the following items, which should be addressed:

- Section 3.0, Pg. 6, provides information concerning temporary and permanent explosives storage facilities, without actually elaborating on the number of day-use magazines sites that will be in operation along the railway site at a given time. It is suggested that this information be included in the Plan.

- Section 3.3, Pg. 8, states that run-off water associated with ammonium nitrate storage will be allowed to drain and will be pumped out as needed. Information should be provided on where the pumped out water will be disposed of and what steps will be taken to ensure that it meets discharge criteria before being released.

- Section 4.3, Pg. 10, states that an Explosives Management Plan will be developed by the contractor to handle incidents such as fire, explosions, etc. To prevent redundancies and promote consistency between the contractor's Plan and this Plan, it is suggested that the contractor's Explosives Management Plan be incorporated into this Plan.

- Section 4.3.1, Pg. 11, refers to a Blasting Plan that will be developed by a contractor for use during blasting activities proximal to water bodies. It is suggested that the Blasting Plan be incorporated into the Explosives Management Plan for increased functionality.

- Section 4.4, Pg. 11, refers to additives that might be used to increase the storage life of diesel fuel, if necessary. It is suggested that these substances be included in the inventory of the Emergency and Spill Response Plan if they are going to be stored on site.

- Section 4.6.2, Pg. 15, provides disposal methods for explosive materials without precisely stating which of the methods are preferred and/or will likely be used. It is recommended that the methods of disposal be ranked in order of increase preference so that interested parties can comment accordingly.

- Copies of the Material Safety Data Sheets (MSDS) and/or appropriate referencing should be included in the Plan.

- A site map depicting the locations of existing and/or proposed Explosive Management Facilities should be included in the Plan.

Appendix 10D: Surface Water and Aquatic Ecosystems Management Plan, SD-EMMP-002

The surface Water and Aquatic Ecosystems Management Plan is designed to document the quality and quantity of water that will interact with project components over the life of the Project. The Plan was reviewed, and the following items identified should be addressed:

- Section 1.2, Pg. 1, contains information related to regulatory requirements including the requirements for water and wastewater generated from activities related to the Type "B" Licence. Since the Aquatic Management Plan is aimed at addressing potential impacts to surface water and aquatic ecosystem associated with the entire project, it is suggested that the scope of the Plan be expanded to include potential impacts associated with activities proposed in the DEIS.

- Section 1.2, Pg. 4, states that grey water sumps, waste disposal areas and latrines will be situated at a minimum of thirty (30) metres for the ordinary high water mark. It is recommended that the distance be revised to thirty-one (31) metres so as to reflect general water licensing conditions.

- Section 4.4, Pg. 26, seems to suggest that the temperature of surface and subsurface conditions will be solely relied upon to ensure that potential acid-forming reactions are prevented. It is recommended that contingency measures be developed for situations where the weather conditions combined with operational conditions do not favor the prevention of such reactions.

- Table 4.4, Pg. 28, provides a breakdown of various activities for which water will be required. It is suggested that the total annual water demand for the various phases of the project be included in the Plan.

Appendix 10D-3: Wastewater Management Plan, SD-EMMP-003

The Wastewater Management Plan is developed to fulfill the requirements of the water licence issued for the Bulk Sampling Program. As such, the Plan does not necessarily

address waste water management and related issues identified in the DEIS. It is therefore recommended that the scope of the plan be expanded to cover both existing facilities and/or facilities proposed in the DEIS.

Appendix 10D-4: Waste Management Plan, SD-EMMP-004

The Waste Management Plan is designed to ensure that a sound waste management program which focuses on the principles of reduction/recovery/reuse/recycling is implemented. The NWB has reviewed and identified the following items, which should be addressed:

- Section 3.2, Pg. 13, states that after waste minimization techniques are applied the remaining waste will be handled in a practical and environmentally sensible manner. It is suggested that the information be provided about actual techniques that will be used to minimize waste.

- Section 3.3, Pg. 13, refers to permanent waste facilities that will be constructed at Steenby Port and the Mine site without providing details on the types and number of those facilities. It is suggested that a detailed inventory of all waste management facilities proposed for construction at the Steensby Port, Mine Site and other project sites be included in the Plan.

- Section 3.8, Pg. 20, states that water affected by hydro-carbons will be treated using the appropriate technology without elaborating on the treatment options being contemplated. It is suggested that the proposed method(s) for treating hydrocarbon-contaminated water be included in the Plan.

- All relevant engineering design drawings, facility design and operation and maintenance plans provided for waste storage and disposal facilities should be accordingly referenced in this Plan.

- Information for preventing wildlife from accessing waste storage and treatment facilities should be included in the Plan.

Appendix 10D-5: Waste Rock Management Plan, SD-EMMP-005

The Waste Rock Management Plan is designed to address issues related to sitting, deposition of waste rock, inspection, potential release of contaminants to receiving environment, geochemical stability and closure considerations. The review of the Plan has identified the following issues:

- Section 3.5, Pg. 11, states that ore will be stored in a Run-of-Mine (ROM) stockpile located near the crusher and that following crushing and screening, four temporary ore stockpiles will be used for storing crushed and screened ore. Other than stating that the drainage will be controlled there is insufficient information pertaining to how the ore storage and associated drainage areas will be constructed.

- Section 3.6.1, Pg. 11, provides the basis by which the proposed runoff management system for the waste rock storage area consisting of berms around the stockpile perimeter and two separately sized surface water management ponds will operate. It is suggested that information related to intermediate and final discharge points be included in this section of the plan.

