Baffinland Responses to FEIS Information Requests April 19th, 2012		
Aboriginal Affairs and Northern Development Canada		
Number	**Request**	**Baffinland Response**
1	AANDC requests the Proponent provide an assessment of the alternative of year round shipping, with periodic suspensions as per NIRB Guideline 6.1.	Year round shipping is addressed in Volume 3, Section 6.2.2.
2	AANDC requests the Proponent reinstate, expand and improve upon the alternatives assessment table originally used in the DEIS, including consideration of the four assessment criteria: technical feasibility, economic viability, environmental acceptability and social/ community acceptability into its assessment of alternatives.	Section 6.7 presents an assessment of alternatives means of executing the project. The initial screening presented in the DEIS was updated with information generated during an updated feasibility study. A brief discussion is presented for each alternative and more detailed evaluations of some of these alternatives are presented as trade off studies (Appendix 3H). Technical feasibility, economic viability, environmental acceptability and social/ community acceptability were taken into considerations for each alternative means.
3	AANDC requests the Proponent provide a more detailed description of its experience and track record in projects in the same region or similar environments.	Baffinland's northern experience is presented in Volume 1, Section 1.2 and in greater detail in Volume 2, Section 1.3. The Company's senior management has extensive work experience in various mining project throughout northern Canada, and this information is summarized in Volume 2, Table 2-1.1. Curriculum vitae of these individuals are available upon request.
4	The proponent is asked to provide a decommissioning strategy or plan for existing waste storage and stabilization ponds.	See Section 8.9 of the Abandonment & Restoration Plan presented as Attachment 10 in Appendix 3B.
5	AANDC requests the Proponent provide mass balance modeling of nitrate losses to the aquatic environment or provide a rationale why this is deemed no longer required.	Baffinland committed in FEIS Section 3.4.1.6 to applying industry best practices to limit nitrogen-containing compounds in the runoff. These measures have been successfully applied at other arctic mines. We suggest that there is limited value in estimating the concentrations of nitrogen in the runoff since such estimates are based on a number of questionable assumptions about the amount of explosives residue left after blasting, entrainment mechanisms with waste rock and seepage from the waste rock pile. Additionally, as demonstrated in a number of mining operations, usually elevated nitrogen levels in runoff is related to poor explosives handling practices.
6	AANDC requests the Proponent identify where Commitment No. 222 is addressed in the FEIS. If it has not been included, the Proponent is requested to provide the site drainage plans as provided for in the commitment.	The Surface Water Management Plan presented in Volume 3, App 3B, Attachment 5 is based on preliminary layouts and site drainage plans. This management plan will be updated as required during the construction and operation period. As-built drawings (commitment 222) will be incorporated once the facilities are constructed.
7	AANDC requests the Proponent identify where Commitment No. 227 is addressed in the FEIS. If it has not been included, the Proponent is requested to provide the discussion that is detailed in the commitment.	Commitment # 227 was as follows, "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." Redistributed water flows/volumes was relevant and incorporated into the water quality modelling for aqueous point sources, presented in Section 3.4.2.2 (starting on Page 141) of Volume 7. The flows applied were consistent with the site water balances presented in the water licence application in Appendix 3B, Attachment 5. The re-distributed flows applied on the modelling are presented on each of the modelling tables starting with Table 7-3.16. Potential effects of water diversions on aquatic biota and habitat were assessed in the FEIS under key questions 1 and 2 (i.e., effects on Arctic Char health and condition and Arctic Char habitat). Specifically, potential effects of diversions on stream hydrology, water quality, and habitat and ultimately aquatic biota were considered and assessed in the FEIS. See for example, Sections 4.5.3.5, 4.5.5.10, 4.5.6.7, and 4.5.7.5.

8	AANDC requests the Proponent provide water balance schematics for existing conditions as per AANDC DEIS Technical Review Comment No. 22. The Proponent is requested to provide the project site water balances for existing conditions prior to the close of the FEIS technical review period (with sufficient time for review and feedback by reviewers).	Please note that schematics of existing conditions were not provided as they are not deemed relevant or necessary for adequate restoration of the environment post project. Prior to construction it may be assumed that all drainage conditions and site "water balances" are in their drainage natural state. Upon reclamation water balances and drainage will be returned to a state typical of the Baffin Island environment.
9	AANDC requests the Proponent provide estimates of the quality of the future pit lake after closure including early closure scenarios.	Please refer to FEIS Volume 3, Appendix 3B, Attach. 5 (Waste Rock Management Plan), Annex 5. Table 2 provides a description of the preliminary predicted water quality of the pit seepage at years 6, 10, 14 and 21. Baffinland considers these values representative of the water quality that can be expected at closure, if the mine were to close at any of these respective dates.
10	AANDC requests the Proponent clarify how test plots will be used to promote natural re-vegetation and to further substantiate why reseeding cannot be undertaken in some locations predisposed to terrestrial plants without the risk of introducing invasive species.	Test plots will include a combination of treatments to identify the most effective re-vegetation methods. Methods that will be used to promote natural r-vegetation include treatments include: surface treatments (e.g, rough and loose, micro-rills), fertilizer application, organic material spread, etc. These activities will be conducted as part of the reclamation trials and as permitted by research applications. Seed spreading will be considered when a suitable supply of local plant seeds becomes available. Seed suppliers will have to be certified to ensure that invasive species are not a component of the seed mix.
11	AANDC requests the Proponent provide rationale to support the use of 15% estimate of PAG waste rock in the FEIS document.	The percentage estimated PAG on a sample basis represents specifically the percentage of samples that were PAG out of the total number of samples analyzed to date (i.e., 18%). The percentage of PAG on the basis of the developed waste rock block model utilizes the percentage of samples analyzed as PAG for each modeled unit to generate an estimated PAG tonnage. The sum of these PAG tonnages on this basis represents 15% of the total waste rock as outlined in Table 6 of Appendix 6B-1. Thus, the 15% identified in Table 6 can be defined as “percentage PAG normalized to tonnage” and is based on the waste rock block modeling that subdivides the waste rock on the basis of zonal relationships around the iron ore. The waste rock block model tonnage estimates presented in Table 6 of Appendix 6B-1 are the most recent and most accurate estimates available to date. As the waste rock block model continues to develop over time, refined waste rock estimates will be used to update pertinent sections of the Waste Rock Management Plan as part of subsequent revisions to this document.
12	AANDC requests the Proponent develop a complete Incineration Management Plan, as delineated in NIRB Guideline 9.4.7.	It is in the opinion of Baffinland that required incineration management is best suited to be described in the Waste Management Plan due to its integration with the rest of the Project's waste management strategy. Incineration Management is discussed in detail in the FEIS Volume 3, Appendix 3B, Attachment 5 (Management Plans), Solid Waste Management Plan for Construction, Operation and Closure, Section 4.5.
13	The Proponent is requested to clarify whether their spill response planning in terms of manpower and equipment has addressed the possibility of a spill from the fuel barge proposed for overwintering in Steensby Port and to confirm the size of the fuel storage vessel.	The spill response planning for the fuel vessel will include manpower and equipment to deal with potential spill. A meeting is scheduled with Transport Canada in late April 2012 to discuss such requirements.
14	The Proponent is requested to provide a discussion on the effect of the Arctic climate and the remote location of the Project on response times and methodologies in all spill contingency plans.	Baffinland recognizes that the Arctic climate and the remote location of the Project will influence response times and methodologies in all spill contingency plans. It is Baffinland's intention to establish meetings with relevant regulatory agencies (Transport Canada, CTA, Coast Guard, GN) in order to develop effective methodologies to deal with emergency response situations.

15	The Proponent is requested to include a discussion on Purchasing Controls in the Hazardous Materials and Hazardous Waste Management Plan as per the NIRB Guidelines, and to include a discussion of other hazardous materials that will be used on the project, in addition to fuel products and explosives.	Appendix 10C-5 Section 4 describes the lifecycle management approach (which includes purchasing controls) for all hazardous materials and hazardous wastes. Of all hazardous materials, only fuels and amonium nitrate are transported and stored as bulk materials. All other hazardous chemicals or waste will be transported, stored and handled according to the MSDS.
16	AANDC requests the Proponent provide additional factual and preliminary analysis that the cuts and fills will be stable over the railroad operational period.	Additional factual field data and preliminary analyses will be provided as part of planned field investigations to confirm the initial design and support the final design. As indicated in the referenced report, the majority of the soils along the railway will have low fines which will allow them to drain quickly when they are excavated and during thawing. Slopes cut in these soils will therefore be stable relatively quickly after excavation. Slope stability analyses will be carried out for cut and fill areas as part of the final design.
17	AANDC requests the Proponent undertake preliminary thermal modeling of the Project infrastructure particularly for the waste rock dump to confirm the integrity of the designs. Preliminary modeling results should be provided prior to the close of the technical review period.	As indicated in our commitment, thermal modeling will be carried out in the final design for the waste rock pile. We are confident that with a proper design, the waste pile will be able to sustain the permafrost conditions of the existing ground in the area. Measures will be employed to allow for proper drainage that prevents seepage to the surrounding environment. We will also carry out modeling to show appropriate methods to contain the permafrost conditions as part of the reclamation plan at mine closure. Based on typical waste pile management plans in other mines in the Arctic, we are confident that the waste pile at the site can be designed to meet the above noted requirements. The actual mining operation and the start of waste rock pile operations will not occur immediately, while the reclamation work will take place at a much later date. For more information please refer to the FEIS Volume 3, Appendix 3B, Attachment 5, Waste Rock Management Plan.
18	AANDC requests the Proponent provide stand-alone Preliminary Design Criteria documents for foundation, road and railway construction reflecting their current understanding of the unique site conditions.	Baffinland acknowledges the need for these documents, there completeion is currently underway and they will become available as we progress with the design.
19	AANDC requests the Proponent provide information on how accumulated sediment/sludge collected in site reservoirs will be managed at closure.	The sediment/sludge will be tested to ensure it meets regulatory thresholds for non-hazardous wastes. If it does the ponds will be drained and the sediment/sludge applied to the waste rock stockpile as described in Attachment 5: Waste Rock Management Plan, Appendix 10D-5. If not the pond will be drained and the sediment/sludge shipped off-site for disposal as hazardous waste.
20	The Proponent is asked to confirm what version of the RECLAIM model was used in the security estimate provided in the water licence application.	RECLAIM v. 6.1 licensed March 2009 was utilized.
21	AANDC requests that the Proponent provide an assessment of temporary closure risk and undertake a high-level scenario-based assessment of how stakeholders could be affected by temporary and permanent closure of the mine, including economic, social and cultural effects.	In addition to the discussion of temporary and final closure effects on people presented in Vol. 4, Sec. 4.6.3, a high-level presentation of temporary and final closure effects is provided in Vol. 4, Sec. 5.5. Baffinland does not agree that further scenario-development is required to support impact assessment. Preliminary plans for short-term and long-term temporary closures and for final closure and reclamation are presented in the Preliminary Closure Plan, described in Vol. 3, Sec. 4, and detailed in the Type A Water License (Appendix 3B, Attachement 10). As indicated in the Preliminary Closure Plan, the Environmental Health and Safety documents, including the human resources management plan (Vol. 10, Appendix 10F-3), will be updated prior to commencement of mining operations.
22	AANDC requests the Proponent review and provide a revised Table 3-1 in Appendix 10G to include all major project components.	Table 3-1 in Appendix 10G includes all major project components.

23	AANDC requests the Proponent provide in the closure plan, for the Licence application, the disturbance areas associated with each major project component (Milne Port, Steensby Port, Mine Site, road and railway) and each major facility (e.g., waste rock pile, open pit, cams, tank farms, air strips, etc.) associated with each component. Also provide a table which lists the project component, the area of disturbance, the bond cost for each project component, and the total bond cost.	FEIS Volume10, Appendix 10G Preliminary Mine Closure and Reclamation Plan - Appendix B,presents this information for each area of the project. The closure costs cannot be attributed to individual project components due to the overwhelming costs associated with mobilization and off-site shipment of materials.
24	AANDC requests the Proponent provide a list of criteria and success standards for crossing of rivers and creeks to be used for closure management purposes. Address issues such as: removal and disposal of bridges and other crossing structures; the slopes of the re-graded approaches; how pinch points caused by crossings will be removed; and stream erosion and sediment control measures.	To the extent possible, the intent of closure is to re-establish the site to pre-development conditions. Removal of bridges and crossings will ensure that slope are stable, regraded and that erosion is prevented. The post-closure monitoring will ensure that these objectives are met.
25	AANDC requests that a Project sustainability plan be prepared that outlines objectives, indicators, and specific measurements. It is further recommended that this plan be implemented as part of long-term environmental and socio-economic monitoring, working closely with the Qikiqtaaluk Socio-Economic Monitoring Committee, with the overall objective of assessing whether the Project is contributing to sustainable development on a local, regional and territorial scale within Nunavut.	Volume 10 and all its appendices represent Baffinland's Sustainability Plan. The Company's commitments to socio-economic monitoring are provided in Volume 4, Section 15.3, and the Company's plans for collaborative monitoring including intended participation in the Q-SEMC is described in Volume 4, Section 15.4.
26	AANDC requests that the water licence application be submitted as a stand-alone document addressing the inconsistencies identified in Annex A.	The document was organized in this manner to facilitate the joint review of both the NWB and the NIRB. A completed Type A water license requires the completion of an environmental impact statement. As such Baffinland believe the referencing of the FEIS within the Type A water license is an adequate means of organization. Also, please refer to correspondence from the NWB dated April 13th, 2012.
27	AANDC requests that the Supplementary Questionnaire for Mine Development be submitted as part of a stand-alone water licence application.	This request is deemed unnecessary given the letter provided by the Nunavut Water Board on March 9th 2012 decreeing the Type A Water License Application Complete.
28	The proponent is asked to revise the Environmental Monitoring Plan to include a strategy for monitoring, reporting and reviewing data in accordance with commitments made in the FEIS.	Please refer to Volume 10, Section 11.
29	The proponent is asked to provide a detailed response to the technical comments that interveners will submit on May 30th, 2012, a minimum of two weeks before final hearings are held.	Please refer to correspondence "NIRB Response to Issues Raised in IR Submissions and Next Steps for the Board's Review of Baffinland's Mary River project proposal" from the NIRB dated April 5th, 2012.
30	The proponent is asked to describe its past efforts and future plans with respect to communications materials aimed at members of the public.	Please refer to Table 2.3 and Section 3 of the Stakeholder Engagement Plan (Appendix 10F-1).

Canadian Transport Agency		
Number	**Request**	**Baffinland Response**
1	BIMC had committed to providing additional information in the FEIS regarding the manner in which it would deploy resources to respond to spills of contaminants or fuel from derailments of trains given the remoteness of the project site and the constraints which the high Arctic climate can pose. In their response to this earlier request, BIMC indicated they "would draw from the experience gained at ArcelMittal's Mount Wright-Port Cartier railway operations in finalizing the Emergency Response Plan for railway operations". This information was not found.	The railway emergency response plan prepared by Canarail (Appendix 10D-9.2) draws on experience gained from various rail operating companies, including the Mount Wright-Port Cartier Operation. In addition, Baffinland wishes to establish meetings with representatives of Transport Canada, CTA, and, the GN to focus on the requirements of the emergency response plan. Issues of concern include training of ERT team, necessary equipment to respond to emergencies, etc.
2	Although the number of trains travelling the proposed railway line will be limited in comparison to the main lines of major railway carrier, a considerable portion of the railway line would be in close proximity to large water bodies. As was explained in the CTA's review of the draft EIS, deploying outside resources, such as drawing upon firms specialized in emergency response, in a timely manner may often be difficult given the project's remoteness. Maintaining trained teams of BIMC employees prepared to intervene rapidly and effectively despite the fact that these teams will have limited experiences upon which to draw compared to a major railway carrier may also add to the difficulty of rapidly responding to spills. The proponent is therefore requested to provide such a discussion of it will take into account the project's remoteness and the rigorous meteorological conditions in its Emergency Response Plan.	

Department of Fisheries and Oceans		
Number	**Request**	**Baffinland Response**
1.1	DFO requests that the Proponent provide the full details of the quantitative assessment conducted for all potential port sites, as requested by DFO during the review of the DEIS.	Baffinland's alternatives assessment presented in Volume 3, Section 6, complies with the requirement of CEAA Operational Policy Statement: Addressing "Need for", "Purpose of", "Alternatives to" and "Alternative Means" under the Canadian Environmental Assessment Act (updated 2007). "Alternatives to the Project - The Agency recommends the following approach for addressing "alternatives to" a project: • "alternatives to" a project should be established in relation to the project need and purpose and from the perspective of the proponent; and • analysis of "alternatives to" a project should serve to validate that the preferred alternative is a reasonable approach to meeting need and purpose and is consistent with the aims of the Act. Analysis of alternatives to the project should describe the process the proponent used to determine that the project is viable (technically, economically and environmentally). The level of assessment should reflect the more conceptual nature of the alternatives to the project at this stage of the process." Section 6.1 through to 6.5 addresses in a clear and logical manner the decision process followed by Baffinland to establish the preferred alternative for the Project.
1.2	DFO requests information about (1) the savings in ship fuel over the life of the mine versus the longer rail route for the Nuvuit port location and (2) the marine environmental costs of each port location.	
2.1	DFO requests that the Proponent provide a quantitative assessment of cumulative effects.	Baffinland believes that the qualitative cumulative effects assessment carried out is adequate for assessing effects and a more quantitative assessment is not warranted.
2.2	FO requests the Proponent provide the rationale for their use of each threshold level with evidence that they are selected appropriately and described adequately as per the commitment.	Appendix 5 presents a summary of the thresholds developed to aid in determining magnitude of effects. The table also indicates the type of measurable parameter selected and the rationale for their selection. In general, thresholds are selected to reflect available scientific knowledge and regulatory context for each interaction. Thus water quality thresholds reflect known effects levels or regulated standards that are usually based on such knowledge. In some cases, no such information is available and the selected threshold can reflect a conservative but realiatic set of assumptions, e.g. an effect that influences a defined portion of a local (or exposed) population would be of a magnitude that can produce a significant negative residual effect. In cases where there is uncertainty as to the absolute population numbers (more the rule than the exception) a conservative approach is taken, i.e. the evaluation is based on a portion of the known total range of the affected species/population. This approach is commonly used in environmental impact predictions and results in biologically appropriate thresholds, i.e. the affected portion of the species/population lies within the known or accepted range of natural mortality levels. Thus, even in the most extreme case where the interaction under consideration could result in mortalities, the effect at the population level will not result in a net reduction of population size. When considering marine mammals, the EIS relies on the professional judgement of highly experienced and credible professionals who have prepared many enviornmental impact statements using the methods applied to the Mary River project FEIS.
2.3a	DFO requests clarification on what production level (18 Mt/a or 30 Mt/a) the EIS is based on.	The EIS is based on the production and shipment of 18 MTPA.
2.3b	DFO requests clarification as to whether the EIS has assessed the impacts of a 30 Mt/a production level on fish, marine mammals and their habitat, and if not, how the Proponent would envision any increase in production (beyond 18 Mt/a) being assessed for its potential impacts to fish, marine mammals and their habitat.	The assessment is based on the Project Description (Vol 3) which is for an 18Mt/year production level. As per the Guidelines, the Cumulative Effects Assessment includes a consideration of mine expansion and extended operation. Any proposal to increase in annual ore production levels beyond limits set in permits would be subject to regulatory approval, which presumably would include an evaluation of environmental effects.

3.1a	DFO requests the Proponent describe the circumstances under which a route deviation outside the designated shipping route would occur (e.g. safety reasons), potential locations this is more likely to occur along the shipping route and the relative effects of a route deviation on the marine mammals and their habitat.	This question has been addressed in the FEIS (Vol.8 Sec 2.2). See aso QIA IR-D-09. In general vessels can be expected to remain within the identified shipping route and would not be likely to deviate from the charted zone. A deviation could occur under some circumstances - e.g to avoid a hazard, or to respond to an emergency. A deviation under these circumstances could occur anywhere along the route. It would be challenging to envision a set of circumstances where the transient passage of a vessel would have any measurable effect on marine mammals or their habitat, especially since Project vessels will generally be confined to water depths of greater than 30m.
3.1b	DFO requests that the Proponent provide the updated bathymetric data including that which was used to alter the ship route entering Steensby Inlet (Figure 8-1.2).	The data used to assess the ship route entering Steensby Inlet is shown as Appendix 2. Bathymetric mapping has been completed within the areas protrayed. The entire bathymetric database was provided to DFO in 2011; an update will be provided once the data are available. Note, however that this information will eventually be converted to charts issued by Canadian Hydrographic Service once all required data quality checks have been completed as required by CHS.
3.1c	DFO requests the Proponent indicate why the designated route is 1 km wide when the FEIS identifies it as being 1.5 km wide (Volume 8, Section 2.2).	The nominal route is 1.5 km. in width. Figure 8-1.2 contained an error in labelling and should read as "TRACK SPACING IS 1.5 KM WIDE".
3.1d	DFO requests clarification of whether the shipping route will remain the same 1.5 km	See Response 3.1c above. The route will be dictated in large measure by the swath of charted water developed by Baffinland in replacement of Government charting.
3.2a	DFO requests the Proponent clarify the maximum number of ore carriers to be present in the RSA simultaneously under normal summer and winter operation scenarios.	(See also response to QIA IR # D 15). The numbers are provided in the FEIS. Note that the maximum number of ore carriers during winter is six. Crossing locations are, of course dynamic . The illustration shows the locations where two vessels will pass; however this does not mean that there will be two vesssels per passing location in the same timeframe.
3.2b	DFO requests the Proponent identify where additional ore carriers will hove to (move to) should there be unplanned delays in the ‘conveyor of ships’ of 24, 48 and 72 h.	In cases where delays occur with the loading sequence at Steensby Port, vessels in transit will adjust their travel speed. Designated anchorage locations will be identified in the Steensby Port area and will be used by vessels awaiting availability of dock space.
3.2c	DFO requests the Proponent provide their acoustic analysis of the RSA at maximum ship density (presumed to be 10 in winter/6 in summer) that considers nodes of noise propagation at times of ship overlap. A contour map of decibels might be useful.	The comment is based on an incorrect assumption as to number of vessels. The FEIS addresses the situation when two vessels approach and pass each other (see pages 152 and 153 in Section 5.5.6 of Volume 8.) The so-called ‘nodes of noise’ at a maximum increase noise levels by 3 dB but the increase is less as the vessels approach and pass each other. The predicted effects of the ship passing situations are not significantly increased.
3.2d	Since winter separation between passing nodes (pairs of ships) is in the order of 300 km maximum and marine mammals can hear the ships 250 km away, DFO requests the Proponent clearly state the minimum noise level associated with the two ships approaching each other and moving away from each other.	The increase associated with the noise from two ships overlapping each other is a maximum of 3 dB.
3.2e	DFO requests the Proponent describe the width where ships pass each other along the ship route (Volume 8, Figure 8-5.2).	The nominal ship route will generally be followed, including at locations where vessels pass each other.
3.3a	DFO requests the Proponent provide details on how and when the test voyage(s) will be conducted to determine if it is feasible for a large vessel to transit Hudson Strait and Foxe Basin during the periods of maximum ice cover.	Note - this request is not within the scope of IRs as per the NIRB process. In the FEIS, Vol 3 App 3G (Appendix D) is a Facilitation Record of an Ice Management Workshop held by Baffinland June 14-15, 2011. The record includes a set of possible "Next Steps" with respect to the design, construction and operation of vessels in support of the Project. One comment dealt with the possibility for a test voyage to Steensby Inlet. The output of the workshop is a set of items for consideration by Baffinland. Regulatory and Resource agencies (e.g. Canadian Coast Guard) would be consulted as part of the planning process if a test voyage were to be considered.

3.3b	DFO requests the Proponent provide the results of the test voyage(s).	If a test voyage were conducted in years to come, this request would be considered.
3.3c	DFO requests the Proponent explain how the results will impact the Project	See FEIS Volume 3, Appendix 3G. The results of a test voyage would contribute to planning and design for shipping aspects of the Project.
4.1a	DFO requests the Proponent provide their discussion of the interactions between, and impacts of, the proposed shipping and feeding hooded seals and whelping harp seals in Davis Strait and northern Labrador Sea.	This request is beyond the Guidelines for the EIS. DFO had input to the original NIRB guideline that defined the geographic scope of the review. Nonetheless, when the issue was raised during the Technical Hearings, Baffinland added a discussion of the project effects on marine mammals in Davis Strait and northern Labrador Sea. That discussion is found in Section 5.15 on pages 274 and 275 of Volume 8 of the FEIS. Note, the request by DFO appears to be confusing the biology of seals in the area. It is the hooded seal that whelps in Davis Strait not the Harp Seal and it is the harp seal that is most likely to be found feeding off the mouth of Hudson Strait.
4.1b	DFO requests the Proponent provide their discussion of impacts of shipping in Davis Strait and northern Labrador Sea for the cumulative effects assessment.	This request is beyond the Guidelines for the EIS. Nevertheless, the predicted interactions are given in Section 5.15 of the FEIS and are only an extension of the effects in Hudson Strait where cumulative effects are addressed.
4.1c	DFO requests the Proponent provide details of their monitoring programme that investigates the distribution of species such as hooded and harp seals and northern bottlenose whales and whether potential impacts are occuring.	The FEIS includes a descrition of the EEM Framework that will be applied to the selection and design of monitoring studies. Examples are provided of some candidate studies. Additionally, Baffinland is engaged in ongoing collaboration with DFO and other agencies in the design and implementation of appropriate baseline programs to support Project Environmental Effects Monitoring. Note, other than through general surveys, it does not appear that either of the species mentioned (hooded seals, harp seals, northern bottlenose whales) are candidates for effects monitoring . Bottlenose Whale population near the RSA is found at >500m depth with rare sightings and uncertainty surrounding population trends (COSEWIC 2011). This population is not considered at risk or endangered by COSEWIC.
4.2a	DFO requests the Proponent meet NIRB Compliance Table Commitment #26, once the quantitative effects assessment has been conducted (see DFO IR#2.1 – Quantitative Effects Assessment).	This information has been provided in the FEIS. See Vol 8 Sec 5.14 p.514. where the text addresses indirect effects on marine mammals in areas outside of the RSA.
4.2b	DFO requests the Proponent describe how the monitoring plans are sufficiently sensitive to allow detection of changes in marine mammal mortality and distribution patterns, in response to the Project, such that displacements to non-project areas can be detected.	The FEIS includes a description of the Framework for design of candidate Environmental Effects Monitoring programs. The comment provided here by DFO is not an Information request but rather an expression of opinion about EEM design. Baffinland challenges the underlying assumption made in this comment. Firstly, marine mammal mortality is not a suitable candidate parameter to measure under a well designed EEM program. An essential requirement for EEM design is to identify suitable Key Indicators and Measurable Parameters that can serve as early warning indicators. The key is to have the ability to detect and measure a Project- induced change or effect that is an early warning indicator, i.e. allows for the detection of an effect early enough that measures can be taken to avoid a negative consequence. Logically then, mortality is not a likely target measure. Distribution pattern change could be a candidate monitoring target, however again, it might make sense to measure behaviours like "alert response " distances as an EWI. DFO stresses the importance of well-designed monitoring studies to quantify the effects, if any, of the project on marine mammal distribution and populations. Baffinland agrees that well-designed studies will be necessary and has begun the process by collecting quantitative information on the numbers, distribution, and habitat of marine mammals wintering in Hudson Strait in March 2012. It is hoped that the expertise in DFO can be accessed to assist in the design and review of appropriate monitoring studies.
4.2c	In the case of species at risk (i.e., beluga, bowhead whales, narwhals, and walruses), DFO requests the monitoring programme be updated to investigate sources of mortality (e.g., through tooth rakes marks in the case of interactions with killer whales) within and outside the project area be provided.	This is not an Information Request, but a suggestion by DFO that can be taken into consideration during detailed EEM design. The response comment noted above (see DFO IR 4.2b) applies.

5.1a	Using the recommended swimming distance correction (reduce distance by half) for Table 7-4.10, please provide an update on how this change will affect the fish passage and HADD assessments.	Baffinland believes the thresholds applied for assessing fish passage (i.e., culvert lengths and velocities) in the FEIS are appropriate as they are based upon consideration of available literature for Arctic Char and upon empirical information collected within the Project Study Area.
5.1b	DFO requests that the proponent provide the methodology used for the collection of the flow data at culverts along the Tote Road; the flow data which was collected and how the average flows for each culvert were calculated.	A description of methods used for the collection of velocity data along the Milne Inlet Tote Road and the velocity data are provided (see Appendix 6).
5.2	DFO requests an evaluation of wake effects on marine mammals, particularly on hauled out walruses and seals (on ice and land).	Wake effects on walrus are addressed in Vol 8 Sec 5.7.2.2 (see Figure 8-5.6 and Table 8-5.7). Because there is unlikely to be an interaction, wake effects on hauled out seals was not directly discussed in the FEIS, however the information in Sec 5.6.2.2 and 5.12.2.2 describes the responses of seals to vessels. Seals on the ice are noted to enter the water when a vessel is within 500m. Seals in the water at this distance would encounter ship generated waves to a height of approximately 0.1 m (assuming a vessel speed of 14 knots). During the ice covered season, the vessel will be travelling at 7 knots, therefore the ship generated wave height is anticipated to be lower than that assessed in Vol 8 App 8D-2. Additionally, the presence of pack ice will act to dampen ship generated wave, further reducing any potential interaction from occurring. Given that seals hauled out on pack ice would be acclimated to a dynamic environment, the ship generated wave would not have an effect on seals in Steensby Inlet. Seal response to vessel traffic when hauled out on land is anticipated to be similar to that when seals are hauled out on ice.
5.2.2a	DFO requests an explanation for and reconciliation of the inconsistencies between the written statement and Table 8-4.8.	There is no inconsistency between the written statements in the FEIS and the contents of Table 8-4.8 (also see Table 8-4.9). The effects identified and considered are Low in Magnitude. As a consequence of the consideration of magnitude, extent, frequency, duration and reversibility, the conclusion is reached (see Table 8-4.12 and 8-4.13) that there will be a "not significant" effect from the Project (all phases) on marine fish habitat in Milne Inlet and in Steensby Inlet.
5.2.2b	DFO requests the Proponent provide details about the expected frequency and duration of periods of high activity that will create underwater noise. Given these estimates, describe the effects on fishes and other marine organisms.	This is described in the FEIS. Volume 5 Section 3.0 describes the noise and vibration environment of the Project sites, including Steensby Inlet. Volume 3 describes the Project - see Section 2.6 for Steensby Port Construction (2.6.10 Ore Dock; 2.6.11 Freight Dock; 2.6.12 Crossing to Island) and Section 3.6 for Steensby Port Site operations (3.6.1.3 Ore Dock and ore handling facilities; 3.6.3 Shipping and Port Operations). Habitat Disturbance due to Underwater noise is addressed in Volume 8, 4.5.2.1 (p.113).
5.2.2c	DFO requests the Proponent provide support for the conclusion that underwater noise will affect pelagic fishes within only small portions of each LSA.	This information is provided in Volume 8, Section 4.5.2.1 Habitat Loss, Habitat Disturbance Due to Underwater Noise. Bubble curtains will be used during construction activities to mitigate noise but shipping noise will be a regular occurrence. While pelagic fish often have more sensitive hearing than benthic fish, they are able to avoid underwater noise for the short duration of vessel passage and return to normal activity. Long term effects on fish distribution have yet to be proven (Bowles et al. 2007). Pelagic fish in such areas as the dock site in Steensby Inlet (or Milne during open-water season) might avoid the area completely during periods of intense activity. It is for these reasons that underwater noise may only affect pelagic fishes in small areas of each LSA.
5.2.3	DFO requests an effects assessment summary table for each of the marine benthic species and marine fish species for both port sites as was provided for Arctic Char (Table 8-4.15, 8-4.16).	See Appendix 7 - Effects summary tables for blunt gaper and Arctic cod respectively.
5.2.4	DFO requests that the Proponent clearly indicate how chronic spills, wave action, and sedimentation will impact the marine food chain within the LSA including along the shipping route during both the open-water and ice-covered seasons.	This information has been provided in the FEIS. Information on spills is described in Vol 9 Sec 3.6 and Vol 9 Sec 3.8. Wave action has been described in Vol 8 App 8D-2. Sedimentation is described in Vol 8 Sec 4.4 and Vol 8 Sec 4.5.2.1

5.2.5	DFO requests the Proponent explain where are the mobilized sediments expected to be re-deposited, the total affected area and the rate of sediment deposition in the affected areas.	Resuspended fine sediments sediments (muds and fine sands) will typically be redeposited at the site of resuspension, in the absence of dominant currents. On steeper slopes, finer sediments, over time, will be winnowed from sediments in the affected area and move into deeper water where they will accumulate; thus, within the port area where there will be a concentration of such effects over time, the sediments along the offshore slopes will tend to become somewhat coarser until an armour of fine gravels to coarse sand (depending on water depths) covers the seafloor. This coarsening of sediments applies only to the very surface veneer beneath which original sediment texture will be preserved and protected from further resuspension. In the presence of currents, which in Steensby Inlet are dominated by tidal currents, fine sediments (primarily silts and minor clays) will be swept from the site of resuspension and settle out along the trajectory of the currents. Because of the variability of tidal current velocities and directions, it is expected that these sediments will accumulate within a zone around the site of resuspension.
5.3	DFO requests the Proponent provide a new comprehensive model of the fates, including accumulation, and movements of ballast water in three dimensions.	See Appendix 1 - Ballast Water Modelling.
5.3.2a	DFO requests the Proponent provide their rationale for the ballast water treatment they will use (i.e., what factors would be considered in making their decision to choose any one option) to ensure that the most effective and appropriate ballast water treatment in used.	The FEIS addresses this issue. As described in Vol 8 Sec 4.4, Vol 9 Sec 3.5.5, and Vol 10 App 10D-10 App 6, the ballast water treatment system to be selected will be IMO- approved and Transport Canada (Compliance and Enforcement Division) approved. Input from the ship builder will be required in the selection of the system. Baffinland has no specific preference for type of system and the system that will be selected will be based on its effectiveness in treating ballast water to standards.
5.3.2b	DFO requests the Proponent provide a risk assessment to assess whether accumulating ballast water discharges would significantly increase the potential for species introductions.	This issue has been addressed in the FEIS. See Vol 9 Sec. 3.5.5. Transport Canada administers a regulatory process that applies to approval of ballast water management systems. This process of approval includes an IMO requirement for a risk assessment once design details are developed upon which to base such an exercise. Vol 10 App 10D-13 represents the framework for monitoring of Steensby Inlet (Vol 10 App 10D-10 Sec 4.2.2). Baffinland is committed to regular testing of ballast water discharged both from the vessel and in Steensby Inlet.
5.3.2c	DFO requests the Proponent provide information about the grounds for which an exemption under Regulation A-4 might occur.	A briefing to DFO and NIRB by the regulator might be informative. Under Regulation A-4 of the International Convention for the Control and Management of Ships Ballast Water and Sediment (Ballast Water Management Convention) there are four criteria that must be met in order to allow for an exemption. These criteria are: 1) granted to a ship or ships on a voyage or voyages between specified ports or locations; or to a ship which operates exclusively between specified ports or locations; 2) effective for a period of no more than five years subject to intermediate review; 3) granted to ships that do not mix ballast water or sediments other than between the ports or locations specified in paragraph 2.1.1; and 4) granted based on the Guidelines that have been developed by the Organization Should a vessel meet these four criteria they may conduct a risk assessment as described in the IMO Guidelines for Risk Assessment Under Regulation A-4 (G7). Should the risk assessment conclude that voyage represents a low acceptable risk, an exemption may be granted.
5.3.2d	DFO requests the Proponent identify which volume is being referred to for Section 4.2 and Appendices 5 and 6	The correct reference is Vol 10 App 10D-10 Sec 4.2, and Vol 10 App 10D-10 App 5 and App 6.
5.3.3	DFO requests that the cumulative effects of long-term discharge of ballast water through the life of the project be more fully discussed. In particular, discuss how the accumulation of ballast water will affect the eddy and how will this impact the marine ecosystem?	An updated Appendix 8B-1 has been developed and is attached as Appendix 1. This appendix provides results from three dimensional modelling and covering the timeframe of a full annual cycle of operations.

5.4.1	DFO requests the proponent identify the correct vessel speed and confirm which speed was used for the analysis provided.	The speed of the ore carriers through ice will be approximately 7 knots or approximately 13 km/h. Vol 8 Sec 5.12.2.5 is correct.
5.4.2	DFO requests the Proponent address this commitment. If there are new data that were included, provide detailed locations where it can be found in the FEIS.	(This IR is similar to QIA - 12; the same response is provided here.) The additional information on survey dates, time of day, weather conditions, air temp and wind speed for the ringed seal basking surveys follows. The Notes for Table 4.1 in the marine mammal baseline synthesis should be updated to include the following information about the basking ringed seal surveys. In 2006, surveys for basking ringed seals at Milne Inlet were conducted on 21 and 27 June 2006. The 21 June survey was conducted from 16:47 h to 18:47 h; 100% ice cover; sky was overcast; sightability was excellent; air temp was 4.5°C; and wind speed was 20 km/h. The 27 June survey was conducted from 13:25 to 17:23; 100% ice cover; sky was overcast; sightability was excellent; air temp was 5°C; and wind speed was 10 km/h. In 2007, surveys for basking ringed seals at Milne Inlet were conducted on 21 and 22 June. The 21 June survey was conducted from 00:40 to 04:40; 100% ice cover; sky was overcast; sightability was moderate; air temp was 2.2°C; and wind speed was 45 km/h. The 22 June survey was conducted from 00:10 to 04:10; 100% ice cover; sky was overcast; sightability was moderate; air temp was 5.8°C; and wind speed was 5 km/h. In 2008, surveys for basking ringed seals at Milne Inlet were conducted on 17 June from 13:43 to 15:07; 100% ice cover; sightability conditions were primarily (89%) good with cloud cover (91% overcast, 9% clear); air temp was 4.5°C; and wind speed was 24 km/h. In 2006, surveys for basking ringed seals at Steensby Inlet were conducted on 22 and 26 June. The 22 June survey was conducted from 09:15 to 10:45; 100% ice cover; sky was overcast; sightability was excellent; air temp was 3°C; and wind speed was 15 km/h. The 26 June survey was conducted from 15:31 to 19:56; 100% ice cover; sky was overcast; sightability was excellent; air temp was 4°C; and wind speed was 10 km/h. In 2007, surveys for basking ringed seals at Steensby Inlet were conducted on 14, 15, 17 and 18 June. The 14 June survey was conducted from 14:00 to 16:30; 100% ice cover; sky was overcast; light rain; sightability was good; air temp was 1°C and wind speed was 22 km/h. The 15 June survey was conducted from 11:00 to 13:30; 100% ice cover; sky was overcast; light snow; sightability was moderate; air temp was 1°C; and wind speed was 25 km/h. The 17 June survey was conducted from 16:45 to 18:15; 100% ice cover; sky was overcast; light rain; sightability was good; air temp was 0°C; and wind speed was 10 km/h. The 18 June survey was from 17:00 to 19:30; 100% ice cover; sky was clear; light fog; sightability was moderate; air temp was 1°C; and wind speed was 6 km/h. In 2008, surveys for basking ringed seals at Steensby Inlet were conducted on 14 and 15 June. The 14 June survey was from 15:19 to 16:59; 100% ice cover; sightability conditions were primarily (78%) excellent with 20-100% cloud cover; air temp was 4°C; and wind speed was 20 km/h. The 15 June survey was from 10:51 to 12:40; primarily 100% ice cover (4% of effort with 85% ice cover); sightability conditions were primarily (96%) excellent with 5-50% cloud cover; air temp was 2.5°C; and wind speed was 15 km/h. The correction factors assumed for detection and availability for basking ringed seals during surveys in June were 1.22 and 2.33, respectively. The combined correction factor for both detection and availability was 2.84. The corrected density estimates were determined by a contribution of 35% from the aerial survey derived average uncorrected density and 65% from the combined correction factor. There are no variance or range estimates for the correction factors; therefore, a sensitivity analysis of impact predictions cannot be performed. : Densities of birth Lairs in the southern Beaufort Sea were determined by a dog search of seal structures in a study by Smith and Harwood (2006). During that study the density of birth lairs and all lairs was 0.083/km2 and 0.5/km2, respectively. In another study (Moulton et al. 2010), the density of unspecified lairs in nearshore waters of the Alaskan Beaufort Sea was 0.271-0.373/km2. Assuming that the percentage of birth lairs to all lairs is 0.167 (based on Smith and Harwood 2006), then the density of birth lairs in the Beaufort Sea ranged from 0.45/km2 to 0.83/km2. These densities are less than the more conservative estimate of 1/km2 from the Voisey's Bay study. The mitigation of ice-breaking impacts on nursing ringed seals is discussed in the FEIS. There is some confusion about the Alaskan study referred to by QIA. That project involved on-ice road travel not in ice ship travel. During the seal whelping and nursing period, all travel was restricted to a single ice-road, thereby minimizing the geographic extent of any potential impacts on the ringed seals. A conceptually similar approach would be used in Steensby Inlet by restricting the amount of ice broken during this period. References Moulton, V.D., M.T. Williams, S.B. Blackwell, W.J. Richardson, R.E. Elliott and B. Streever. 2010. Zone of displacement for ringed seals (Pusa hispida) wintering around offshore oil-industry operations in the Alaskan Beaufort Sea. Unpublished report for BP Exploration (Alaska). LGL Limited, St. John's, NF. 51p. Smith, T.G. and L.R. Harwood. Assessing the potential effects of near shore hydrocarbon exploration on ringed and bearded seals in the Beaufort Sea Region, 2006 (Year 4). Progress Report. For Environmental Studies Research Funds, Canada Dept. of Fisheries and Oceans, Canada Dept. of Indian and Northern Affairs, Fisheries Joint Management Committee, Polar Continental Shelf Project, Panel of Energy Research and Development, and Beaufort Sea Strategic Regional Plan of Action (BSStRPA). E.M.C. Eco Marine Corporation. 24 p.