- The Plan is more or less conceptual and, as such, it includes in some cases more than one proposed options for addressing components like runoff water treatment. It is suggested that, as the details become available, more definite options be presented.

Appendix 10D-6: Borrow Pit and Quarry Management Plan, SD-EMMP-006

The Borrow Pit and Quarry Management Plan is developed to set out objectives and measures to maintain and enhance environmental performance of quarries so as to avoid, remedy and mitigate adverse environmental effects associated with quarrying. The NWB has identified the following items that should be addressed:

- Section 3.1, Pg. 7, states that there is the requirement for a thirty (30) metre setback from streams to ensure that impacts of pit/quarry operation on surface water quality are minimal. It is suggested that the setback distance be changed to thirty-one (31) metres so as to be consistent with the NWB general licensing conditions.

- Section 3.3, Pg. 8, mentions that a detailed Development Plan will be provided prior to extracting materials from borrows pits or quarries. It is suggested that the Development Plan be incorporated into the Borrow Pit and Quarry Management Plan.

- Section 3.6, Pg. 10, provide a brief outline on activities related to closure of borrow pits and quarries. It is recommended that the scope of this section be expanded to include monitoring, follow-up inspections and other activities in support of complete reclamation of these sites.

- The Plan is limited in the sense that it does not contain information related to the development of borrow pits and quarries, which is one of the most critical aspects involving these activities.

Appendix 10D-8: Road Management Plan, SD-EMMP-006

The Road Management Plan is aimed at establishing policies and guideline for road use within the Project Area. In reviewing the Plan, the NWB has identified the following items to be addressed:

- Section 3.1, Pg. 7, mentions that roads will be designed to minimize the potential erosion, ponding of water, etc., without providing detailing on what preventative strategies and/or measures that will be implemented. It is recommended that the actual measure and strategies for managing runoff and controlling road erosion be included in the plan.

- Section 3.1.2, Pg. 7, references the Surface Water and Aquatic Ecosystem Management Plan under Appendix 10D-2 for details on mitigation measures related to protecting surface water quality and fish habitat. Although it is acknowledged that some overlaps may exist between this Plan and the one referenced, it is recommended that at least a summary of the mitigation measures be included in this Plan instead of relying solely on the Surface Water and Aquatic Ecosystem Management Plan to provide this information.

- Section 3.2.1, Pg. 8, states that water or dust suppressants might be used on roads as required. It is recommended that information be provided on the names and/or types of all dust suppressants that might be used so that the Board can assess the potential impact of these substances.

- Section 3.2.1, Pg. 8, includes information on road closure during unsafe conditions. It is recommended that information on abandonment and closure of roads be included in the Plan.

- Section 6.1, Pg. 10, states that roads will be inspected regularly. It is recommended that the frequency and type of inspections be included in the Plan.

Appendix 10D-9: Railway Management Plan

The Rail Management Plan is developed to address procedures and guidance for operation of the railway between the mine site and Steensby Port. NWB's review of the Plan has identified the following items to be addressed:

- Section 1.1, Pg 2, states that there are operating rules and standard procedures for inspection and maintenance of both rolling stock and infrastructure mentioned in the Plan. It is recommended that the operational rules and standard procedures mentioned be incorporated into this Plan.

- Section 3.6, Pg. 10, provides information on containing spills involving the railway. It is recommended that this section be expanded to include the response measures for railway spills or referencing where in the DEIS this information can be obtained.

- It is suggested that an inventory of potential materials and/or substances that will be transported by the Railway be included in the Plan.

- It is recommended that information related to abandonment and restoration of facilities associated with the railway and/or where the information could be found be included in the Plan.

- It is suggested that procedures for responding to and reporting of spills and other related incidents be included in the Plan.

Appendix 10G: Preliminary Mine Closure and Reclamation Plan

The Preliminary Mine Closure and Reclamation Plan is designed to support the environmental Impact Statement. The review of the plan has identified the following to be addressed:

- It is recommended that the Preliminary Mine Closure and Reclamation Plan and the 2010 Abandonment and Reclamation Plan (Appendix A) be amalgamated and streamlined so as to increase functionality and aid in comprehensively capturing existing and proposed facilities associated with the project.

- The Preliminary Mine Closure and Reclamation Plan under Appendix 10G does not include information on financial security for activities proposed in the DEIS. The 2010 Abandonment and Reclamation Plan (Appendix A) does include

financial security information; however, the information concerns activities covered under the current Licence issued for the Bulk Sampling Program.

- Section 5.1 should provide information about all progressive rehabilitation activities at all project sites.

- Section 8.1 of the Plan should include actual procedures for determining whether or not the drainage water from open pits will require treatment.

Other Plans

- Monitoring Plan – Sections of the various management plans under Appendix D in the DEIS address monitoring requirements for water use and waste disposal in a limited way. It is recommended that a comprehensive, stand-alone monitoring plan be submitted with the FEIS to address monitoring requirements specific to water use and waste disposal activities.

Design Drawings and Operation and Maintenance (O&M) Plans

Conceptual and preliminary design drawings were submitted for some of the facility proposed in the DEIS. As part of the water licence application, the NWB generally requires for-construction drawings stamped and signed by an Engineer for all facilities associated with the use of water and the deposit of waste into water.

In addition, an Operation and Maintenance (O&M) Plan for each of the relevant facility identified in Table 3-2.1, Section 2.17, Volume 3, of the DEIS, should accompany the application.