5.5	DFO requests the Proponent present a formal consideration of the interaction between the proposed activities and ringed seals and walrus using the more conservative 70 dB disturbance criteria.	This IR is based on an inaccurate assertion. In the preamble DFO requests that the proponent use more precautionary noise exposure levels in the analysis of effects on ringed seals and walruses. Specifically, DFO requests that the effects analyses consider that disturbance begins to occur at 70 dB rather than at 80 dB [sensation levels]. The FEIS already does exactly what is being requested here. For ringed seals, the FEIS states "A 70-dB sensation level was used as a threshold to indicate the potential onset of disturbance …" "A sensation level of 80-dB was used as the threshold for a behavioural response that results in avoidance …" The above quotation is from Section 5.6.1.2 on page 158 of Volume 8 of the FEIS. The same approach was used for walruses; it is given on page 178 of Volume 8.
5.5.2	DFO requests the Proponent present a formal consideration of the interaction between the proposed activities and ringed seals and walrus using disturbance threshold that could be more appropriate for more sensitive life stages (e.g., calving and nursing).	The proponent was asked to consider more life-stage specific noise exposure criteria for ringed seals and walruses. The example used in this request was for calving or nursing animals on the assumption that the animals would be more susceptible to disturbance during those periods. We know of no data that documents increased reactions to disturbance during calving or nursing periods by ringed seals or walruses. The calving and nursing drives are among the strongest displayed by mammals and other vertebrate species. Therefore, it is not necessarily true that seals and walruses are more sensitive to disturbance during these periods. In fact, females may be less likely to respond to disturbance because they are focused on their newborn young. In addition, calving and nursing ringed seals and walruses are widely distributed on and under the sea-ice; there are no concentrations of nursing animals that could be affected by the shipping. For these reasons, it is not considered necessary to use lower noise exposure levels to evaluate the potential effects of project shipping on calving and nursing ringed seals and walruses.
5.5.3a	DFO requests the Proponent provide their consideration of the interaction between the proposed shipping activities using the larger 250 km potential acoustic field.	The preamble to this IR notes that the Proponent was asked to consider a comprehensive assessment of noise impacts using a 250 km radius on each side of the proposed shipping route (i.e., expand the LSA). In the FEIS, the Proponent argued that "mere detection of distant ship noise should not be considered a disturbance to a mammal receptor. Any potential negative effects from the shipping will occur at much closer distances from the ships." DFO states that "In fact, marine mammal behavioural responses to anthropogenic sounds have been documented at great distances and at received levels not much above ambient." The documentation for the supposed long-distance responses by marine mammals is much less clear-cut than implied in the above preamble. We know of no studies that have documented responses by marine mammals to regular shipping at long distances in the order of 100 km. Thus, in response to Data Request 5.5.3a, Baffinland stands by the original conclusion that all potential impacts of the project on marine mammals have been captured by the FEIS and the proposed extension of the analysis to 250 km on each side of the vessel is unnecessary.
5.5.3b	In collecting baseline data and for further monitoring, DFO requests the Proponent use high quality measurements of the received sound levels using log-duration recorders and stations at a variety of distances from the sound sources. These will be important to understanding the potential impacts of shipping noise.	All acoustic studies conducted for the proponent will use state-of-the-art measurement methodology. The locations of stations and the duration of measurements at each station will be determined as part of an integrated monitoring program. Input from DFO scientists will be sought to assist in the design of those programs.
5.5.3c	The Proponent dismissed the Booth (2010) approach to modelling potential effects of multiple sound sources on the basis that Temporary Threshold Shift and Permanent Threshold Shift thresholds would be difficult to estimate for the species of concern here. DFO requests the Proponent provide further consideration of the utility of analysing signal summation and interactions arising from multiple sound sources.	Baffinland disagrees with the assertion made in this comment. The approach used by Booth looked at the effects of some fixed noise sources and relatively stationary porpoises, whereas in the present case we are looking at the effects of moving noise sources (ships) on mobile, unmarked mammals. This is a very difficult and innappropriate situation in which to attempt to apply signal summation techniques. Using the SEL (sound energy) approach advocated by Southall et al. (2007) and used by Booth, allows multiple noise sources to be accounted for. However, Southall et al. point out that distant sound sources contribute almost no sound energy to the exposure totals for an animal. Only the noise sources close to the animal in question contribute significant amounts of energy. Sources a few km away contribute very little energy. Thus, there are difficulties applying an energy summation technique to the project in question. The sound pressure level approach used in the FEIS for determining response criteria is in fact more conservative than the approach and results of Southall et al. (2007).
5.5.4a	DFO requests the Proponent describe how further sound modeling will be conducted in areas with different oceanographic and hydrographic characteristics as opposed to relying on just the one site chosen.	The request refers to Hudson Strait where a single site was modelled. That site had been chosen because it represented the probable worst case with the maximum sound propagation over the longest distances. It is not planned to perform any additional sound modelling before the project is approved. It should be noted that Dr. Yvan Simard of DFO has three underwater recorders stationed in Hudson Strait to provide long time series of ambient noise in Hudson Strait. He has agreed to cooperate with the project by an exchange of data.

5.5.4b	DFO requests the Proponent describe how field sound measurements (shipping/icebreaking sound measurements) will be conducted in multiple locations before and after construction and shipping begins.	Baffinland has not yet determined what sound measurements should be taken and when, where and for how long they should be taken. It is hoped that the work of Dr. Simard can provide much of the baseline ambient data needed. It is not proposed that the project will make large scale measurements of ambient noise levels. Future acoustic modelling and measurements will be designed to support the quantitative monitoring studies that will be designed and conducted. Until these studies are in the design stage, it is not possible to be specific about the acoustic components of those studies.
5.5.5a	DFO requests the Proponent clarify what the sound output would be from an ore carrier moving at 14 knots instead of 7 knots.	It will not be possible to measure the noise levels from the ore carriers before they are constructed and used. There have been several studies of the underwater noise associated with icebreaking. Most of the increased noise associated with icebreaking is generated by the increased cavitation of the ship's propellers when under increased power to break ice. The actual noise of the icebreaking itself contributes little to the underwater noise levels even though it sounds quite loud to observers standing on the bow of the ship. In the future, measurements of ship noise from an actual project ore-carrier will be made with the vessel travelling in open water and breaking ice in a pack-ice field.
5.5.5b	DFO requests the Proponent provide their plan to conduct field sound measurements in locations where there are overlapping shipping sound sources and zones where cumulative noise would be mitigated due to biophysical features.	Baffinland has no plans to measure overlapping sound sources from ships passing each other. It is not clear what value such measurements would have beyond confirming the physics of the situation which indicate that the maximum increase in sound levels from two ships passing would be 3 dB.
5.5.5c	DFO requests the Proponent add wider ship separations (2 and 2.5 km wide point sources) to the current analysis of passing ships.	It is not likely that ice rubble build up in will occur in ship tracks in the pack-ice zone where the ice-field is in constant motion and the ships are unlikely to ever follow the precise path of a previous ship track through the pack ice. Therefore, it is unnecessary to analyze wider ship separations (e.g. 2 and 2.5 km) that might have been necessary in area with rubble build up. Using a wider ship separation distance would reduce the sound experienced by a marine mammal receiver to the side of the ship tracks because the more distant of the two ships would be contributing less sound to the combined sound of the two ships. The use of wider separation distances is likely to increase the possibility of animals occurring between the two vessels rather than avoiding them by moving outside the paths of the two approaching ships.
5.5.6	DFO requests the Proponent clearly state how mitigation and monitoring will detect (if it occurs) and alleviate potential cumulative disturbance (noise, wave action, etc) impacts resulting in displacements of marine mammal VECs. For example, if displacement of walrus occurs, what will be the fate of these animals? Will this change in distribution result in impacts for walrus in other areas where displaced newcomers arrive?	The FEIS provides a framework for EEM as well as a description of candidate studies. Effects on marine mammal VECs have been predicted and no displacement effects (either direct or cummulative) have been predicted.
6.1	DFO requests the Proponent provide their assessment of the potential for damage to ocular surfaces and interference with olfactory cues, ingestion or inhalation pathways and sub-lethal effects to seals including reproductive failures, resulting from spilled oil.	This information is presented in the FEIS. Potential effects of a spill event on seals are discussed in Vol 9 Sec 3.8.7.2. As stated in Vol 9 Sec 3.8.7.2 the exposure of seals to a spill event is anticipated to be minor due to the rapid dilution of the fuel and disturbances associated with the clean up operations.
6.2a	DFO requests the Proponent consider shipping accidents beyond Canadian waters especially in other Arctic areas, for their fuel spill risk assessment.	Beyond Canadian waters is outside of the study area boundaries for the assessment. This request goes beyond the scope of the FEIS.

6.2b	DFO requests the Proponent provide an assessment of the risks and potential impacts of a fuel spill under winter conditions for at least three main points along the southern shipping route due to the different features present in northeastern Foxe Basin, southeastern Foxe Basin and Hudson Strait. The conditions in these areas vary greatly in time and space and pose extreme conditions for shipping. These conditions (strong and reversing tidal currents, jumbled ice) must be considered when the Proponent examines the fate of an oil spill in winter and the intermixing of oil and ice.	Modelling was done for shipment of fuel which will occur during the open water season (July to end of September). The ore carriers will be designed as a ice breaking vessel and will only carry their motive marine diesel which will be stored in multiple tanks within the central section of the ship hull as is the practice for modern ice breakers. A large spill of marine diesel from these vessels would require breakage of the ship hull and severe damage to one or several of the internal fuel reservoirs.
6.2c	DFO requests the Proponent clearly identify their criteria to asses “level of confidence” and “certainty” for their risk assessments (e.g., Table 9-3.9).	The criteria for level of confidence and certainty that applies to the entire assessment are described in the assessment methodology described in Section 3 of Volume 2. Level of confidence refer to the assigned significance rating. Certainty refer to the probability assigned to the Likelihood of the accident or malfunction. Both "level of confidence" and "certainty" are the concensus given by the professionals assembled to do the risk assessment/evaluation of the event under consideration.
7.1.1	DFO requests the proponent provide a Fish Passage Monitoring Plan to determine if the mitigation measures installed at the watercourse crossings along the railway and access road are functioning as intended. This should also include a contingency plan if monitoring shows that fish passage was not maintained as predicted.	A fish passage monitoring plan will be developed and provided to DFO. The plan will also include a contingency plan to address unforeseen fish passage issues that may be identified during the conduct of the monitoring plan.
7.1.2	Provide an analysis of potential compensation options, taking into consideration the hierarchy of preferences outlined in Fisheries and Oceans Canada’s Policy for the Management of Fish Habitat (1986). The analysis should include feasibility of various options and supporting rationale for dismissal prior to proceeding to the next compensation approach in the hierarchy, if necessary.	Baffinland is engaged in an ongoing process with DFO to identify acceptable concepts for offsetting works for fish habitat. This process will be in accordance with the DFO Heirarchy of preferences. The FEIS provides a reflection of the status of this process at the time of issuance of the FEIS. If requested, Baffinland and DFO can make a joint presentation to NIRB on status of this work.
7.1.3a	DFO requests that the Proponent confirm whether there will be channel realignments associated with culvert and bridge installations along the railway or the access road.	Each crossing will be assessed and any recommended channel alignments will be identified and assessed, and DFO consulted for Advice on its acceptability.
7.1.3b	If channel realignments are required DFO requests that the proponent describe the mitigation measures which will be incorporated into the newly realigned channel to ensure stability and mitigate negative impacts to fish and fish habitat.	As part of the Project EPP. Site-specific mitigation measures will be identified and provided to DFO prior to any construction action.
7.2a	DFO requests the Proponent provide the methodology for the proposed dredging at the freight dock and the ore dock. This should include mitigation measures which will be implemented to reduce the negative impacts to fish and marine mammals and identify the location where the dredged sediments will be disposed.	Methodologies and mitigation measures would be finalized once detailed designs for dock infrastructure is developed. DFO will be engaged in this regard.
7.2b	DFO requests the Proponent provide the fish habitat assessment of the proposed dredging location and the disposal site to determine if the dredging and disposal of dredgate will result in a HADD of fish habitat.	This information will be provided (and is being provided) to DFO in the context of their "HADD" process.

7.3a	DFO requests that the Proponent indicate how they will respond if threshold values described in the EIS are exceeded.	
7.3b	DFO requests that the Proponent indicate how they will adjust their shipping route and/or timing if they find that ship traffic negatively impacts marine mammals (e.g., walrus) in Foxe Basin or Hudson Strait.	
7.4.1a	DFO reiterates its request for additional marine baseline data, and strongly recommends that detailed protocols both for data acquisition and data analysis, including sampling regime and methods, be developed and provided for each important VEC and issue of concern, such as marine mammals versus shipping. The demonstration that the proposed approaches have sufficient statistical power to detect less-than-extraordinary biologically significant effects should also be made.	
7.4.1b	Given the uncertainty about impacts of this project on several of the VECs, DFO strongly feels that there is a need to demonstrate that potential effects related to the proposed Project can be documented adequately, and be mitigated to reduce their potential for significant. This is in contrast with the current approach, where BIM provided only a general outline of their approach and proposed to develop and implement detailed protocols once Project approval is granted. DFO is particularly concerned that the proponent has not proposed mitigation for effects related to shipping and marine mammal habitat use if monitoring indicates they are potentially significant.	In the FEIS and in Appendices 10D-10 and 100-13, BIM has committed to the development of a detailed Environmental Effects Monitoring Plan (EEMP) and adaptive management measures, to address potential effects of shipping on marine mammals. The Shipping and Marine Wildlife Management Plan and the Biophysical Environmental Effect Monitoring Framework provide frameworks for the development of the EEMP including adaptive management measures. The November 2, 2011 record of agreement reached between BIM and the government agencies with respect to baseline studies as a basis for environment effects monitoring, is attached as Appendix 8 to the Biophysical Environmental Effect Monitoring Framework. The FEIS does not predict any significant negative effects on marine mammals from shipping. The FEIS does not predict any significant negative effects on marine mammals from shipping. Potential impacts will be generally addressed through measures to avoid interactions. Modern vessel design criteria will result in low noise generation. The route selection has been chosen to avoid areas of high interaction potential. Other route adjustments can be considered if a potentially negative interaction is identified. Additionally, other potential measures could include reduced speed zones. The presence of surveillance monitoring will serve to provide information on potentially negative interactions. An elevated level of focused EEM would be applied if and when a negative interaction was identified. These efforts, along with other measures would result in the identification, application and assessment of adaptive management measures. An expanded program of marine baseline monitoring is currently underway. Results will be incorporated into ongoing dialogue with QIA, DFO, EC and others on design and implementation of EEM programs.
7.4.2a	DFO requests the Proponent demonstrate that the monitoring plans are sufficiently sensitive to allow detection of incremental or cumulative changes in the environment (e.g., reductions in marine mammal abundance or distribution, changes in species composition or important habitat features such as prey, ice conditions and accessibility to predators such as killer whales) in response to the Project.	
7.4.2b	In the context of the proposed adaptive management, DFO requests the Proponent describe the mitigation measures that would be implemented in the event that a significant change in marine mammal distribution, species composition, or habitat use is detected.	

7.4.2c	For each of the main VECs to be monitored, DFO requests the Proponent provide the following information with sufficient details to allow it to be evaluated for effectiveness: an outline of monitoring, including detailed protocols, schedule for data collection, main objectives, adequacy (power) of the proposed schedule and sampling scheme with regard to the specific objectives; how this will be verified; trigger for adaptive management; and alternate mitigation measures	

Environment Canada		
Number	**Request**	**Baffinland Response**
1	EC requests that the Proponent provide a quantitative summary of the wave height data from the recovered wave sensor. The summary should be similar (e.g. mean, range, percentage of time waves are above different height categories) to that provided for wave sensors deployed in Milne Inlet described in the Draft EIS (OEIS).	Baffinland will provide the summary as requested, however this will not be possible within the timeframe for IR response. Baffinland will be in touch with Environment Canada to provide this information in the near future.
2a	Clarify which equations presented in Kriebel et al. (2003) were used to calculate wake height, provide the equations used in wake height modeling, explain the meaning of each parameter used in the equation, and indicate the numerical values used for each parameter in the model.	The formulae used to derive the wave heights produced by the proposed ore carrier were taken from the power point presentation by Kriebel et al. (2003). The relevant formulae are found on page 28 of that power point presentation. The wave heights at various perpendicular ranges from the vessel are found by solving for wave height (H) in the following equation. g*H/V^2 = B*(Fa-0.1)^2*(y/L)^(-1/3) This equation is rearranged so that the wave height (H) becomes the dependent variable. H = ((B*(Fa-0.1)^2*(y/L)^(-1/3))/g)*V^2 with variables defined by, Fa = Fl*exp(A*T/d) Fl = V/sqrt(g*L) A = 2.35*(1-Cb) Cb = Delta/(L*B*T) B = 1+8*tanh^3(0.45*((L/Le)-2)) and parameter values defined as, H is the wave height (m) Delta is the ship hull volume (m3) = 263,200 thus producing a value for Cb of 0.8 that indicates a relatively blunt hull shape B is the beam of the ship (m) = 50 g is the acceleration due to gravity (m/s^2) = 9.8 V is the ship speed (m/s) = 7.2 and 10.29 corresponding to vessel speeds of 14 and 20 nmi/h respectively L is the ship length (m) = 329 Le is the entrance length or distance along keel from bow to point along waterline where maximum ship width occurs (m) = 57.4 T is the draft depth (m) = 20 d is the water depth (m) = 25 this is a conservative estimate that produces the largest waves y is the distance from the sailing line (m) = variable from 5 to 152745 in intervals of 5
2b	Provide the equations used to calculate wave heights and wave periods based on fetch distance and wind speed that are presented in Table 1 of Appendix 80-2.	The estimates of wave heights and periods based on fetch and wind speed were taken from the U.S. Army Corps of Engineers Coastal Engineering Manual Part II, Chapter 2, Figures 23 and 24.
3	EC requests that the Proponent clarify if the nest searches to be conducted in 2012 will include the island near the mouth of Steensby Inlet indicated in Figure 3 of Appendix 8D-2 that may receive wakes in excess of 0.5 m in height, in addition to the shoreline segments adjacent to the Steensby Port site.	The 2012 nest searches will include the island near the mouth of Steensby Inlet that may receive wakes in excess of 0.5 m in height as indicated on Figure 3 of Appendix 8D-2.

4a	Provide a map of the zone of potential sediment redistribution due to propeller wash along the southern shipping route based on bathymetry. The map should include areas where ships are expected to maneuver while arriving and departing the Steensby Port.	In the absence of more detailed vessel design, it is not possible to produce such a map. The response to DFO – IR 5.2.5 addresses this IR with respect to Steensby Port, and is repeated below: Resuspended fine sediments (muds and fine sands) will typically be redeposited at the site of resuspension, in the absence of dominant currents. On steeper slopes, finer sediments, over time, will be winnowed from sediments in the affected area and move into deeper water where they will accumulate; thus, within the port area where there will be a concentration of such effects over time, the sediments along the offshore slopes will tend to become somewhat coarser until an armour of fine gravels to coarse sand (depending on water depths) covers the seafloor. This coarsening of sediments applies only to the very surface veneer beneath which original sediment texture will be preserved and protected from further resuspension. In the presence of currents, which in Steensby Inlet are dominated by tidal currents, fine sediments (primarily silts and minor clays) will be swept from the site of resuspension and settle out along the trajectory of the currents. Because of the variability of tidal current velocities and directions, it is expected that these sediments will accumulate within a zone around the site of resuspension.
4b	Provide a calculation of the tota l area within which sediment re-suspension due to propeller wash is expected to occur.	Within Steensby Port, sediment re-suspension due to propeller wash will occur within a narrow zone adjacent to the vessel (see Response to EC 4a). Until Port activities are better defined and vessel designs available it is not possible to calculate the total area within which sediment re-suspension will occur. Baffinland will work to this request and inform DFO on progress made.
5a	Explain how the numerical estimates cited in Bullets 4, 6, and 9 on pages 63-64 and the final paragraph of Section 3.5.2.3 of Volume 8 were derived.	See the report on Ballast Water Dispersion in Appendix 1
5b	Provide a copy of the updated appendix if a more recent version of Appendix 8B-I exists that explains these calculations.	See the report on Ballast Water Dispersion in Appendix 1
5c	Provide an assessment of the potential impact of the year-to-year accumulation of ballast water over the operational phase of the project.	See the report on Ballast Water Dispersion in Appendix 1
6	EC requests that the Proponent indicate the different types of fuel, oils and other lubricants that all marine vessels (ore carriers, fuel tankers, cargo vessels, tugs, etc.) associated the project will be carrying for the purpose of operating the vessels, the expected quantities, and any specific considerations required for the clean·up of these different products in the event of an accidental spill.	Only three types of bulk fuel are used: Jet A, Arctic diesel and marine diesel. The spill modeling was done for the fuel that is use in largest quantiy (arctic diesel). Modelling was done for shipment of fuel which will occur during the open water season (July to end of September). The ore carrier will be designed as Class 3 ice breaking vessel and will only carry their motive marine diesel which will be stored in multiple tanks within the central section of the ship hull as is the practice for modern ice breakers. A large spill of marine diesel from these vessels would require breakage of the ship hull and severe damage to one or several of the internal fuel reservoirs.This situation is unlikely to occur unless in times of war or sabotage is involved!
7a	Provide revised maps for terrestrial bird VECs that indicate the areas covered by bird baseline surveys and a classification of surveyed areas into low, moderate, and high densities of each terrestrial bird VEC.	A map indicating the locations of point count surveys used for analyses was included in App. 6E, Figure 1 (Page 5). The biologist responsible for the bird baseline surveys conducted in 2006–2008 did not, for aerial surveys, record the area surveyed and the survey intensity (that information was recorded for marine surveys). Based on the distribution (both temporal and spatial) and the abundance of bird observations, as well as the information that we do have on survey locations, we are confident that the majority of the terrestrial RSA was surveyed, and that the areas around the proposed infrastructure were surveyed multiple times. However, without the exact survey boundaries and an indication of the survey intensity, we are unable to classify surveyed areas into regions of high, moderate and low densities for the various terrestrial bird VECs.
7b	Provide a quantitative assessment of the accuracy of the revised HSI models for terrestrial bird VECs based on bird observations made during baseline surveys.	We have attached a copy of the results of each of the HSI models for Snow Goose, King Eider, Red-throated Loon, and Peregrine Falcon (nesting and foraging) with an overlay of the bird observations (see Appendix 3, including 3.1-3.5). These provide a visual representation of the distribution and density of observations for each indicator species. However, these observations (and the following quantitative assessment based on these observations) should be viewed with caution, as the available data indicates that certain areas may have been surveyed more frequently and at a higher intensity than other areas.

7c	Provide new versions of the HSI classification maps for each bird VEC, that include an overlay of actual bird observations for bird VECs that were provided in the version of Appendix 6E of the DEIS, and clearly indicate the area covered by aerial and ground surveys during baseline studies. Please indicate clearly the project footprint and expected zone of influence around it. Since the study area boundaries for the HSI model includes areas of the marine environment, observations of the VECs in the marine environment should also be included.	Appendix 3 provides a quantitative assessment of the accuracy of the HSI models based on the bird observations. The assessment indicates that the general trend of bird observations is consistent with the habitat suitability ratings (i.e. more observations in the higher rated areas). We have not completed a quantitative analysis of the Lapland Longspur density map since the map included in the FEIS (Figures 20 and 21, Volume 6, Appendix 6E) is not a habitat suitability map but is a map of observed densities (from the point count surveys) by habitat type.
8a	Provide an assessment of whether seawater lubricated propeller shaft bearings would be a feasible alternative for the yet-to-be-built ore carriers.	The ore carriers have not been designed and specific information of the type of lubricants used not yet established nor is it required for the effect assessment. All ship servicing the Project will be licenced to navigate in Canadian waters and will comply with the Canada Shipping Act as well as the Arctic Water Pollution Prevention Act.
8b	Provide a rationale for choosing oil-lubricated stern tube bearings as the current preferred alternative.	
8c	Provide the half-life for this product in water and sediment under arctic conditions	
8d	Provide an estimate of the amount of stern tube seal oil that will be released on a monthly/annual basis to qualify this statement.	
8e	Provide a discussion of whether biodegradability changes the impact that the oil would have on birds exposed to it.	
9a	Provide a list of the type and quantity of deterrent/hazing equipment for wildlife that will be maintained at the Milne Inlet and Steensby Inlet port sites as well as deterrent/hazing equipment that will be kept on board ships and/or emergency response vessels.	The information on the type or the serial number of hazing equipment maintained at each port site is not available at this stage nor is it required for the effects assessment.
9b	Update the Emergency Response and Spill Contingency Plan with a description of migratory bird resources at risk and maps that indicate CWS Key Terrestrial and Marine Habitat Sites for Migratory Birds, Migratory Bird Sanctuaries, National Wildlife Areas and National Parks.	This is not required for the effects assessment.
10	EC requests that the Proponent clarify the discrepancies between the results cited from the "Spill Response Gap Study for the Canadian Beaufort Sea and the Canadian Davis Strait" in the FE IS and those that are actually provided in the report.	There are no discrepencies. The NEB report cited presents information available for the Davis Strait and the Beaufort Sea. Only the information for the Davis Strait has relevance for the Mary River Project.
11a	Provide monthly flow diagrams comparable to the annual flow diagrams found in Volume 3 Appendix 3B Attachment 5 Appendix 100-2 Figures 1 through 7.	These figures present typical site annual water balances for each sites during construction, operation and closure (see Appendix 8).

11b	Complete the assessment of water diversion and withdrawal using the 1:10 year dry period to determine if the 10% threshold will be exceeded when the area is subject to typical dry conditions.	Baffinland will work to provide Environment Canada a response to this request by May 15th, 2012.
12	EC request that the Proponent provide a comparison between the current estimated pond design capacity and the capacity of the ponds if they were designed to meet the same safety standards using a comparable return period but incorporating snowmelt rates.	Design criteria for ponds are presented Vol 3, App 3B, Attachment 5 - Waste Rock Management Plan (Annex 1 Stormwater Management and Drainage System Design). Section 4 of this document details the approach used for pond design.
13	Environment Canada requests that the Proponent provide and discuss the information on marine winds and waves available along the shipping route. Emphasis should be placed on the frequency and duration of wind speeds and wave heights that could pose operational difficulties for ships.	The shipping route extends to Europe. Ore carriers will be designed to sail in rough seas. What is the relevance of this request?
14	EC requests that the Proponent commit to carrying out surveys to assess polar bear and prey species distributions along the shipping routes prior to the onset of year round shipping activity.	In March 2012, Baffinland conducted an extensive survey of marine mammal distributions during winter in Hudson Strait. These surveys collected data on polar bears and prey (ancillary data on ringed seals and bearded seals). Additional surveys will be conducted in the future.
15a	Impact of ice breaking in pack ice and landfast ice on ice roughness and a discussion of the potential implications for ice habitat, polar bear movements, and prey distribution.	This issue has been addressed in the FEIS. Discussion of polar bear ice habitat can be found in Vol 8 Sec 5.11.2.1. A consideration of ice roughness can be found in Vol 8 Sec 2.6.2.1. The main forces affecting pack ice roughness are wind and current (tidal) movements. Ship passages will have a minor (likely not measurable) effect on pack ice roughness. There will be local increases in roughness in landfast ice as described in the FEIS. It is not clear whether these changes in landfast ice would be negative or positive for seals, and therefore bears. The presence of rough ice allows snow drifts to form on the ice; these areas can provide cover for seal lairs. The FEIS takes a conservative approach and predicts that the effect of disturbed landfast ice will be to reduce seal usage.
15b	Potential impacts from converging wakes from passing vessels and the additive effects of ship wakes and wind-generated waves.	As the wave crests and troughs of passing vessel wakes move through each other there will be momentary constructive and destructive interference of the wave amplitudes. Clearly these effects will diminish rapidly with increasing vessel separation. Thus, the greatest effects will be felt between the sailing lines of the two vessels, typically in water depths where there will be no possible impact on the seabed from such waves. Similarly, it is possible to have constructive and destructive interference between surface wind waves and vessel wakes. Wind waves come in groups, producing modulated amplitudes. Wind waves have short periods while waves associated with vessel wakes have much longer periods. Thus, there will be a temporary modulation of the wind wave field by the passing wake over a few minutes maximum duration. Such interactions could lead to some wave amplification at the coastline.
16a	An estimate of the cumulative area of pack ice disturbed by ore carriers on an annual basis, and an indication of whether this area would exceed thresholds for significance identified in the FEIS.	Due to the dynamic nature of pack ice, effects are transient and not cumulative, consequently the appropriate level of evaluation has been provided in the FEIS . See Volume 8 Section 2.5.4.
16b	An estimate of the cumulative proportion (%) of ice pans in the marine RSA that would be affected on an annual basis.	Due to the dynamic nature of pack ice, effects are transient and not cumulative, consequently the appropriate level of evaluation has been provided in the FEIS .
17	EC requests that the Proponent provide a monitoring framework to assess project effects from vessel traffic on polar bear and bearded seal or a detailed justification for the exclusion of the species from the marine monitoring program.	The FEIS presents an EEM Monitoring Framework. The selection of monitoring targets and design of specific EEM studies will be carried out in a collaborative manner with input solicited from EC and other stakeholders.

18a	A qualitative discussion of the changes in model predicted ambient S02. concentrations assuming that ships will use fuel containing 3.5% sulphur;	We adopted a fuel sulphur content of 1.5%, based on a commitment by Baffinland. If fuel with 3.5% sulphur were used instead, all predicted concentrations would be a factor of 2.3 (230%) higher. In this case, the distance from the ship lane to where the 1-hour threshold for SO2 is met would be larger than under the 1.5% sulphur scenario. The distance would be approximately 3-4 km near the port, narrowing to about 1 km once the ship is at cruising speed. Similarly, for NO2, the distance would be approximately 3 km near the port, narrowing to less than 0.5 km once the ship is at cruising speed.
18b	A detailed discussion of the methodology used to model air emissions from the ships in transit;	We modelled a representative case of a ship departing from the Steensby dock during winter time, with ice management vessels idling nearby and other SO2 emission sources at the site operating (such as the port's power plant). - The ship engines were assumed to be operating at high load (82%), representing a ship that is accelerating in icy conditions. Air emissions from the ship in transit were calculated based on the assumption that the cruising speed of the ship would be 7 knots (13 km/hr) and the time required to reach the cruising speed as being one (1) hour. - Nine (9) area sources (1500m x 150m) were used to represent the ship in transit covering a distance of 13.5 km. - Using the acceleration of the ship, the residence time at each of the area source was calculated and then it is used to calculate the total emission in grams within each area source. - The total emission in grams at each area source was assumed to be occurred at each hour. Subsequently, grams per second emission rate was calculated by dividing the total emission by 3600s. Then, the emission rate per unit area was calculated by diving the grams per second emission rate by the total area of each area source. - The resulting emission rates were entered into the CALPUFF dispersion model, which was then run to simulate 1-year of meteorological conditions. The modelling was set up to represent one ship departing every hour of the year, so that predicted SO2 concentrations under worst-case weather conditions could be captured. In reality, a ship is expected to depart only once every few days, so the likelihood of it actually coinciding with worst-case weather conditions is relatively low. - Sample calculations available upon request.
18c	The model input and output data used to generate the new transient CAlPUFF model scenario in a model-ready format.	Need further clarification on this request. The total file size is more than 200 Gb and not ideal for ftp upload. RWDI will contact EC to and make this data available.
19	EC requests that the Proponent provide the Greenhouse Assessment for the FEIS	Please find the Greenhouse Assessment loacted in Volume 5, Appendix 5B of the FEIS.
20	EC requests that the Proponent clarify the confidence rating system applied to predictions. The text, as stated, is counter-intuitive and could be misleading.	A correction is required for FEIS Vol 2 Sec 3.8.1. The text should read : '"Low" is assigned where there is a low degree of confidence in the inputs, "Medium" when there is moderate confidence, and "High" when there is a high degree of confidence in the inputs. Where rigorous field baseline data were collected and scientific analysis performed, the degree of confidence will generally be high.'
21	Given the critical importance of magnitude in assessing the overall rating for residual effects, EC requests that the Proponent clarify what is meant by level I, 11 and III magnitude ratings and demonstrate that the reworked magnitude rating system represents a conservative assessment of residual impacts.	This approach is a methodology that has been applied in the environmental assessment of other approved projects (e.g., Galore Creek). The approach is based on the assumption that water quality below the water quality objectives has a negligible effect, and level of magnitude of an effect are established based on the magnitude of exceedance of the threshold. CCME guidelines generally apply safety factors which can range up to 100x the criterion, so we believe the approach used is defensible.
22a	Provide sample calculations to show what values were substituted into the equation listed on p. 114 (e.g. CD, QD, CR, ~) to arrive at the mean and 90th percentile concentrations in the receiving environments presented in Tables 7-3.16 - 7.3-22.	Two screen shots have been presented as Appendix 9, showing the excel equations used in the spreadsheet to calculate the mean and 90th percentile concentrations, respectively, in one of the tables.
22b	Provide the raw baseline concentration and flow data in a modifiable excel format to facilitate EC's verification of calculated concentrations in mine contact water and sewage discharges.	The Mine Site water quality baseline database in Excel will be provided directly to Environment Canada.

23	EC requests that the Proponent provide revised estimates of their SSWQOs using data that is representative of background concentrations and using a less biased estimator of central tendency to establish each respective SSQWO so that more protection is afforded to the environment. A conservative approach would be to use the 25th percentile.	This is not an information request. We will be prepared to engage EC on this topic following the IR submission.
24a	The CEAA and thus the CEA Registry does not apply to northern environmental assessment processes. The next iteration of this Plan should be updated to reflect the Nunavut context. Section 2.5.1, p.6 suggests that the temporary magazines established along the railway corridor will likely need to be heated to ensure performance of explosives and the energy source for heating will be on-site generators. The Plan states, "In the event a generator is required, appropriately sized spill kits will be located on site."	It is noted that thet CEAA and CEA does not apply in the northen environment. The next iteration of the Plan will reflect the Nunavut context.
24b	Given that on-site generators will be the only source of energy at the magazines EC requests that the Proponent update the plan to include a commitment to equip all the temporary magazines with appropriate spill kits.	Baffinland commits to an appropriate Spill Kit being installed at each of the temporary explosive magazines.
25a	Clarify the treatment and fate of propylene glycol used in de-icing operations.	A limited amount of over spray is expected during the application of de-icing products containing propylene glycol. The de-icing products containing propylene glycol will applied on the aerodrome apron so any over spray is not expected to enter the environment. Based on information available, de-icing products being used containing propylene glycol are neither listed as a hazardous waste nor does it exhibit any of the characteristics that would cause it to be classified or disposed of as an RCRA hazardous waste. Any large amounts of extra over spray will be collected and disposed of in an environmentally acceptable manner.
25b	Provide more information on the design of the drainage system for collecting oil and propylene glycol from airstrips (for example it is unclear if the airport perimeter will be surrounded by a ditch and the ditch water reclaimed).	All fueling and de-icing activities will be conducted on the impermeable aerodrome apron. Any small quantity liquids on the aerodrome from fuel spills will be collected with absorbents. All drainage from the apron will contained, collected and treated as oily waste water.
25c	Clarify what is meant by "interim treatment for propylene glycol", and whether recycling will be used .	Interim treatment for de-icing products containing propylene glycol was considered. Due to the predicted low amount of waste propylene glycol expected, recycling is no longer being considered and used de-icing liquids containing propylene glycol will be collected and disposed of in an environmentally acceptable manner.
26	The Plan should be updated to reflect the thresholds that will be applied to each respective discharge taking into consideration whether the MMER limits apply, and noting that these are minimum national standards; more stringent discharge criteria may be warranted for various receiving environments.	The Plan will be updated on an basis that the Project Certificate and Type A Water Licence requirements.
27	EC requests that the Proponent clarify if the brine recovered from tunneling activities will be re-used for drilling purposes and provide a discussion of the alternatives available for brine disposal including the final disposal method.	Quantities of brine are expected to be minimal. Upon removal of solids via sedimentation ponds, clear overflow will be discharged.

28a	This Section should be revised to state that the EH5 Management System also includes Environmental Effects Monitoring (EEM) as per the Metal Mining Effluent Regulation (MMER) Schedule 5 requirements. The EEM conducted under the MMER does qualify and cannot be substituted for the Aquatic Effects Monitoring Plan (AEMP). The AEMP is a requirement of the Type A water licence and is a more comprehensive Plan that typically covers additional monitoring requirements beyond what is required by EEM under MMER. However, EC supports the inclusion of the MM ER EEM as a subcomponent of the mine's AEMP. To this end, EC encourages the Proponent consult the following Guideline, Guidelines for Developing and Implementing Aquatic Effects Monitoring Programs for Development Projects in NWT, to assist them with harmonizing the EEM MM ER and AEMP requirements under one Plan. When this Plan has been developed, EC would be pleased to review it. EC requests that a coordinated framework outlining the va rious monitoring components, including study design, be provided in advance of the technical meetings.	Thank you for the reference. The Environmental Effects Monitoring Study Design Framework as presented in Volume 10, Appendix 10D-14 satisfies the requirements of the MMER Schedule 5.
28a	Section 4.2, p. ZZ indicates monitoring and reporting requirements under regulatory approvals such as the water licence, QIA land lease, land use permits and fisheries authorization will include: • Routine inspections and monitoring of various aspects of the operations; • Surface Water Quality Monitoring; • Wastewater Treatment Facility Discharge Monitoring; • Bulk Fuel Storage Facility Discharge Monitoring (Oils and Greases); and • Vehicle Maintenance Shops Wastewater Monitoring (Oils and Greases).	Thank you for the reference. The Environmental Effects Monitoring Study Design Framework as presented in Volume 10, Appendix 10D-14 satisfies the requirements of the MMER Schedule 5. Perhaps the two regulators could develop a harmonization of their requirements and Baffinland will work with them to achieve compliance.
28b	EC understands there will also be a wastewater treatment facility aSSOciated with the emulsion plant (p. 21 of Fresh Water Supply, Sewage and Wastewater Management Plan). EC seeks clarification on what level of discharge monitoring will be conducted on discharges from this treatment plant. 4.2.1.2, p.24 indicates "monitoring of the land farm involves inspection of physical integrity of the berm and has work contact water monitoring."	Contact water from runoff collected at the emulsion plant will be evaporated. No discharges expected. Perhaps the two regulators could develop a harmonization of their requirements and Baffinland will work with them to achieve compliance.
28c	As stated, the sentence above is incomprehensible. EC seeks clarification regarding the proposed inspections and monitoring. Section 4.5.1, p.30 states again that the MMER EEM Framework will serve as the basis for the Aquatic Effects Monitoring Plan (AEMP) and that "once this study program is reviewed and approved by Environment Canada, the AEMP will be finalized."	Thank you for the reference. The Environmental Effects Monitoring Study Design Framework as presented in Volume 10, Appendix 10D-14 satisfies the requirements of the MMER Schedule 5. Perhaps the two regulators could develop a harmonization of their requirements and Baffinland will work with them to achieve compliance.

28d	As noted above, the AEMP is a requirement of the Type A water licence for which the EEM requirements can be incorporated . Therefore, the EEM Framework provided in Appendix 100-14 cannot serve as the AEMP. EC requests the Proponent provide a broader AEMP framework that includes both the Type A water licence and MMER EEM requirements. Table 4-9, p. 30 - As noted in comments related to the MMER Environmental Effects Monitoring Study Design Framework, EC questions the defensibility of the mine Reference sites suggested in the Table.	Points noted. Perhaps the two regulators could develop a harmonization of their requirements and Baffinland will work with them to achieve compliance.
28e	EC requests that the Proponent revisit reference site selection and demonstrate that the reference sites are outside the mine's zone of influence. To co rroborate reference site selection, EC recommends the maps identifying reference/exposure site locations provide all other contextual information, including the location of other site infrastructure and overlay Total Suspended Particulate contour maps to demonstrate the sites are clea rly outside the influence of mine activities.	Noted.
29	EC requests that the Proponent revise their freshwater and sediment monitoring plans to include more details related to the statistical design of the program, including sample size, early warning indicators, alpha, beta and power analysis.	As specific plans are developed and in accordance with regulatory requirements (e.g. for MMER compliance) detailed programs will be designed and appropriate regulators consulted.
30	As per Schedule 5, 9(b) of the MMER, a fish population survey will be required for each discharge point whose effluent is >1% concentration within 250 m of the final discharge point.	Point Noted. A fish population survey will be carried out at a location as required to comply with requirements of MMER.
31	EC requests the Proponent provide defensible Reference sites prior to the technical meetings.	While the company is willing to engage in planning and discussion of environmental effects monitoring under the Metal Mining Effluent Regulations, we note that this is a legal requirement applicable to operating mines and not specifically an environmental assessment issue. MMER will not come into effect for another 4-5 years. Having said this, Baffinland is willing to engage in discussions with EC on the selection of reference sites, and plans to investigate options during the summer of 2012. Appropriate reference areas will be identified and selected in acordance with the schedule and requirements of MMER.
32a	Include maps that provide location of exposure and reference areas.	See response to EC-31 above. Appropriate reference areas will be identified and selected in acordance with the schedule and requirements of MMER.
32b	Revisit reference site selection and provide justification that reference sites are outside mine's zone of influence. To corroborate reference site selection, EC recommends the maps identifying reference/exposure site locations provide all other contextual information, including the location of other site infrastructure and overlay TSP contour maps to demonstrate the sites are clearly outside the influence of mine activities.	This point is acknowledged, and Baffinland is in the process of identifying potential reference sites outside of the mine's expected zone of influence, with field work planned for 2012.
32c	Remove the reference to 'aquaculture facilities' from list of anthropogenic influence in Section 6.1.3.	Not applicable.

32d	Revise Section 6.1.5 to include the plume delineation for each discharge point. Specifically, EC requests that the Proponent address the question of whether it's anticipated the effluent will be 1% or greater at a point 250 m downstream of each respective discharge point.	Point noted, however this level of detail is not required for the EIS. Detailed design will be developed and submitted to regulators in accordance with applicable requirements (e.g. for MMER compliance).
32e	Remove the extra French bullet (i.e. (d)ii in the list of tests under Section 6.2.1.2.	Not applicable.
33a	Clarify whether disposal at sea is being considered as a disposal option for project generated dredge spoil.	It is proposed to use the dredge material as backfill and construction material for the port facilities (behind sheetpiling), and in the construction of the Steensby Island causeway. Some of the material maybe sidecast (within the identified areas of the ship turning radius).
33b	Provide the following information if disposal at sea is being contemplated as a disposal option: i) identify and characterize potential disposal sites. ii) characterize the material to be disposed. iii) demonstrate that disposal at sea is the appropriate disposal option.	

Government of Nunavut		
Number	**Request**	**Baffinland Response**
1a	It is the Department of Culture, Elders, Language, Youth's (CLEY) practice and preference that any buffers that are applied as measures to protect cultural and heritage resources, be applied from cultural and heritage resources outwards rather than around project components or development activities as they appear to be in the FEIS volumes noted above. The Proponent is requested to provide the following information: a) a clear statement regarding their understanding of how the buffer distance concept promoted by CLEY was used to protect cultural and heritage resources and;	We understand CLEY's preference and frame of reference. For a major development project such as this, it is necessary to define a maximum extent of disturbance (project footprint) with a sufficient buffer from project infrastructure that can accommodate minor variances during project construction and operation. This applies to archaeology but also soil, vegetation, and wildlife habitat. We believe while applying this project-centric approach, that we have respected CLEY's required setbacks with respect to archaeology.
1b	b) whether or not the application of buffers from cultural and heritage resources outwards rather than around project components or development activities results in an increase the potential for disturbance of any known cultural or heritage resources.	Baffinland believes given the project footprint defined and proposed mitigation, along with the heritage resources protection measures identified, that the project will be protective of cultural and heritage resources.
2	The FEIS indicates that the project may require minor adjustments and/or realignments of the tote road for the purposes of large transport equipment, but does not make a commitment to the potential for such adjustment and/or realignments of the tote road to be undertaken for the purpose of protecting cultural and heritage resources. The Proponent is requested to confirm whether not it would consider adjustments and/or realignments to the tote road for the purpose of protecting cultural and heritage resources. If not, what measures are proposed by the Proponent for the protection of cultural and heritage resources disturbed by the tote road.	At this stage in Project planning, a number of sites located within 35 m of the road centreline have been identified for mitigation by systematic data recovery based on their proximity to the existing road. No major realignments of the road are currently proposed, but the company recognizes that this could change based on conditions in the field. If a realignment was required that may affect an archaeological site, the company's approach will be to follow the mitigation heirarchy of avoidance before mitigation, and if a road realignment could not avoid an archaeological site for technical reasons, the company will notify CLEY prior to initiating mitigation measures.
3	The proponent is asked to clarify why the distance from the centre-line of the road was selected as the point-of-origin for the proposed mitigation measure.	The centreline was selected as a point of reference because the road centreline was surveyed and is a more reliable point of reference when relating GIS mapping to site conditions. Generally the road is 5-7 m in width, and therefore the edge of the roadbed from the centreline ranges from 2.5 to 3.5 m. Sites were identified within 35 m of the road centreline, which should ensure that the minimum 30 m setback from the road edge (and edge of project activities) is met.
4	The FEIS documentation in Volume 4 (Sec. 9.3.1, Sec. 9.6.2, Sec. 9.6.3.4, and Sec. 9.6.3.5; and, Volume 4: App. 4D, Sec. 5.1) is inconsistent in terms of the distance that is applied from any infrastructure (e.g. road) for the protection of cultural and heritage resources. Baffinland is requested to clearly state the distance it applied from any infrastructure as a measure for the protection of cultural and heritage resource throughout the FEIS.	Baffinland has applied CLEY's guidance of 30 m buffer from an archaeological site, with minor exceptions. A 35 m setback from the tote road centreline was applied to identify all sites that will require mitigation, but in some instances (at some sites) the distance from the site to teh road was specifically recorded and referred to in relation to a 30 m buffer. An exception is the wolf trap along the railway (Section 9.3.1), which was noted to be 12.9 m from the proposed railway embankment. In this instance the site will be subject to detailed mapping as a contingency measure, but full mitigation and removal is not proposed.

5	The Proponent is asked to clarify and address how measures identified in the report provided in Vol. 6: App. 6A will be implemented.	Paleontology was addressed as a subject of note in Volume 6, Section 2.4.4 (see below). Paleontological resources were not further addressed through a mitigation or management plan. Known fossils are located in some sedimentary rock formations along the road, and no rock quarries or major cuts are expected with the current project in the FEIS. Consequently it is not expected that the project will impact paleontological resources. Baffinland is unlikely to require a paleaotologist and a Class 2 permit. Exerpt from Section 2.4.4: Palaeontological resources (including fossils) are protected by the Nunavut Archaeological and Palaeontological Sites Regulations (SOR/2001-220). Without a Class 1 or Class 2 permit it is not permissible to search for palaeontological sites or fossils, or survey a palaeontological site. Further without a Class 2 permit, it is not permissible to excavate, alter or otherwise disturb a palaeontological site, or remove a fossil from a palaeontological site. A “Class 1 permit” allows the permittee to survey and document the characteristics of an archaeological or palaeontological site, so long as the site is not disturbed. A “Class 2 permit” allows the permittee to survey, document characteristics, and excavate an archaeological or palaeontological site. As well, a “Class 2 permit” allows fossils to be removed from a palaeontological site, thus, altering or disturbing an archaeological or palaeontological site. It is required that upon completion of an excavation, the site is restored, as much as practicable, to its original state. Proposed quarries have been identified within the formations along the Tote Road. A Class 2 permit will be obtained prior to any excavation activities that may be required within the Tote Road quarries.
6a	The GN understands that a Draft OPEP for Steensby Port is located in Volume 10 Appendix 10C-3 and that this draft has been used during the pre-development and exploration phase of the Project. In reviewing the OPEP for Steensby Inlet, it appears that a fuel vessel will be over-wintered (pg 14). It is unsure whether this activity is for pre-development work or for work following the issuing of a project certificate. If in fact there will be over-wintering of fuel barges during the construction phase of the Project, the GN requests the following further details: a) the volume of fuel will be stored;	Pre-development work is no longer proposed. It is proposed that a fuel vessel will be overwintered during the first year or two of construction, after a Project Certificate has been issued.
6b	b) which years this will occur and;	
6c	c) the type of barge that will be over-wintered.	The fuel vessel has not been selected. However, it is planned that the fuel vessel will be similar to the vessel (Class 1) used by Newmont in Hope Bay during the 2010 winter.
6d	Additionally, the following questions must be answered detailing procedures for cleaning a potential spill from the over-wintered barge: d) how will fuel ullage be monitored;	A risk analysis is in preparation for the fuel vessel. The Table of Contents of this risk assessment is included as Appendix 10. The full report will be completed by May 15, 2012 and will be transmitted to NIRB and the relevant regulatory agencies at that time.
6e	e) how precise is this monitoring method in determining fuel ullage and, further, if a leak were to develop in the barge, how much product will have escaped before the loss is detected and;	
6f	f) how the Proponent intends to respond to spills on and under ice. This information could be included as an additional potential fuel spill scenario in the OPEP.	
7a	The Environmental Protection Plan deals with polar bear safety. The GN requests that: a) the Proponent describes the training that wildlife monitors and staff will obtain; how often this training is to be continued throughout the operation or will it be for new staff only;	EPP 2.10 describes procedures for polar bear encounters (Vol 3, App 3B). Polar bear safety is part of the Site Orientation Program which all employees are required to attend.

7b	b) the Proponent confirms whether or not human-polar bear interactions will be monitored and data regarding each incident recorded;	Refer to EPP 2.10 for reporting requirements.
7c	c) the Proponent confirms whether data on these interactions will be reported only to a Company supervisor or whether these instances would also be reported to the nearest Conservation Officer by phone or email and;	Refer to EPP 2.10 for reporting requirements.
7d	d) the Proponent confirms their expectations from the GN regarding inspections from a Wildlife Deterrent Specialist and/or a GN polar bear biologist and describe the measures the Proponent will take to facilitate access to the Project sites.	Baffinland has contracted polar bear protection expertise in the past and this expert reviewed the polar bear protection measures. Baffinland will continue to seek expertise as required on a case by case basis, from the GN or other sources.
8	Attachment 5, Environmental Protection Plan, App. 10B, Section 2.8 deals with aircraft flights and a minimum altitude of 610m during horizontal flights is suggested. Volume 8. Section 5 on marine mammals suggests a minimum altitude of 450m. The GN requests that: a) the proponent confirms the minimum altitude that is recommended for horizontal flights in order to minimize disturbance to wildlife.	The EPP governs the Company's best practices. We note, however, that pilots are obliged to abide by Transport Canada aviation safety regulations. Minimum altitudes are guidelines that apply in circumstances where safety is not compromised.
9a	The shipping route that is proposed through Hudson Strait, Foxe Basin, into Steensby Port traverses through primary polar bear habitat. The GN requests that : a) the Proponent provides a list of proposed mitigation for disturbance effects on polar bears from shipping, particularly with respect to feeding and mating activity;	No mitigation is deemed necessary for shipping disturbance effects on polar bears. The role of the on-board ship monitor is briefly described in Vol 10, Appendix 10D-10, Section 4.5.1.3.
9b	b) the Proponent confirms whether or not on-board local monitors will be present to look out for any bear activity on the ice while the ships approach;	
9c	c) the Proponent describes the decision-making authority these monitors will have regarding shipping activity and;	
9d	d) the Proponent describes the specific protocols that that the shipping company and/or local monitors will follow on a daily basis. If these protocols are not available, the Proponent should confirm whether or not the GN will be afforded an opportunity to review and comment on these protocols.	These protocols have not yet been developed. Responsible regulatory agencies will be informed and requested to comment on these protocols.
10a	The results of the RSPF depend on which model is selected, its strengths and weaknesses. An evaluation of the results of the RSPF is not currently possible by the GN without further details regarding the model and parameters used. The GN requests that: a) the Proponent provides a clear explanation as to why the Hosmer-Lemeshaw goodness-of-fit statistic was used over AIC (Akaike Information Criterion) to select the best-fit model and;	See Appendix 15.

10b	b) the Proponent provides a definition of the term AUC included in Tables 15, 18 and 21. A list of candidate models used in the selection process should also be included.	AUC is an acronym for Area Under the Curve. See explanation for IR # 10a.
11	In the section “Spatial Data Layers”, it is written that: “The DEM was used to derive slope and aspect layers.” Then, in Tables 15, 18 and 21, DEM and DEM2 become variables included in the models, in addition to slope and aspect. The GN requests that: a) the proponent provides a clear definition of the variable “DEM “ and describe how it differs from slope and aspect, and why it was included in addition to slope and aspect in the models.	Digital Elevation Models (DEMs) are digital maps where specified cell sizes represent elevation. Therefore, reference to DEM and DEM2 as variables in the model should be replaced by Elevation and Elevation2 for clarity to be consistent with Table 14. DEM values are used to calculate Slope and Aspect based on algorithms (ArcGIS, Spatial Analyst) that compare each cell to surrounding cell values. Slope: For each cell, Slope calculates the maximum rate of change in value from that cell to its neighbors. Basically, the maximum change in elevation over the distance between the cell and its eight neighbors identifies the steepest downhill descent from the cell. Conceptually, the Slope function fits a plane to the z-values of a 3 x 3 cell neighborhood around the processing or center cell. The slope value of this plane is calculated using the average maximum technique. The direction the plane faces is the aspect for the processing cell. Aspect: Aspect identifies the downslope direction of the maximum rate of change in value from each cell to its neighbors. Aspect can be thought of as the slope direction. The values of the output raster will be the compass direction of the aspect. Conceptually, the Aspect function fits a plane to the z-values of a 3 x 3 cell neighborhood around the processing or center cell. The direction the plane faces is the aspect for the processing cell.
12	The FEIS states that 136 ship transits and 102 round-trips will be completed in Foxe Basin between November and June. Further, the FEIS notes that “Due to the extreme cold, the ship track will quickly begin to refreeze, and the frequency of transits means that ice formation will be continuous, resulting in the build-up of rubble in the track over time. Consequently, the track will gradually widen from the initial width of 50 metres to 1.5 km or more by late winter as subsequent transits are made to the side of previous tracks”. The GN requests further information regarding the shipping track. Specifically, the GN requests that: a) he Proponent clarifies what is meant by “…more than 1.5 km” by quantifying or providing professional opinion as to how wide the shipping track can be expected to be.	Professional opinion on winter shipping and the ship track have been provided in Volume 3, Appendix 3G.
13a	The FEIS states that the area of pack ice that will be disrupted temporarily by a single ore carrier passage is estimated at 76.5 km2 during the period of maximal ice coverage. Evidence of the ship track in the mobile pack ice will quickly disappear because of the movement of the ice by winds and tide (Volume 3, Appendix 3G) and it is assumed that bearded seals will re-use this area of ice. The GN suggests that this 76.5 km2 area seems too small given the shipping routes provided that cross the whole of Davis Strait and Hudson Bay. The GN requests that: a) the Proponent confirms that the total area disturbed is in fact 76.5 km2;	The total area disturbed is correctly noted as 76.5 sq. km. (see Vol 8 Sec 2.5.4 and table 8-2.1)
13b	b) the Proponent describes how this area of 76.5 km2 was estimated and;	The calculation was based on length of the shipping route (1500 km) multiplied by the width of the vessel (0.051km). (see Vol 8 Sec 2.5.4 and table 8-2.1).

13c	c) the Proponent provides evidence to support the contention that bearded seals will reuse the disturbed area of ice.	The evidence is indirect, but compelling. While there are few formal studies of this question, bearded seals are known to spend the winter in moving pack ice and are subjected to extreme ice conditions during winter storms. Consequently, they are well equipped to handle the relatively minor perturbation of the pack ice field caused by the passage of ships.
14a	The FEIS states that emissions from the Tote Road are included with the estimates from the railway and ports. However Table 6-5.1 suggests that the road is included with the mine site. Given the fact that the road can also produce dust, it is GN's contention that a conservative estimate would be based on the values indicated in the table. The GN requests that: a) the Proponent confirms how the dust emissions from the Tote Road were estimated and how they were included in the derivation of the Zone of Influence (ZOI) and;	Dust emissions were estimated as described in Volume 6, Section 5.2.1 Assessment Methods. The following text is taken from Volume 6: The ZOI for the tote road, rail and port sites were determined to be smaller than the ZOI of the Mine Site. The reason for the difference is a recent article that documents a 14 km ZOI around the EKATI™ and Diavik mine sites in the Northwest Territories (Boulanger et al., 2009). The authors suspect that one of the main mechanisms causing the observed ZOI is dust deposition. Dust may be generated from mining activity at the Mine Site; however, the train will not generate significant dust and the port facility will generate minimal dust. Transport of equipment from Milne Inlet port along on tote road will produce dust, but the road will mostly be used during construction, and only intermittently during operation. Consequently, dust generation along the road will be reduced compared to the mine site. Therefore, the mechanism reducing caribou use around the Railway, tote road, and ports sites will be sensory disturbance from human activities as opposed to dust. Reduced caribou use of areas near industrial sites from has generally been documented at distances ranging from 1-4 km (Table 6-5.1). Predicted indirect habitat effects using the RSPF habitat model were qualified by reducing the probability of observing caribou within each of the pixels. Indirect effects of the Mine Site were predicted by multiplying RSPF values within 0–3.5 km, 3.5–7.0 km, 7.0–10.5 km, and 10.5–14 km by 0.30, 0.40, 0.60, and 0.80, respectively (Table 6-5.1). Indirect effects of the tote road, Railway, and Milne and Steensby Ports were predicted by multiplying RSPF values within 0–2 km, 2–4 km, and 4–14 km from the PDA by 0.25, 0.75, and 0.90, respectively (Table 6-5.1, Figure 6-5.2). The RSPF values beyond 14 km of the PDA were assumed to be unaffected, so RSPF values remained unchanged. The combined area of the ZOI (including waterbodies) of the project is 7,696 km² (37 % of the 21,053 km2 RSA, and 5.7 % of the 134,308 km² north Baffin Island caribou range).
14b	b) the Proponent confirms the geographic extent of the ZOI and whether or not this was undertaken using the values in Table 6-5.1.	Table 6-5.1 contains an error. The project description changed to remove the ore truck transport option to Milne Inlet port facility. The original project description was changed to remove trucking of ore to the Milne Port (See letter from BIM explaining the decision to change the project description (110704-08MN053-01-Ltr Transmittal Addendum-IDTE) and the corrected table in Appendix 11).
15	The FEIS states that the overall magnitude of effect is determined at the scale of the north Baffin Island Caribou range. It is the GN's opinion that this is likely to bias the conclusion towards a "low" magnitude rating. The GN suggests that estimating the magnitude of effects on caribou at the scale of RSA is a more relevant scale. The GN requests that : a) the Proponent re-evaluates the relevant effects on caribou based on the scale of the RSA and/or provides a sensitivity analysis for each relevant effect.	This request has been included in the FEIS. Please refer to section 5.2.2, Volume 6.
16a	The GN requests that the Proponent provides the following estimates based on the caribou collaring data used in the FEIS analysis: a) the proportion of caribou that crossed the existing road, the planned road and railway route during the collar study;	This is a new analysis. Please refer to Appendix 13.
16b	b) the proportion of segments between successive locations overlapped the road, the planned road and railway route and;	This is a new analysis. Please refer to Appendix 13.
16c	c) the proportion of home ranges overlapping the mine site and ZOI.	This is a new analysis. Please refer to Appendix 13.

17	Baseline aerial surveys identified active wolf dens and visual observations of breeding pairs in the RSA (around mine site, including along the proposed rail and Milne Inlet road). This suggests that the RSA is commonly used by wolves for reproduction. Being a “top carnivore” of the Baffin Island terrestrial ecosystem, and a distinct subspecies (Canis lupus manningi) of the NA Gray Wolf; Baffin Island wolves have a distinct ecology from other tundra wolves. They have only one major prey available, namely, the caribou. The wolf is listed both as furbearer and a big game species under NLCA, and is harvested for both commercial and subsistence use and listed as a VEC by several boards of Nunavut (e.g. NWMB). The GN requests that the Proponent provides its conclusions regarding the nature of the effects of the project on Baffin Island wolves and their likely significance. This assessment could be based on the assessments of effects on other VECs or additional analysis could be undertaken.	Volume 6, Section 5.3.2 Carnivores states that: Wolves and foxes are the dominant predators within the RSA, but they occur at very low densities. Though they are rarely observed, they occur within the RSA during the entire year and there are likely active den sites every year. None of the local carnivores are designated as being of conservation concern. Interviews with local people suggest that few carnivores are harvested each year. Wolf numbers are mostly dependent on caribou abundance, so any effects from the mine or mining activity will likely be not significant compared to the main effect of carnivore response to caribou abundance. Mitigation will include: • Garbage management (Appendix 10B and 10D-4) and • Monitoring of den sites that may be disturbed by Project activities. Preliminary baseline wolf surveys indicated that there were few wolves in the RSA. This conclusion was supported through IQ that suggests that wolves are uncommon in the area (Appendix 6F). “There aren’t that many wolves now since there aren’t any caribou” (Kyak 2008). “The wolves hunt caribou for food, they walk to where there are more caribou, that’s when there are more wolves” (Akoomalik 2008). “No I haven’t really noticed [many wolves], this area traditionally has never had a lot of wolves, the Pond Inlet area it is only recently that they have started coming around, it was only when I became an adult did I start hearing of wolves being spotted” (Kilukishak 2008). Consequently, an assessment of the Project effects on wolves was not conducted. We assume that availability of food, caribou, determine survival and reproduction of wolves (Frame et al. 2008), therefore impacts of the Project on caribou will indirectly affect local and regional wolf population. Mitigations focused on reducing or removing Project effects on caribou will also mitigate Project effects on wolves. After mitigation, Project effects on caribou are expected to be not significant, therefore the same conclusion applies to the predicted significance of Project effects on North Baffin’s wolf population. Frame, P. F., H. D. Cluff, and D. S. Hik. 2008. Wolf reproduction in response to caribou migration and industrial development on the central barrens of mainland Canada. Arctic 61:134-142.
18	Baseline aerial surveys identified active wolf dens and visual observations of breeding pairs in the RSA (around mine site, including along the proposed rail and Milne Inlet road), This suggests that the RSA is commonly used by wolves for reproduction. The GN requests that: a) the Proponent confirms whether or not wolf den occupancy and success is to be included in the wildlife monitoring program for wolves. If not, the Proponent should provide a rationale.	One wolf den was observed within the RSA (Den ID 11; Appendix 6F, Table 8). The den is located approximately 10 km south of the mine site and was active in 2008. Baffinland will monitor active wolf dens detected within 5 km of the project footprint during construction and operation. Dens that were known to be active within 5 km will be monitored annually for use and reproductive success. Currently no wolf dens are known to exist within 5 km of project facilities.
19a	Baseline reports described that wolf dens are identified in suitable soils (glacio-fluvial materials/Esker habitat); other studies on tundra (Mcloughlin et al. 2004, Journal of Mammalogy, 85(3):576–580) identified wolves association with glacio-fluvial materials (eskers) and described that esker habitat was strongly preferred at the level of the home range. In other areas of the tundra, glacio-fluvial materials are identified as an important source of granular material for road and mine construction. The Mary River Project is also proposing to use glacio-fluvial material for road and rail track construction. Therefore, there is a potential conflict between wolf preferred habitat and project. Given that the granular and sandy composition of this glacio-fluvial material provides suitable habitat for excavation of dens and burrowing to small prey mammals, the GN requests that: a) the Proponent provides an estimate of the available (glacio-fluvial materials) esker habitats within the RSA;	This is a new analysis request. Please see Appendix 14.

19b	b) the Proponent confirms whether or not this habitat type was identified as ecologically sensitive. If not, the Proponent is requested to provide its conclusions regarding the effects of the Project on wolves.	Glacio-fluvial habitats were not identified as ecologically sensitive in the FEIS.
20a	More details are required in the Proponent's plan for managing wastes and odours such that effects on wildlife are minimized. The GN requests the Proponent to confirm whether or not the following measures are included in the finalized plans for managing wastes and odours. If not, the Proponent is requested to provide a rationale for its conclusions. a) Installation of incinerator beside the kitchen, that will help to keep the food waste management process simple in order to minimize the opportunity for human error, which often results when additional steps are added to the process (i.e. storage of garbage outside, hauling in a truck (odours remain in truck), hauling some distance to a landfill site, incomplete combustion at landfill, fencing of landfill, etc.).	The management plans are presented as drafts and will not be finalized until the Project Certificate and the Type A Water License are obtained. With respect to the location of the incinerators, Baffinland will draw on the experience gained by the Ekati and Diavik mines who established early in their operations that the safest location for the location of an incinerator (on the basis of human health and safety) is to install the incinerators in separate buildings even if this requires additional handling steps.
20b	b) Installation of solid carnivores proof skirting on all kitchen and accommodation buildings (i.e., heavy-duty steel mesh that would drop down from the edge of the buildings/trailers and buried about a half meter into the ground to prevent animals from digging under the skirting)	This will be taken into consideration for detailed design phases.
21	There is no scale linked to the habitat selection probability for the caribou. This is true for all the maps with habitat selection probability (e.g. in volume 6). The GN requests that: a) the Proponent prepares a set of maps that clearly indicate what habitats are high and a low probability on a scale from 0 to 1.	The scale of the habitat selection probabilities for the figures in Volume 6 displaying caribou resource selection during winter, calving, and growing seasons are 0–0.45, 0–0.26, and 0–0.48, respectively. To facilitate visualization, the minimum to maximum values were displayed because the intention of the maps was to visualize the data and help reviewers observe habitat selection patterns. Using a scale of 0 to 1 resulted in greater difficulty interpreting the data because most of the area is very low probability of selection. Maps displaying RSPF values at a scale of 0 to 1 will be prepared prior to the technical meeting.
22a	In mathematics, probabilities can be summed but never be above 1. A probability of 2,000 does not mean anything. The GN requests that: a) the Proponent explains the probabilistic/mathematical methods applied to determine a probability of 2,000 as indicated in Volume 6, Table 6-5.2. Any errors should be corrected.;	For estimating effects of the project on caribou, RSPF probability values of each raster cell were summed before and after the predicted impact due to the project footprint and the ZOI (Volume 6, 5.2.1 Assessment Methods). The summed RSPF values are not intended to reflect the probability of caribou occurring within the RSA or North Baffin Herd range, but to provide an index of change in habitat use. There are 53,469,620 cells that make up the habitat selection raster layers for the North Baffin caribou herd. The cell values range from 0 to 0.48. Consequently, the summed values during baseline conditions across the North Baffin caribou range are approximately 2.3 million, 6.4 million, and 4.7 million for the calving, growing, and winter seasons, respectively. A simplified example is provided in Appendix 12 to further explain our method.
22b	b) the Proponent re-evaluates the Change in Effectiveness of Caribou Habitat within the RSA and the North Baffin herd range on the basis of probabilities within a range from 0 to 1. This will likely affect the conclusions drawn with respect to the significance of effects on Caribou.	See IR22a.

23	In many publications on caribou, scientists have seen a fast response of caribou to human activities. Given the fact that collaring data used in the FEIS analysis was collected during a time when exploration and other activities were already occurring in the ZOI, the GN requests that: a) the proponent acknowledges this uncertainty and provides an analysis of how this activity might have affected the behaviour of caribou and the conclusions reached in the FEIS regarding caribou movements, calving and survival	Baseline conditions are defined as existing environmental conditions (Volume 2, Section 3.3), not pristine environmental conditions. Further, the NIRB guidelines state that "…existing baseline and the environmental trends should include a consideration of past projects and activities…" (EIS Guidelines for the Mary River Project, pg. 16). The FEIS assesses potential impacts to caribou from the proposed Project as defined in Volume 3. The Project considers existing or past activities as baseline conditions. Baseline data is pre-Project conditions and, therefore, does include data collected during exploration activities. Much of the impact assessment and monitoring tasks for caribou are based on the GN caribou collar data. The collars were deployed in March 2008 and continue to collect location data. During the collaring program there was minimal activity along the proposed railway route and Steensby Port Facility, and activity at the Mine Site was reduced compared to earlier stages of the advanced exploration program. Consequently, caribou distribution from the collar data should be acceptable as baseline conditions.
24	The GN requests that: a) the Proponent prepares a detailed human-wildlife conflict management plan for review and comment by the GN such that it can be implemented prior to construction.	The management plans are presented as drafts and will not be finalized until the Project Certificate and the Type A Water License are obtained. BIM will work with the GN on management plans relavent to their mandate.
25	The GN would like to reiterate commitment number 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." The GN requires the Proponent to respond to this commitment outside the IIBA. The Proponent may need an adaptive management plan utilizing various scenarios of caribou presence, density and movement patterns to implement this mitigation measure.	Baffinland is unaware of circumstances that would trigger the application of limiting train traffic to avoid disturbance to caribou, other than an obvious obstruction caused by caribou presence on the railway itself. There are no published thresholds, and no parties have communicated triggers to be considered by Baffinland during mine operation. BIM agrees that as part of an adaptive management plan for railway operation, caribou presence, density and movement patterns will need to be considered.
26a	At this point in the Environmental Assessment process and given the Pre-construction work that is likely to be undertaken, the Government of Nunavut requests that the Proponent provide a more detailed description of information management issues related to their Environmental Monitoring Plan (EMP) and/or Environmental Effects Monitoring (EEM) programs. Specifically, the GN requests discussion of the following items: a) how the various environmental monitoring activities will be coordinated to avoid duplication of effort and make efficient use of resources, time and expertise (e.g. coordinated sampling regimes, sharing of equipment and data among programs)?	The information requested is not available at this time and is not required for the effects assessment.
26b	b) how will monitoring datasets will be centralized, analyzed, stored, and results communicated to stakeholders?	The information requested is not available at this time and is not required for the effects assessment.
26c	c) who does the Proponent intend to involve in the development of the detailed EMP and the individual EEM programs?	Various stakeholders will be consulted as necessary. To be determined on a case by case basis.
26d	d) what is the proposed role of the GN, including the NRI in the development and implementation of these programs?	The development and implementation of the monitoring program is Baffinland's responsibility. Various regulatory agencies and stakeholders will be consulted as necessary.

26e	The GN requests that the Proponent clearly specify the following: e) whether or not a central, accessible, web based data repository will be established as part of their EMP and/or EEM programs? If not, the Proponent is requested to describe the likely manner in which monitoring information will be managed, analyzed and how results will be shared with stakeholders, including the GN.	This information is not available at this time and is not required for the effects assessment.
27a	In the EMP, the Proponent commits to developing “an annual summary report on the status of the terrestrial and marine environment as required in the terms and conditions of the Project Certificate” (p.37). The GN welcomes an annual report. However at this point in the EA process, the FEIS documentation is vague with respect to the overall structure and scope of these reports. The GN requests that the Proponent provide a proposed outline for these annual reports and a preliminary indication of their scope, including the types of information and analysis to be undertaken and summarized on an annual basis. From the GN’s perspective, it is desirable that these reports contain the following items: a) a detailed analysis of the project’s impacts on the environment;	The content and format of the annual report will be finalized once both the Project Certificate and the Type water License are obtained. This information is not required for the effects assessment.
27b	b) a review of corrective actions (mitigation measures implemented and an evaluation of their effectiveness) taken to address problems identified through monitoring; and.	
27c	c) Information on how the monitoring will address local engagement and the integration of IQ in monitoring.	
28a	The GN requests that further information be provided by the Proponent and the QIA with respect to the proposed approach to Inuit engagement and the inclusion of Inuit knowledge in the following components of the biophysical EEM plan: a) aquatic (freshwater) environment;	Baffinland has made the commitment to maximize Inuit involvement in all phases of the project. Details on how this will be achieved is a work in progress and not available at this time nor is it required for the effects assessment.
28b	b) atmospheric environment; and	
28c	c) terrestrial environment.	
28d	Specifically the following questions must be addressed: d) how Inuit knowledge has been and will be considered in designing and selecting candidate EEM studies,	
28e	e) how Inuit will be trained and supported to engage in various EEM studies,	

28f	f) how efforts to involve Inuit will be evaluated over time, and how monitoring data and results are to be returned to interested communities?	
29a	In the FEIS (Vol. 3, pg. 59), the Proponent states that Boeing 737 jets “will” refuel in Iqaluit. However, on pg. 103 of Vol. 3, the Proponent indicates that refueling “may be required” and that plans will be implemented to ensure passengers deplane without causing congestion. According to Table 1-1.1 in the DEIS, 737 jets were to land at the mine site daily during the construction phase and 3 times per week during the operations phase. In the FEIS, Table 3-1.1 states that 550 Boeing 737 or C130 aircraft will land at the mine site per year during the construction phase and 365 of these aircraft will land at the mine site during the operations phase. If construction of the Project were to begin in 2013, travel through Iqaluit could begin as early as then. However, the Proponent has stated they do not expect that passengers will deplane into the Iqaluit terminal (Vol. 4, pg. 154). The GN requests the following: a) the Proponent clarify its statements regarding flights through Iqaluit by confirming the number and type of aircraft that are expected to land in Iqaluit between Ottawa and the Mine site per year during the construction phase, and per year during the operations phase.	Direct flights from Mary River to Ottawa or other locations are possibilities which would eliminate the need for a stop over in Iqaluit. Baffinland is committed to working with the responsible regulatory agencies and the Civil Aviation authorities to address issues of concern related to air transportation.
29b	b) the Proponent clarify whether these aircraft will refuel in Iqaluit during their flight between Ottawa and the mine site.	
29c	c) the Proponent provide an anticipated number of passengers to land and deplane in Iqaluit for each flight they expect to land in Iqaluit, and the likely time of day of each flight.	
29d	d) the Proponent clearly indicate what facilities and services they intend to use during the construction phase and once the project is operational which are currently available at the Iqaluit Airport. If the Proponent does not intend to access current facilities and services, the GN requests more detail on how the Proponent will refuel and deplane without using the facilities and resources currently available at the Iqaluit Airport (ex. where passengers will wait during refueling; when additional facilities will be available; what additional equipment and fuel will the Proponent be responsible for independent of the Iqaluit Airport and its services; etc.).	

30a	The Pre-Hearing Conference Decision Report Commitment #288 requested that the Proponent develop a conceptual monitoring framework by working collaboratively with QIA, GN, and AANDC and to consider human health and wellbeing, social services, education, employment, demographics, lifeskills, substance abuse, crime, food security and land use in this framework. The Proponent has presented this framework in Vol. 4, Section 15 and again in Appendix 10F-3, Section 13. However, the role of the Q-SEMC has not been made clear. Rather, the Proponent has suggested that they will participate with the Q-SEMC “to the extent this is seen to be useful” (Vol. 4, pg. 250). The Proponent has also suggested that collaboration is essential for monitoring, as various agencies and stakeholders collect relevant information that are of interest to each monitoring agency (Vol. 4, pg. 252). To this, the GN agrees. However, the Proponent does not appear to commit to the Q-SEMC as the most obvious forum for this information-sharing and collaboration. Rather, the Proponent appears to suggest that the Q-SEMC is a parallel monitoring initiative to which they will “From time to time” participate with and prepare presentations for (Vol. 4, pg. 258). Furthermore, a comprehensive socio-economic monitoring program should incorporate the monitoring of human health and wellbeing, social services, education, employment, demographics, life skills, substance abuse, crime, food security, land use and harvesting, and associated culture and skills, as stated in Commitment #288. The GN understands that many of these areas are not within the responsibility of the Proponent to monitor; as such, an information-sharing forum should exist to streamline efforts (such as project-specific, community-based, academically supported, and data generated by government) so that monitoring initiatives can come together and stakeholders can discuss results and issues of local, regional and project-specific concern. The Q-SEMC is the most obvious forum for this. The GN requests that: a) the proponent clearly state their understanding of the role of the Q-SEMC with respect to their project-specific monitoring framework.	Baffinland believes that the socio-economic monitoring framework presented in Vol 4, Sec 15/Vol 10, Appendix 10F-3, Section 13 adequately addresses these areas. An advanced draft of this framework was presented for discussion during a working session on November 23rd in Iqaluit attended by the GN and the other collaborative agencies (QIA, AANDC). While there was no input from the GN following the November session, this is intended to be an adaptive monitoring plan as noted in the final paragraph of Vol 4, Section 15.5. Technical collaboration will continue to be welcome.
30b	b) the Proponent indicate whether they will actively participate in each Q-SEMC meeting and their anticipated role in these meetings.	
30c	c) that the Proponent provide a socio-economic monitoring framework that incorporates the considerations identified in Commitment #288.	

31a	The Pre-Hearing Conference Decision Report Commitment #289 requested that the Proponent describe in the FEIS how information related to the reasons employees terminate their employment with the Project will be monitored. In App. 10F-1, the Proponent identifies a complaints management system, and specifically lists types and categories of complaints (pg. 27), including complaints related to economic, social, and health effects. The Proponent identifies that employees traveling between home communities and the Project site will not overnight in Iqaluit unless necessary. Weather may require spending nights in Iqaluit on a sporadic basis, but so too may flight schedules that require a layover. It will be important to understand how often these instances occur, and whether local resources are sufficient to accommodate them. The GN requests: a) the Proponent describe how reasons for employee termination will be monitored.	As indicated in Section 15.3.1, "reasons for termination" of employment is one of the performance indicators that Baffinland has an interest in monitoring. Data on "reasons for employee termination" will be accessed from the human resource management systems of BIMC, the EPCM and its Contractors.
31b	b) the Proponent clarify whether the information collected from the complaints management system will be shared (using appropriate discretion) with the Q-SEMC and relevant government departments.	In order for a complaints process to be effective and provide confidence to inidivudals, such systems must ensure strict confidentiality. Baffinland will ensure that confidential and private infomation will be delt with in line with Canadian privacy law and internal privacy policies. Perspectives and insights gained by Baffinland from this internal system may help to identify issues that can be brought forward to the appropriate collaboration that Baffinland intends to initiate and participate in with responsible agencies.
31c	c) the Proponent review the experience of weather related delays at the Iqaluit airport and provide an estimate of the number of instances that employees might be required to spend the night(s) in Iqaluit.	Baffinland views the issue of temporary accommodation for employees in transit to or from the Project sites as an operational issue, not an assessment issue. Details related to flight logistics (such as whether or not southern workers will be flown directly from the south to the mine site or be subject to a re-fueling stop in Iqaluit) will be finalised later in the process. Realistic measures to accommodate in-transit workers can not be planed until these details are determined. Options are available, ranging from building or buying a "transit facility," to making arrangments with local hotels, to making arrangments with the Department of National Defence Forward Operating Base. As discussed in the tranmittal letter, Baffinland proposes the creation of a Working Group with relevant regulatory agencies to address concerns related to air transportation.
31d	d) The Proponent provide an assessment of the availability of temporary accommodation for employees on delayed flights	
31e	e) The Proponent describe how they intend to monitor the number of instances employees will spend the night in Iqaluit when traveling to and from the Project site and whether there are any mechanisms contemplated to address unanticipated problems with the airport, the City of Iqaluit and/or the RCMP.	As indicated in the Socio-economic Monitoring Framework, several levels of monitoring is planned. One area relates to monitoring of indicators that affect project performance and which are directly linked to the Project (see Vol 4, Sec 15.3). These may include things like turnover rates, reasons for termination, absenteeism and so forth. Another area (see Vol 4, Sec 15.4) relates to collaborative monitoring of issues that that arise from a broad cluster of indicators and underlying factors. The scenario described in this IR falls into this latter category. Baffinland will take steps to avoid stay-overs of southern workers in Iqaluit and does not anticipate that this will lead to substantial increases of overnight stays of southerners. Over-night stays of Inuit would be limited to those hired from communities outside of the five designated points-of-hire. Again, this is not anticiapted to be substantial. However, collaborative monitoring of this data could be implemented if this were to emerge as a priority issue through the collaborative monitoring process.

32a	Project-specific monitoring should continue beyond closure of the mine. The Proponent states that stakeholder engagement activities will include liaising with communities and stakeholders 3-5 years prior to planned closure and working with local government and community leaders in anticipation of opportunities and impacts regarding closure (App. 10F-1, Table 4.2). However, these activities do not appear to address temporary closures or extend beyond the life of the mine and into the closure and reclamation period. Further, there does not appear to be any commitment to socio-economic monitoring beyond the life of the mine and into the closure and reclamation period. The GN requests that: a) the Proponent indicate whether it will liaise with communities and stakeholders during both temporary or permanent closure of the Project. If so, for how long will this commitment be for?	At this time, Baffinland anticipates that community liaison capacity---supported by Baffinland's Iqaluit office and by local Baffinland Liaison Officers---would continue during temporary closures. Baffinland retains discretion to make decisions realted to this issue based on the specific conditions that arise should such a temporary shutdown actually transpire. Liaison activities are expected to cease once the Project is completed at the end of the closure phase. Again, the company maintains discretion to do what make sense at the time.
32b	b) the Proponent indicate whether it will continue socio-economic monitoring during temporary or permanent closure/post-closure. If so, for how long will this commitment be for?	Socio-economic monitoring is expected to continue during temporary closure periods, as a means to support consistency in reporting of key performance indicators. The nature of this monitoring will be dependent on what makes sense at the time based on the adaptive nature of the monitoring program. Once project closure activities cease, project-related employment and business opportunities will also cease. At this point Baffinland's active socio-economic monitoring activities are expected to end.
33a	The Proponent acknowledges that the Milne Tote road is a public road (section 1.3) and that the rail service road will likely be used by the public (S. 1.3 and S. 2). The Proponent has stated that extreme care by project staff needs to be taken when non-project individuals are sighted along these roads as they may not be aware of the hazards. Any sightings of non-project individuals will be reported and logged (S. 2.3.5). The GN requests: a) The Proponent state what the objective of such data collection is and the contingency measures or adaptive management measures that will be put in place if the public use of roads be considered problematic.	Refer to Volume 10, Appendix 10D-8 Roads Management Plan. Signage will be used to notify potential users of the roads. As well, public information sessions in the North Baffin communities will increase public awareness and address public safety on these roads.
33b	b) The Proponent clarify whether any additional efforts by Baffinland will be taken to communicate road safety measures to the public in order to minimize adverse interactions between the public and project on these roads. If yes, when such measure would be undertaken.	
34a	The GN notes that the proponent plans to inform communities on rail safety through the “Operation Lifesaver” program, which will be adapted to Nunavut and brought to communities near the project (S. 3.5, pg. 10). The GN requests a) the Proponent clarify how often this program will be implemented in communities.	The details of these programs has not been developed.

34b	b) The proponent provide an approximate timeline for when the program may begin to be implemented in communities.	
35a	The Proponent commits to cooperating with municipalities to identify areas of alignment between the labour force skill sets needed by communities and skills needed by the project (App. 10F-3, pg. 16). Furthermore, as part of their recruitment strategy, Baffinland will establish a search/assessment database that will list all Inuit candidates to identify individuals qualified for available jobs; and will track Inuit who are pursuing education and training to become job ready (App. 10F-3, pg. 13). The Proponent concludes that negative effects of the Project on Hamlet recruitment and retention have a high probability of occurring (Vol. 4, pg. 153), though is not found to be significant because the effect will have a short duration (Vol. 4, pg. 157). The GN requests: a) the Proponent indicate whether the search and assessment database will be shared regularly with Hamlets (such as with the SAO or EDO).	Baffinland's HR system will be an internal system designed to support the specific needs of the Project. The company does not anticipate that this internal system would be made available to the public. Hamlets seeking to fill positions will be encouraged to discuss joint labour market issues with the company, as these HR challenges will also be experienced by Baffinland. Furthermore, for reason of privacy and confidentiality, some information may not be shared.
35b	b) the Proponent provide further details on how it will work with Hamlets to identify where competition for similar job skills exists.	The focus of Baffinland's collaboration envisioned in the App. 10F-3 Human Resources Management Plan is on cooperation and capacity expansion. There are many areas where skills developent are required and Baffinland and the EPCM will work with other agencies to enhance the available skills in the labour force. It is within this context of skills enhancement that cooperation with Hamlets is expected to occur. Hamlets will be encouraged to discuss joint labour market issues with the company, as these HR challenges will be shared with Baffinland. This broader issue of local labour market capacity is expected to be one topic to be addressed by collaboration with relavent agencies.
35c	c) The Proponent indicate what adaptive management measures might be considered by the Proponent should Hamlets experience recruitment and retention problems that can be attributed to the Project ?	The FEIS (Vol 4, Section 7.3) identifies the interplay between competition for skilled workers and increased capacity in the labour force that will arise from enhanced training and employment experience. The initial approach is to ensure that training is effective in achieving the desired labour force capacity enhancement. This is planned to begin with the development of "Work Ready" training during 2012, and will then extend to skills training during 2013 and following. Baffinland sees its role in this "competition - capacity" equation to be focused on the "capacity" side. As employers drawing from the same labour force, Baffinland, the hamlets, and others can influence their labour market performance through measures that range from good employee relations, to effective supervision, life-long-training & career development opportunities, effective employee & family assistance programs, and adequate payscales.

36a	Good economic analysis is the basis for understanding the economic development benefits of a project, including the net economic benefit to the GN. In the economic impact model (App. 4B, pg. 2), the Proponent has estimated that profit tax payments are anticipated in the amount of $2.764 billion over the duration of the project. This would amount to at least $100 million yearly on average. It is unclear how the Proponent has determined that Government Current Expenditure in 2019 will be $4 million when compared to the $4.3 million of 2013 and the $111 million in 2022 (App. 4B, pg. 8). For instance, the production (GDP) increase of 30% between 2019 and 2022 can hardly explain the 28 fold jump in “Government Current Expenditure,” at least intuitively. Considering the context, no production and low construction is expected in 2013 versus production hitting almost 85% of capacity in 2019. In such a situation, how can we have this similar level of government expenditure, especially when we witness this same item going up 28 times in the following 3 years while production goes up by only 30%. The GN requests: a) the Proponent provide a schedule of the payments it anticipates will be paid to the GN based on its anticipated revenues.	The types of payments to the GN are detailed in Vol. 4, Sec 12. Tax payments will be made based on annual taxable income, not on a fixed "schedule," nor on gross revenues. This is explained in Vol. 4, Section 12.3.1.
36b	b) the Proponent identify when corporate profit payments will be made to the GN, thus matching the level of information provided for royalties to be paid to NTI.	A schedule for the Nunavut Mining Royalty is provided in Vol 4, Table 4-12.2 since this is a sliding scale based on the level of "net cash flow before taxes and interest." The flow of Corporate Income Tax to the territorial government is addressed in Vol. 4, Sec 12.3.1, "Corporate Income Tax." No similar table is needed to set out these corporate profit payments since these are the same across the board, currently set at 12% of taxable corporate income. The flow of corporate tax revenue is also addressed in this section of the FEIS.
36c	c) the Proponent specify the content of the line “Government Current Expenditure” and explain its assumptions and the wide variations, especially for the 2013-2022 period.	The lag between GDP and increased revenues to government that lead to an increase in government expenditures arises from the fact that there will be a period of years during which the losses and deductions Baffinland accrues during Project development and construction are recouped from the sale of ore. Once these development costs are deducted from operating profits, Baffinland hopes to be in a position to generate net profits. At this point, taxes on corporate profits will begin to flow to government. This will lead to increased government capacity to spend, i.e. increased "government current expenditure."

37a	Additional information regarding the Project expenditures on payroll are requested such that the GN Department of Finance can determine and/or confirm the magnitude of revenues the GN could anticipated from the Project and the significance of likely effects on the GN. Specifically, The GN requests: a) The Proponent provide information on how much ($) it expects to pay per year, on average, for employees in each of the three occupational classes (B+, C, and D) it identifies in Section 4.4 of the FEIS (Vol 4, p. 63). As further guidance regarding GN's expectations, general estimates are acceptable and can be presented as either annual figures (e.g. "we expect B+ occupations will earn about $100,000 per year") or in hourly wages (e.g., "we expect individuals hired in C level occupations will earn about $45/hour"). The Proponent can also present wages as a $10,000 range (e.g., "we expect most people working in a D level occupation would earn between $40,000 and $50,000, if they worked for a full year").	Baffinland understands that this information is requested to assist the GN in its fiscal outlook projections. We appreciate the value this has in supporting the government's budgeting process. However, we do not feel that the requested information is required for the purpose of the Environmental Impact Assessment process. Payscales will be in accordance to industry standards for similar positions in the north. As the Project proceeds, Baffinland does intend to meet with GN Finance officials to provide information that may assist the department in preparing their annual fiscal outlook.
37b	b) The Proponent provide an estimate of the total amount of wages/salaries the proponent expects to pay each year during development and operation (e.g., during operations, we expect to pay about $80 million in wages each year").	
38	The GN requests that the Proponent estimate the quantity of fuel it will use each year to operate its railway.	In estimating fuel tax revenues for Vol. 4, Section 12, a level of fuel consumption for rail operations of 13.4 million litres per year was estimated. This was considered as "motive diesel" and assessed at the"motive diesel" fuel tax rate of $0.091 per litre.
39a	The Proponent notes that in order to avoid large flows of in-migration it will provide transportation between southern point –of –hire community and the Project site (Vol. 4, pg. 14). As noted in Vol. 4, pg. 20 "There is potential that some individuals from communities where transportation to the mine is not provided by BIM will choose to relocate, rather than bearing the cost in time and/or money of travel from their home community to a transportation node." The Proponent suggests that challenges of the current housing market may prevent potential employees from moving to point-of-hire communities or to Iqaluit (Vol. 4, pg. 20-21). Further, the Proponent acknowledges that the extremely tight housing market may lead to increased crowding and social challenges (Vol. 4, pg. 22). While the company does note that the magnitude and effect of immigration is difficult to predict this does not mean that there should not be a plan to mitigate and monitor migration as a result of the project. The GN requests: a) the Proponent explain whether and how they will monitor the relocation of employees and their families due to employment with the Project.	Migration is influenced by many factors. The opportunities presented by employment may enable families who seek to relocte to realize their aspirations. In this sense, the Project may become one factor influencing migration. Given the many dimensions influencing migration, an understanding of migration will require a consideration of multiple causes, and monitoring of a cluster of indicators, as outlined in Vol. 4, Sec 15.4. As noted in the monitoring framework, Baffinland is prepared to participate in collaborative monitoring of issues that are identified as priorities through the collaborative monitoring process.

39b	b) the Proponent provide their plans to mitigate the effects caused by those employees who choose to migrate.	The primary measure to mitigate migration for employment at the Project is the fly-in/fly-out nature of the mine, combined with multiple points-of-hire. These measures mean that individuals and families do not need to relocate as a consequence of Project employment. This is in contrast to jobs offered by most other major employers in the territory. Baffinland will continue to participate with partners such as the Q-SEMC and GN agencies where important socio-economic issues and priorities can be identified and discussed, and where appropriate responses can be implemented.
39c	c) The Proponent provide a professional opinion as to what percentage of in-migration into a community would have to occur before the mitigation is necessary.	Thresholds for in-migration and out-migration effects are presented in Vol. 4, Section 2.3.1.
39d	d) The Proponent indicate the types of adaptive management measures that could be undertaken by the Proponent to mitigate any effect their employees and families who relocate to Nunavut will have on the current housing market. For example, will the company consider providing or constructing housing units for employees or providing additional supporting facilities in communities that are affected?	As discussed above, the fly-in/fly-out nature of the Project allows both residents of the territory as well as residents of southern jurisdictions to work without the need to relocate. Nonetheless, Baffinland recognises the challenges related to housing. Baffinland sees Nunavut's housing shortage as an issue that directly affects the company through its potential to affect recruitment and worker well-being and productivity. The company has engaged with the Nunavut Housing Corporation on this issue. Baffinland suggests that further collaboraton be established with a focus on housing in the Baffin region.
40a	In order to mitigate the adverse effects on health and wellbeing the Proponent states it “will implement an Employee and Family Assistance Program (EFAP) for workers and their family members” (Vol. 4, pg. 123). The GN requests that: a) the Proponent provide additional details regarding the specific objectives, timing and method of implementation for the EFAP	The EFAP is a component of the Human Resources Managament Plan (HRMP - Vol. 10, Appendix 10F-3). An outline of the program is presented in Section 3.5 of the HRMP. Baffinland has already implemented EFAP support for its Nunavut-based staff through the services of Ilisaqsivik Society, based in Clyde River. When the Project proceeds, a larger-scale EFAP program will be implemented to support employees. This will be awarded as a contract to a major service provider. Typically, this sort of EFAP support is delivered by trained professionals through toll-free phone lines available 24-hours per day, 7 days a week. This sort of support is conventional and has been implemented by major projects and by governments across Canada. Baffinland recognizes the unique needs of the Inuit component of its labour force and intends to extend northern-based, Inuktitut-language support services through the main EFAP provider. This is expected to be acheived through a sub-contract that would be overseen by the main EFAP provider to an agency such as Ilisaqsivik or its equivalent.
40b	b) The Proponent provide examples of where this plan has been implemented successfully by the Proponent or others and/or the factors that would ensure successful implementation in Nunavut.	
41a	The Proponent has recognized that challenges will arise from a fly-in/fly-out employment rotation (Vol. 4, pg. 123) and aims to mitigate the potential adverse effects on health and wellbeing due to the Project. In order to mitigate these adverse effects, the Proponent states it will “contribute to the Ilagiiktunut Nunalinnullu Pivalliajutisait Kiinaujat (INPK) community projects fund” (Vol. 4, pg. 123This fund is part of a private agreement with QIA, who according to their website (www.qia.ca) “is aimed at representing the interests of the Inuit of the Baffin Region, High Arctic and Belcher Islands”. The GN respects QIA’s efforts to reduce the potential adverse impacts to Inuit due to the project. However, it is the GN who is responsible for the health and wellbeing of all Nunavummiut. The GN requests: a) the Proponent provide a mitigation plan for the effects the fly-in/fly-out rotation system on health and wellness of all Nunavummiut. If no such plan is anticipated, the Proponent should provide a rationale	Vol. 10, Appendix 10F-3 is the Human Resources Management Plan. It addresses management of these effects. This includes preparatory information sessions and training provided through a "Work Ready" program (App. 10F-3, Sec. 8.10) that is planned for development and pilot implementation in 2012, in anticipation of Project commencement in 2013.

41b	b) The Proponent and the QIA describe any measures that would be taken as part of the Inuit Impact Benefit Agreement or other agreements, or safeguards that would be in place, to mitigate effects on the health and wellness of all Nunavummiut,	The HRMP (Vol. 10, Appendix 10F-3) describes these measures and how a Joint Management Committee involving Baffinland and the QIA will be established under the IIBA. This joint committee will serve to identify areas where adaptation of the HRMP may be needed.
41c	c) The Proponent and the QIA describe any measures that would be taken as part of the Inuit Impact Benefit Agreement or other agreements, or safeguards that would be in place, to mitigate effects on the GN in terms of costs on the Health and Social Services facilities, resources, programs and services upon which all Nunavummiut rely.	Discussion of the costs and benefits of the Project to the GN is presented in Vol. 4, Sec. 12.3.1 and Sec. 12.4.3. Baffinland has a clear interest in the health and well-being of its work force. The company has initiated engagement with the Department of Health and Social Services early in the development phase of the project and will continue to seek to establish a forum where employee and family health and well-being issues can be productively discussed. Baffinland's perspective is that responsibility for health and well-being fundamentally rests with each individual, supported by a wide diversity of other individuals and agencies. Baffinland intends to initiate and participate in a working group to identify solutions and opportunities to address health and health services issues associated with the Project.
42a	The possibility that illegal substances may enter Project sites through marine shipping routes has been identified by the Proponent. The risk for substances importation has not been evaluated but rather presented as a possibility. The RCMP and the Department of Justice (DOJ) have evaluated the risk of importation and rated this risk as “high”. The mitigation measure proposed in Volume 10, Appendix 10D-10 falls short of offering a detailed protocol on how effective searches will be conducted to ensure no importation of substances will occur. The GN requests: a) the Proponent complete and provide an analysis on the risk of substance importation via all potential direct modes of transportation to the mine site and via indirect means (e.g., through communities).	Baffinland shares this concern for a safe work place and also seeks to minimize the potential for flow of substances from the Project to communities. Baffinland will implement an Alcohol and Drug-Free Policy as identified in Vol. 10, Appendix 10F-3, Sec. 2.3. The company will continually adapt its port and airport security management plans to assure that this policy is effectively carried out. Collaboration with agencies such as Transport Canada and the RCMP is seen as an important source of expertise to support this process. Baffinland intends to collaborate with responsible agencies to address concerns on aspects such as security, port security and customs. The company has met with GN DOJ in November, 2011 as a first step toward initiating a collaborative working relationship, and intends to maintain this working relationship as the Project proceeds.
42b	b) the Proponent provide a detailed protocol to control substance importation.	
42c	c) the Proponent confirm whether or not it will monitor instances of importation and share this information with the Q-SEMC. If not, the Proponent should provide a rationale.	The issue of access to substances falls within the realm of complex indicators where many factors combine to generate the issue of concern to Baffinland and to the community. Therefore, this monitoring falls under the collaborative monitoring approach that is described in Vol. 4, Sec. 15.4. Should an initiative be launched by the Q-SEMC to monitor importation of substances, Baffinland would contribute to this process.

43	The proponent recognizes that the effectiveness of all mitigation initiatives may be enhanced through monitoring for effectiveness, and that this monitoring may require the sharing of data and information between multiple parties. Highly sensitive information requires a high level of confidentiality. For example, sharing information involving organized crime and policing techniques to investigate crime elements is very sensitive. The sharing of relevant and sensitive data between the GN, associated agencies such as the RCMP, and the Proponent requires a formal protocol and the development of terms of reference due to the sensitive nature of the data. The GN requests: a) the Proponent confirm whether or not they have plans to enter into a formal agreement with relevant GN departments, including the RCMP, on data sharing. If not, the Proponent is requested to provide a rationale.	Issues of data sharing and formal agreements will best be addressed as they arise, within the context of calaboration with responsible agencies.
44	In response to the Pre-Hearing Conference Decision Report Commitment #320, the Proponent states that it 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. The success of emergency operations often resides in the timely response and coordinated execution. The GN requests that : a) The Proponent confirm whether or not they have plans to enter into a formal MOU Emergency Response and SAR operation with the DOJ and the RCMP.	Baffinland intends to collaorate with responsible regulatory agencies to address concerns with emergency response, SAR, port security.
45a	The Proponent states that it will be self sufficient for Search and Rescue operations (SAR) and response to environmental emergencies as it relates to Mary River Project activities, and will have at its disposal the appropriate equipment and resources to respond to SAR operations. The GN requests that: a) the Proponent provide additional information on the type of Search and Rescue equipment anticipated to be at their disposal, the location/base for the equipment, and the number of qualified resources the Proponent plans to employ to conduct a SAR operation.	This information will be developed in consultation with relevant regulatory agencies (TC, Coast Guard, GN).
45b	b) The Proponent confirm whether Search and Rescue operations would be contracted out to a third-party. If yes, provide details regarding the safeguards that would be in place to ensure an adequate response.	

Nunavut Impact Review Board		
Number	**Request**	**Baffinland Response**
1a	Whether any technically feasible alternative infrastructure for the causeway is considered. If so, the reason why the rock and aggregate causeway option is chosen.	The rock and aggregate causeway is the most versatile and cost effective approach considering the heavy loads that will be transported to the island (port cranes and loading equipment).
1b	Whether this Harmful Alteration, Disruption or Destruction (HADD) to marine fish habitat has been considered within the Fish Habitat Compensation Plan.	The proposed causeway has been included in the calculations leading to the DFO "HADD" determination, and will consequently be considered within the required Fish Habitat Compensation Plan.
1c	Clarification regarding whether the potential impacts from the causeway on shallow water permafrost has been assessed. If not, an assessment is recommended as it has significant implications for the stability of the causeway, its maintenance, operation as well as the safety of workers and conveys equipment.	Yes it has been assessed. Refer to Volume 8, Section 4.5.2 for marine habitat. Safety of the workforce is a primary concern for any activites related to the Project.
2a	The measured SO2, NO2, and O3 are based on a 30 day period, however, the criteria adopted by the Proponent uses a period of 1hr, 24hr and annual for SO2, NO2; and 1hr, 8hr, 24 hr and annual for O3. How did the Proponent convert the measured data into a 30 day period while ensuring data were kept comparable?	The baseline air quality was assessed by monitoring. For SO2, NO2 and O3, the measurements were recorded directly in the form of 30-day averages. No conversion of these data was performed. It was not practical to measure these pollutants for shorter averaging times. This is not a concern, however, as the 30-day measurements showed that the baseline levels are extremely low for SO2 and NO2 and can, for all intents and purposes, be ignored. The exception was O3, which exhibited larger measured levels. As indicated in Table 5-2.4 of Volume 5 of the FEIS, however, the incremental impact of the project on O3 levels is expected to be negligible. The project does not directly emit any O3 and, due to the low temperature climate, the potential for formation of O3 from photo-oxidation processes involving other pollutants (NOX and VOC's) is very low. Therefore, O3 was not explicitly assessed in the analysis.
2b	How did the Proponent get baseline information for the indicator parameter which does not appear to have been measured during its baseline study programs?	It is not clear what indicator parameter is being referred to here. Perhaps it is carbon monoxide (CO), for which baseline data were not collected. This is not a concern, however, as the baseline data collected for other pollutants indicated that the baseline levels are extremely low and can be ignored for all pollutants (O3 excepted, as already mentioned).
2c	Will the Proponent set an indicator threshold for O3? If not, please provide the rationale	Potential indicator thresholds for O3 were shown in Table 5-2.5 of Volume 5 of the FEIS. A final threshold was not selected, since O3 was not explicitly analyzed. As was briefly mentioned in Table 5-2.4 of Volume 5, The project does not directly emit any O3 and, due to the low temperature climate, the potential for formation of O3 from photo-oxidation processes involving other pollutants (NOX and VOC's) is very low. Therefore, the project's impact on O3 is considered negligible.
3a	Provide maximum concentration contour plots for additional indicators of air quality at the Mary River site, including: i. Maximum Annual TSP Concentrations ii. Maximum Annual TSP Concentrations iii. Maximum 1-hr, 24-hr, and Annual NO2 Concentrations iv. Maximum 24-hr, and Annual NO2 Concentrations v. Maximum 1-hr, 8-hr CO Concentrations	In our version of Appendix 5C, the requested contour plots are already included there.

3b	Indicate whether the Proponent intends to adjust the site layout based on the air quality modeling results and, if so, whether dispersion modeling will be re-run once the site layout has been reconfigured	Section 2.6.3.1 of Volume 5 of the FEIS, under the subheading "NO2 Concentrations" includes a discussion of options for reducing potential NO2 impacts at the Mary River worker's accommodation complex. One option is a change in location of the powerhouse stacks relative of the accommodations. RWDI is not currently aware of the option that the proponent ultimately intends to pursue.
4	Clarification is requested regarding whether the Proponent intends to design and implement any specific strategies in its Fresh Water Supply, Sewage and Wastewater Management Plan to monitor the potential escalation of nutrient levels in sewage-receiving water bodies, particularly lakes, caused by nutrient loading from point and non-point sources.	The only treated sewage effluent water bodies impacted are Sheardown Lake (for exploration camp treated effluent) and the Mary River (for the construction/permanent camp). The potential effects of nutrient input has been assessed in Volume 7.
5	Clarification is requested regarding whether the Proponent intends to identify suitable locations of source water bodies prior to commencement of construction activities.	All draw point for water are identified in the Type A Water License Application (Vol 3, Appendix 3B)
6	The quality of Figures 1-7 showing water balance schematics is so low in resolution that it is not possible for reviewers to clearly read or accurately interpret the information being presented. The Proponent is requested to submit these diagrams with higher resolutions	The water balance schematics have been provided in better resolution as Appendix 8.
7a	It is requested that the Proponent confirm whether this estimate of 360 m3/day includes the sewage effluent rate from the two proposed barge camps	360 m3/day includes the sewage from the two barge camps.
7b	If the barge camps have not been included, it is requested that the Proponent clarify if it intends to revise the Sewage Effluent Modelling presented in App 8B-2-Sewage Effluent Modelling and re-assess the potential impact on receiving aquatic environment, taking into account the proposed four year construction period.	Modelling presented in Appendix 8B was to determine adequate depth for the discharge of treated effluent in marine water.
8	It is requested that the Proponent provide justification for limiting its cumulative effects assessment by exclusion of proposed activities for the Meliadine Project, particularly shipping through Hudson Strait.	The Meliadine Project was identified as a relevant project in the cumulative effects assessment (Volume 9, Section 1.3.2.6; page 15). Assumptions were made as to the level of shipping activity. We note that the level of shipping associated with this project is expected to be relatively low relative to existing shipping traffic through Hudson Strait, and in comparison with the Baffinland credible development scenario of doubling of production (and doubling of shipping).
9a	It is requested that the Proponent provide additional justification for choosing 10% of total capacity as the basis for the worst-case scenario modeling.	The 10% spill assumption is credible. Fuel used to power the ship (marine diesel) is stored in separate compartments (isolated) within a ship, usually in the central section of the vessel hull. The ore carriers will be designed as Class 4 ice breakers and thus the hull will be designed to withstand navigation through the Foxe Basin. The fuel compartments are unlikely to be damaged unless a catastrophic event occurs (explosion on board, missile impact, breakage of the ship).
9b	More detailed rationale for why a fuel tanker in open water was chosen for spill modeling, and why the Proponent did not give consideration to potential fuel spills involving ore carriers during the winter season (even considering the statistically less chances).	Baffinland proposes to deliver fuel only during the open water season. Furthermore, fuel tankers carry more diesel fuel than the ore carriers.

10a	What role the noted parties would be expected to play in the Proponent's spill emergency response?	Baffinland proposes meetings with responsible regulatory agencies to resolve this issue. Agencies concerned include Transport Canada, Coast Guard and the GN.
10b	Would the response to spill incidents be coordinated by the Proponent and noted agencies, or would it be solely responded to by the Proponent?	Baffinland proposes meetings with responsible regulatory agencies to resolve this issue. Agencies concerned include Transport Canada, Coast Guard and the GN.

Natural Resources Canada		
Number	**Request**	**Baffinland Response**
1	NRCan requests that the proponent provide the report cited as: Hatch 2011a “Mary River Project – 2011 Potential Quarry and Borrow Investigations”, Report No. H337697-7000-10-124-0001, Nov. 21, 2011.	Please note the document “Mary River Project – 2011 Potential Quarry and Borrow Investigations” has been provided. Please see Appendix 4.
2	Further information is requested on the segregation criteria for PAG and non-PAG. The FEIS notes that additional geochemical studies are underway to better understand the kinetics of potential acid leaching behaviour, and to refine the expected drainage quality and metal leaching behaviour from materials. However, this information should be provided for evaluation of the waste rock management plan	The information provided in Volume 3, App 3B, Attachment 5 - Waste Rock Management Plan contains the information on the waste characteristic that is available at this time. Annex 3, 4 and 5 of the document provides additional information on the on-going waste rock characterization program, the interim waste rock stockpile seepage water quality, and, the interim open pit water model.Geochemical studies to address these concerns are still in progress and when sufficient data become available, they will be evaluated. Testing includes the use of NP depleted humidity cells to simulate conditions when PAG rock materials may begin to generate acidity. To date these tests are still producing neutral pH drainage with low concentrations of metals suggesting that non–carbonate minerals have a role in the buffering of the drainage quality and that non-acidic conditions in PAG rock may persist longer than the current conservative estimates predict. The ongoing and future geochemical testing programs are described in our report attached to the Waste Rock Management Plan (Volume 3, Appendix 3B) entitled “Waste Rock Geological and Geochemical Characterization Program (2012-2014)”.

Qikiqtani Inuit Association		
Number	**Request**	**Baffinland Response**
QIA-IR-D-01	It is requested that the Proponent provide additional information on the proposed monitoring and mitigation plan for port construction, as outlined in detail above and including descriptions of Inuit employment and training opportunities, monitoring protocols and techniques, and long-term port-site monitoring plans (Timeline: Prior to QIA submitting final written comments, or during FEIS Technical Meetings in Iqaluit).	Such details are not available at this time and will be developed once a contractor is retained to construct the facilities.
QIA-IR-D-02	It is requested that the Proponent confirm whether: 1) only mid-ocean water (North Atlantic/Labrador Sea) will be released into Steensby Inlet; 2) all ships will be treating their ballast water from the outset of shipping; and, 3) the duration of the voyage from the exchange point to Steensby Inlet is sufficient to ensure effective treatment for the elimination of unwanted biota. (Timeline: Prior to FEIS Technical Meetings (Iqaluit Session)	Baffinland has developed and applied a model for ballast water dispersal (Appendix 1). The FEIS includes a Ballast Water Management section in the Marine Mammal and Shipping Management Plan (Vol.10 Appendix 10D10). This document (see appendices 5 and 6) includes a description of the process for selection and regulatory approval of ballast water treatment methods. Transport Canada as the regulator is in the best position to provide a description of this process and its timing with respect to the Mary River Project Environmental Assessment. 1. With respect to Project-related shipping, only mid-ocean ballast water will be released into Steenby Inlet. 2. All ore carriers will be treating their ballast water from the onset of shipping. Summer charter vessels will be required to operate to the same level of compliance as the dedicated ore carriers. 3. Assuming ocean exchange occurs at the mid-point, the duration of the voyage from the exchange point to Steensby Inlet will be approximately 10 days in the summer and potentially as high as 22.5 days in the winter (Vol 3 Sec 3.6.2). This duration of travel will allow sufficient time for effective treatment of ballast water.
QIA-IR-D-03	It is requested that the Proponent develop a ballast water dispersal model that considers both the long-term discharge of ballast water and differences in the properties of untreated and treated ballast water. (Timeline: Prior to FEIS Technical Meetings (Iqaluit Session)	See Appendix 1.
QIA-IR-D-04	It is requested that the Proponent provide the sensitivity analysis referred to in FEIS v.9, s.1.4.4.4 (Timeline: prior to FEIS Technical Meetings (Iqaluit Session))	The modeling report (Appendix 1) includes a sensitivity analysis by considering the effect of a doubling of ballast water input to Steensby Inlet from the Project.
QIA-IR-D-05	It is requested that the Proponent conduct this assessment of the cumulative impacts of all Project activities, including the interaction between activities and between VECs and VSECs (Timeline: Prior to QIA submitting final written comments).	In conducting the effects assessment, Baffinland followed conventional, accepted methods for making the required prediction statements. Additionally, an effort was made to integrate the results and provide a broad ecosystemic approach to the consideration of overall effects. This has been included within the cumulative effects assessment text. As well, where there are obvious food chain linkages (e.g. between polar bears, seals and ice), additional text and discussion has been presented in the VEC chapters of the FEIS.
QIA-IR-D-06	It is requested that the Proponent provide a comprehensive description of the decision-making process used to establish thresholds for significance of marine impacts, including discussion on which thresholds were based on determinations by regulatory bodies, which were developed based on professional judgement, the information and experience used to develop the thresholds based on professional judgement, and evidence that these thresholds are biologically appropriate. (Timeline: Prior to QIA submitting final written comments).	The FEIS describes the methods used in making Effects Predictions (see Vol 2). Appendix 5 presents a summary of the thresholds developed to aid in determining magnitude of effects. The table also indicates the type of measurable parameter selected and the rationale for their selection. In general, thresholds are selected to reflect available scientific knowledge and regulatory context for each interaction. Thus water quality thresholds reflect known effects levels or regulated standards that are usually based on such knowledge. In some cases, no such information is available and the selected threshold can reflect a conservative but realistic set of assumptions, e.g. an effect that influences a defined portion of a local (or exposed) population would be of a magnitude that can produce a significant negative residual effect. In cases where there is uncertainty as to the absolute population numbers (more the rule than the exception) a conservative approach is taken, i.e. the evaluation is based on a portion of the known total range of the affected species/population. This approach is commonly used in environmental impact predictions and results in biologically appropriate thresholds, i.e. the affected portion of the species/population lies within the known or accepted range of natural mortality levels. Thus, even in the most extreme case where the interaction under consideration could result in mortalities, the effect at the population level will not result in a net reduction of population size. When considering marine mammals, the EIS relies on the professional judgement of highly experienced and credible professionals who have prepared many enviornmental impact statements using the methods applied to the Mary River project FEIS.

QIA-IR-D-07	It is requested that the Proponent provide more details on possible ways to mitigate shipping-related impacts to marine mammals and clarify marine mammal monitoring plans (much of this discussion is on-going) (Timeline: prior to QIA submitting final written comments).	The FEIS does not predict any significant negative effects on marine mammals from shipping. Potential impacts will be generally addressed through measures to avoid interactions. Modern vessel design criteria will result in low noise generation. The route selection has been chosen to avoid areas of high interaction potential. Other route adjustments can be considered if a potentially negative interaction is identified. Additionally, other potential measures could include reduced speed zones. The presence of surveillance monitoring will serve to provide information on potentially negative interactions. An elevated level of focused EEM would be applied if and when a negative interaction was identified. These efforts, along with other measures would result in the identification, application and assessment of adaptive management measures. An expanded program of marine baseline monitoring is currently underway. Results will be incorportated into ongoing dialogue with QIA, DFO, EC and others on design and implementation of EEM programs.
QIA-IR-D-08	It is requested that the Proponent provide the information required under commitment 32 on the pack ice baseline and assessment methodology (Timeline: prior to QIA submitting final written comments).	Commitment #32 was addressed in the FEIS. The CIS data collected for the pack ice assessment ranged from 1983 to 2011 for a period of 28 years (Vol 8 table 8-2.2). The methodology used for sea ice cover is detailed in Vol 8 Sec 2.5.4 (see Table 8-2.1) and Sec 2.6.2.1 (see Table 8-2.4).
QIA-IR-D-09	It is requested that the Proponent provide the required information on potential deviations from the nominal shipping route and the potential impacts of these deviations, to be compliant with NIRB's guidelines and PHC Decision (Timeline: Prior to FEIS Technical Meetings)	This information is contained in the FEIS. (see also DFO IR 3.1a). As described in Vol 8 Sec 2.2, vessels may be called upon to aid in Search and Rescue operations within the RSA. Under such scenarios, the ships Master would respond to the appropriate agency coordinating the Search and Rescue operation. Given that it is impossible to predict where or when such an event may occur, no potential impacts can be assessed. Any direct effects from a deviation from the nominal shipping route would, however be transient and negligible. In addition, the ships Master is ultimately responsible for the safety of the crew and vessel and as such would be aiding a Search and Rescue operation in areas only where the vessel would be able to operate safely.
QIA-IR-D-10	It is requested that the Proponent conduct a probabilistic assessment of bowhead whale collision frequency using the available data and suitable estimates of variability and considering cumulative impacts. (Timeline: prior to QIA submitting written comments).	The FEIS considers each Marine Mammal Key Indicator in terms of the possible interactions, and presents an effects analysis for each. The data are not available, nor would it be practical to collect data, to the level of precision required to determine a potential collision frequency. For such a low frequency event, the utility of such an exercise is questionable. Baffinland feels that the level of assessment provided in the FEIS is adequate for the purposes of effects prediction and that there is very little value in preparing such an assessment. Estimates in the absence of a solid scientific basis can be erroneous and misleading. The following factors mitigate against calculation of realistic estimates of ship strikes. • the results of the recent March surveys in Hudson Strait will inform on the density and distribution of bowhead whales in Hudson Strait; • the total estimate of the size of the bowhead population is a matter of international debate at International Whaling Commission; • there are only limited data on the diving behaviour of bowhead whales with which to determine whether the animals are close enough to the surface to be struck by a ship. For these and other reasons we do not believe that calculating a probabilistic strike rate for bowheads is a useful exercise. The resulting best estimate would be nothing more than a wild guess because of the large number of assumptions that need to be made. The most important factor is the behaviour of bowhead whales. If the whales always move out of the way of approaching vessels, then the strike rate would be zero. However, there are reportedly records of whales taken in the hunt in Alaska that appear to have scars made by ship's propellers. Interpreting this information is confounded the fact that bowheads may live to be well over 150 years of age and some of these whales were alive during the days of commercial whaling. Using strike rates calculated for other species such as the right whale may or, more likely, may not be representative of the bowhead whale. In summary, we believe that calculating a strike risk would not be appropriate and would imply a much higher level of knowledge than actually exists. It could lead to erroneous conclusions about the probable effects of the project. Such conclusions could easily over-estimate or under-estimate the actual effects depending upon the assumptions used.
QIA-IR-D-11	It is requested that the Proponent provide the information required to complete the landfast ice baseline (Timeline: prior to QIA submitting final written comments).	This informatioon is presented in the FEIS. The average monthly landfast ice extent was calculated for a 30 year period within the shipping route using RADARSAT imagery and can be found in Vol 8 Table 8-2.4.

QIA-IR-D-12	It is requested that the Proponent provide: 1. information on the survey date(s), time of day, and weather conditions for the 2006 and 2007 surveys, as well as information on air temperature and wind speed for all three years; 2. a discussion of the sensitivity of the density estimates to the correction factors used, as required under commitment 51; 3. clarification on the corrected density estimates used for ringed seal impact predictions and a discussion on the sensitivity of impact predictions to variation in density estimates; 4. clarification on the literature used to estimate birth lair density and information on the monitoring conducted in Voisey's Bay to confirm the accuracy of those predictions; and, 5. clarification on the proposed mitigation of icebreaking impacts in Steensby Inlet. (Timeline: Prior to QIA submitting final written comments).	The additional information on survey dates, time of day, weather conditions, air temp and wind speed for the ringed seal basking surveys follows. The Notes for Table 4.1 in the marine mammal baseline synthesis should be updated to include the following information about the basking ringed seal surveys. In 2006, surveys for basking ringed seals at Milne Inlet were conducted on 21 and 27 June 2006. The 21 June survey was conducted from 16:47 h to 18:47 h; 100% ice cover; sky was overcast; sightability was excellent; air temp was 4.5°C; and wind speed was 20 km/h. The 27 June survey was conducted from 13:25 to 17:23; 100% ice cover; sky was overcast; sightability was excellent; air temp was 5°C; and wind speed was 10 km/h. In 2007, surveys for basking ringed seals at Milne Inlet were conducted on 21 and 22 June. The 21 June survey was conducted from 00:40 to 04:40; 100% ice cover; sky was overcast; sightability was moderate; air temp was 2.2°C; and wind speed was 45 km/h. The 22 June survey was conducted from 00:10 to 04:10; 100% ice cover; sky was overcast; sightability was moderate; air temp was 5.8°C; and wind speed was 5 km/h. In 2008, surveys for basking ringed seals at Milne Inlet were conducted on 17 June from 13:43 to 15:07; 100% ice cover; sightability conditions were primarily (89%) good with cloud cover (91% overcast, 9% clear); air temp was 4.5°C; and wind speed was 24 km/h. In 2006, surveys for basking ringed seals at Steensby Inlet were conducted on 22 and 26 June. The 22 June survey was conducted from 09:15 to 10:45; 100% ice cover; sky was overcast; sightability was excellent; air temp was 3°C; and wind speed was 15 km/h. The 26 June survey was conducted from 15:31 to 19:56; 100% ice cover; sky was overcast; sightability was excellent; air temp was 4°C; and wind speed was 10 km/h. In 2007, surveys for basking ringed seals at Steensby Inlet were conducted on 14, 15, 17 and 18 June. The 14 June survey was conducted from 14:00 to 16:30; 100% ice cover; sky was overcast; light rain; sightability was good; air temp was 1°C and wind speed was 22 km/h. The 15 June survey was conducted from 11:00 to 13:30; 100% ice cover; sky was overcast; light snow; sightability was moderate; air temp was 1°C; and wind speed was 25 km/h. The 17 June survey was conducted from 16:45 to 18:15; 100% ice cover; sky was overcast; light rain; sightability was good; air temp was 0°C; and wind speed was 10 km/h. The 18 June survey was from 17:00 to 19:30; 100% ice cover; sky was clear; light fog; sightability was moderate; air temp was 1°C; and wind speed was 6 km/h. In 2008, surveys for basking ringed seals at Steensby Inlet were conducted on 14 and 15 June. The 14 June survey was from 15:19 to 16:59; 100% ice cover; sightability conditions were primarily (78%) excellent with 20-100% cloud cover; air temp was 4°C; and wind speed was 20 km/h. The 15 June survey was from 10:51 to 12:40; primarily 100% ice cover (4% of effort with 85% ice cover); sightability conditions were primarily (96%) excellent with 5-50% cloud cover; air temp was 2.5°C; and wind speed was 15 km/h. The correction factors assumed for detection and availability for basking ringed seals during surveys in June were 1.22 and 2.33, respectively. The combined correction factor for both detection and availability was 2.84. The corrected density estimates were determined by a contribution of 35% from the aerial survey derived average uncorrected density and 65% from the combined correction factor. There are no variance or range estimates for the correction factors; therefore, a sensitivity analysis of impact predictions cannot be performed. Densities of birth Lairs in the southern Beaufort Sea were determined by a dog search of seal structures in a study by Smith and Harwood (2006). During that study the density of birth lairs and all lairs was 0.083/km2 and 0.5/km2, respectively. In another study (Moulton et al. 2010), the density of unspecified lairs in nearshore waters of the Alaskan Beaufort Sea was 0.271-0.373/km2. Assuming that the percentage of birth lairs to all lairs is 0.167 (based on Smith and Harwood 2006), then the density of birth lairs in the Beaufort Sea ranged from 0.45/km2 to 0.83/km2. These densities are less than the more conservative estimate of 1/km2 from the Voisey's Bay study. The mitigation of ice-breaking impacts on nursing ringed seals is discussed in the FEIS. There is some confusion about the Alaskan study referred to by QIA. That project involved on-ice road travel not in ice ship travel. During the seal whelping and nursing period, all travel was restricted to a single ice-road, thereby minimizing the geographic extent of any potential impacts on the ringed seals. A conceptually similar approach would be used in Steensby Inlet by restricting the amount of ice broken during this period. References Moulton, V.D., M.T. Williams, S.B. Blackwell, W.J. Richardson, R.E. Elliott and B. Streever. 2010. Zone of displacement for ringed seals (Pusa hispida) wintering around offshore oil-industry operations in the Alaskan Beaufort Sea. Unpublished report for BP Exploration (Alaska). LGL Limited, St. John's, NF. 51p. Smith, T.G. and L.R. Harwood. Assessing the potential effects of near shore hydrocarbon exploration on ringed and bearded seals in the Beaufort Sea Region, 2006 (Year 4). Progress Report. For Environmental Studies Research Funds, Canada Dept. of Fisheries and Oceans, Canada Dept. of Indian and Northern Affairs, Fisheries Joint Management Committee, Polar Continental Shelf Project, Panel of Energy Research and Development, and Beaufort Sea Strategic Regional Plan of Action (BSStRPA). E.M.C. Eco Marine Corporation. 24 p.
QIA-IR-D-13	It is requested that the Proponent indicate whether it has considered developing its own ore storage in Europe as a means of increasing operational flexibility and thereby options for adaptive management and, if so, elaborate on why this option was not pursued. (Timeline: Prior to the Technical Hearings (Iqaluit))	Iron ore will be shipped to a number of mills in Europe. Having a stockpile at each potential customer's site is not practical.

QIA-IR-D-14	The Proponent is requested to explain why DFO mitigation advice was not adopted, and to clarify how the blast area will be monitored to prevent and detect fish mortality. (Timeline: Prior to FEIS Technical Meetings (Iqaluit Session)	This issue was addressed in the FEIS. As stated in Vol 8 Sec 4.4, blasting will follow the current DFO Guideline which is 100 kPa. Reports on research studies will require review within DFO and any changes in guidelines would flow from that review. As noted in the FEIS, Baffinland will remain current with ongoing research and any formal guidelines or regulations which may derive from such research.
QIA-IR-D-15	It is requested that the Proponent clarify how many ships, maximum, are likely to be present in the RSA at one time in summer and winter, and how these ships will be distributed. (Timeline: prior to QIA submitting final written comments).	Vol 8 Sec 5.5.6 is correct when referring to vessel passing during the open water season. A vessel leaving the dock will pass 3 vessels (one at the Port, one at 621km and one at 1243km based on a speed of 14kts). Under this scenario a maximum of 4 vessels will be within the RSA during the open water period (two at the Port, and two at sea). A correction is required for the vessels passing in the ice covered season. A vessel leaving the dock will pass 5 vessels (one at the port, one at 310km, one at 621km, one at 931km and one at 1243km based on a speed of 7kts), therefore a total of 6 vessels can be within the RSA during the winter months. It is incorrect to assume that the passing location represents an area where vessels will always be present. When a vessel begins loading, the next vessel must be 2 days out to allow sufficient time for the loading procedure (loading a vessel takes approximately 2 days). In addition, Baffinland's dedicated ore fleet is anticipated to be 10 vessels. All ten vessels would not be present within the RSA at once given the loading/unloading schedule described for this Project.
QIA-IR-D-16	It is requested that the Proponent provide the risk analysis that they committed and incorporate it into their impact analyses. (Timeline: Prior to QIA submitting final written comments)	Vol 8 Sec 2.6.2.2 states the correct volume of ballast water that will be discharged into Steensby inlet per year is 17.1 million cubic meters. The ballast water discharge from the ballast water system will meet strict requirements (Vol 10 App 10D-10 App 6). Vol 10 App 10D-13 represents the framework for monitoring of Steensby Inlet (vol 10 App 10D-10 Sec 4.2.2). A risk assessment will be conducted on the system as part of the IMO approval process. Baffinland is committed to regular testing of ballast water discharged both from the vessel and in Steensby Inlet.
QIA-IR-D-17	It is requested that the Proponent provide clear estimates of the quantity of nitrogen compounds that may be released into the aquatic environment, and of the resultant seasonal concentrations in the receiving waters (Timeline: Prior to the FEIS Technical Meetings (Iqaluit Session))	Baffinland committed in FEIS Section 3.4.1.6 to applying industry best practices to limit nitrogen-containing compounds in the runoff. These measures have been successfully applied at other arctic mines. We suggest that there is limited value in estimating the concentrations of nitrogen in the runoff since such estimates are based on a number of questionable assumptions about the amount of explosives residue left after blasting, entrainment mechanisms with waste rock and seepage from the waste rock pile. Additionally, as demonstrated in a numnber of mining operations, usually elevated nitrogen levels in runoff is related to poor explosives handling practices.
QIA-IR-D-18	It is requested that the Proponent identify where in the FEIS the following information has been provided, or provide the following information: 1) a comparative risk analysis of using tanker-based fuel storage versus alternative land-based methods of fuel storage, including risks to the tanker from the local ice-regime (e.g., ice movement, ice pressures); 2) an assessment of the potential environmental impacts of tanker failure under a range of winter ice conditions that considers how the spill may spread (i.e., under-ice spill modeling) and what will happen when fuel cannot volatilize to the atmosphere; 3) the tanker design specifications (e.g., lateral hull strength, mooring plan) that will be used to ensure that the wintering site and tanker are suitable for the purpose; 4) a description of how fuel use will be monitored and, based on the method(s) used, how much fuel would escape before different types of leaks (e.g., hull, pipeline) were detected and could be stopped; 5) a detailed response plan to spills on and under the ice that considers seasonal differences in the ice, on-site equipment requirements, secondary containment, and clean-up; and 6) a summary of the regulatory authorization process required for this activity. (Timeline: Prior to QIA submitting final written comments).	A fuel vessel was used to stored fuel at the Hope Bay Project during 2008-2009. Baffinland intends to use a similar vessel at Steensby during the early year of construction. A risk assessment for overwintering of a fuel vessel is in progress and will be completed by May 15, 2012.

QIA-IR-F-19	It is requested (prior to FEIS Technical Meetings) that for each project area, a listing of project components is provided and the associated management plan(s) under which this project component will operate.	The management plans cover all aspects of the Project.
QIA-IR-F-20	The effluent discharge maps (Steensby Inlet Environmental Monitoring Plan Site Layout, H337697-4610-07-042-0003; Mine Site Environmental Monitoring Site Layout, H337697-4610-07-042-0002 & Milne Inlet Environmental Monitoring Plan Site Layout, H337697-4610-07-042-0001) provided in the FEIS depict several effluent types from the various project components, it is requested (prior to FEIS Technical Meetings) a crossreference, or if required additional information, for each effluent depicted in these maps to be provided. The cross-reference or additional information is to address: source characteristics, quantity, and effluent discharge criteria.	These drawings show the coordinates for sampling/monitoring locations and discharge locations for treated effluents. The strategy for managing effluents from the various sites was explained to the QIA representatives at a meeting in Ottawa on March 27, 2012. Sampling/monitoring locations have been identified for runoff water that will collect within secondary containment structure such as the landfarm, landfill and fuel depots. There are no direct discharges from these facilities. Water will be tucked to the appropriate treatment facility for discharge. The intent is to sample this water to determine what level of treatment is required prior to discharge to the receiving environment. These drawings also indicate coordinates where runoff from stockpiles will be monitored for TSS in order to assess the effectiveness of the retention ponds.
QIA-IR-F-21	It is requested (prior to the FEIS Technical Meeting) that the July 21, 2011 NWB Edmonton meeting minutes be provided.	Please note that the NWB chaired the meeting on July 21st, 2011 and took responsibility for recording minutes. Please contact a representitive of the NWB for more information.
QIA-IR-F-22	It is requested (prior to the FEIS technical meeting) that the agency and regulatory instrument for each effluent discharged to environment is provided.	A discharge location and the characteristics of each effluent as well as applicable regulations has been outlined in FEIS Volume 3, Appendix 3B, Attachment 5, Environmental Monitoring Plan.
QIA-IR-F-23	It is requested (prior to the FEIS Technical Meeting) that additional crossreferencing detail be provided to locate the document that addresses this PHC commitment.	Please refer to APP 1B-4, 1B-5, 1B-6 and 1B-7 of Volume 1 of the FEIS. These appendices contain all requests of the PHC commitments.
QIA-IR-E-24	To respond to the IR, the proponent should directly engage with QIA. This IR should be filled in discussions with QIA prior to or during the FEIS Technical Meetings (Iqaluit Session).	Baffinland will engage QIA in a number of discussions both prior to the Technical Meeting and following the Technical Meeting.

Transport Canada		
Number	**Request**	**Baffinland Response**
1a-1	To determine whether Transport Canada's legislative responsibilities for marine security are being met, through the Marine Transportation Security Regulations (MTSRs). We note, in the provided documents, it states that there is already in place infrastructure materials at the two ports, Milne and Steensby. Also, we noticed on their "Life of Project Schedule" that both ports are to be in construction mode during 2012-2014. A floating dock has already been construction or will be this 2012 season.	Floating docks will be employed in 2013 since the 2012 program has now been cancelled. Baffinland wishes to establish meetings with relevant regulatory agencies in order to fully address the concerns expressed by Transport Canada. A kick off meeting is scheduled for the last week in April, 2012, in Winnipeg.
1a-2	We need to inspect these areas as they are part of the security assessment that needs to be conducted/completed and provided to us, prior to start up, as listed in the MTSR's. This inspection will insure that any already completed infrastructure does not impact the security plans at the facility(ies), and therefore, will not require any changes due to security reasons later on. Steensby port, and maybe Milne port, requires a Statement of Compliance, a Marine Facility certificate issued by Transport Canada, prior to conducting business with a Foreign Flagged Vessel or a Canadian Flagged Vessel, when transporting iron ore to another country. The SOLAS vessels require an international Ship Security Certificate from Marine Security (Minister of Transport) prior to conducting business. Marine Security will need to complete an inspection of the vessels prior to their service. The procedure for Baffinland Iron Mines Corp., to obtain the Statement of Compliance a Marine Facility certificate is that Transport Canada must complete a security assessment on the facility/site(s) and then evaluate the security plan for compliance to the MTSR for completeness, etc. This can take approximately 1-2 weeks, and if Transport Canada is not engaged early, prior to construction, this will increase the likelihood of some impact to business such as delay.	

1b	Transport Canada's concern associated with the issue, specifically how and why it is required or important; Any infrastructure in place at both facilities will need to be reviewed and be assessed against the requirements listed in the Marine Transportation Security Regulations (MTSRs). Vessels require an approved Vessel Security Assessment; Vessel Security Plan and a Ship Security Certificate. Transport Canada Marine Security, PNR has provided a Security Assessment Package to Baffinland for their Company Security Officer. Transport Canada has also provided our 4 PKG DVD "Protecting Canada's Marine Transportation System" to the company. The company must comply with the MTSR's for Part 2, Vessels and Part 3, Marine Facilities for ANY TEST RUNS to other countries, as this is part of the security assessment process. If test run shipments have already been conducted from Canada to another country, the company may be in violation of the MTSR's. Canada's reputation/credibility will be impacted as we are signatories to the IMO. If we allow vessels to leave uncertified facilities in Canada and arrive at another certified country's facilities, like Rotterdam, they have the authority to turn the ship away. Transport Canada is required to be nationally consistent in the application of legislation applicable to its citizens.	Baffinland wishes to establish meetings with relevant regulatory agencies in order to fully address the concerns expressed by Transport Canada. A kick off meeting is schedule for the last week in April, 2012, in Winnipeg.
1c	Any issues which Transport Canada feels remain unaddressed or unresolved or not clear. David Hohstein letter dated March 2, 2012 regarding the "Yellow" highlighted items still not resolved by Baffinland Iron Mines Corp – The due date was March 9, 2012. We are looking forward to the resolution of item 295, as it is still not addressed.	