Table 1

Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
CTA-01	It is indicated that culverts and bridges would be designed to a return period of 1:200. Please indicate if there are hydrology records extending over such a long period of time.	200 years of hydrological data are not available for the Project area. A description of the process used to derive the estimated peak flows in the Project area is provided on pages 23 and 24 in the hydrology baseline report included in Appendix 7A.
CTA-02	How would human and material resources be quickly deployed to the site of a train derailment where fuel would have been spilled in proximity to a water body along the railway corridor? The EIS should describe tangibly how resources can be deployed to respond to environmental emergencies. This should include the deployment of Baffinland personnel and of outside resources when required.	Various spill scenarios are discussed in the Emergency and Spill Response Plan (Appendix 10C-1). In the event of a derailment, resources (first responders) could be deployed by helicopter. Baffinland will draw from the experience gained at ArcelorMittal's Mount Wright-Port Cartier railway operation to finalize the Emergency Response Plan for the railway operation.
CTA-03	Volume 5 - Atmospheric Environment, page 83 of 136, the last paragraph indicates a ground absorption of 0.8 for summer conditions was assumed. Please specify the ground absorption coefficient used for winter conditions and over water.	Vol 5 Table 5.3.4 lists ground absorption coefficient for winter as 1.0
CTA-04&05	Volume 5 - Atmospheric Environment, page 88 of 136, third paragraph states "...consideration should be given to these dwellings, as it is important for worker health to maintain an adequate sleep environment....due to the nature of this project, a rating of NCB 33 or less is recommended for the work camps". Potential mitigation measures include relocation or reorientation of the dwellings, berms or noise walls, and upgraded building construction. Then on page 103 of 136, predicted worst-case sound levels at the worker accommodation building are presented in Table 5-3.9 as overall dBA values (which are assumed to be 1-hour outdoor Leq values). There is a disconnect between pages 88 and 103 because the sound levels are presented as different units. Although there is reference to an indoor criterion of NCB 33, an evaluation of indoor noise at the worker accommodation building was not presented. The proponent should provide indoor sound levels at the worker accommodation building. Please describe if any of the proposed mitigation measures will be implemented into the design.	There are no "dwellings" in the project LSA. Page 88 includes recommendation for noise levels inside worker accommodation although this was not modelled. Page 103, table 5.3.9 refers to a worst case predicted noise level in dBa at Steensby port. All worker accommodation will meet OHSA standards which apply. During Detailed Design phase is the appropriate time to confirm which mitigation measures will be applied to ensure that the noise level inside the worker accommodaion meets the recommended criteria of NCB 33.
CTA-06	ISO and CSA standards suggest that certain noise characteristics may affect how people perceive sounds (e.g. low frequency content, tonality, and impulsiveness). These noise characteristics can be annoying and disruptive to people. Please indicate if any adjustment factors were applied to the predicted noise levels. Please provide a rationale if adjustment factors were not considered.	The LSA is uninhabitated and no human settlements are foreseen in the near or distant future. Placing a focus on human health receptors is therefore not relevant. The focus of the air quality monitoring plan is therefore on air quality parameters susceptible to affects wildlife habitat.
CTA-07	Volume 5 - Atmospheric Environment, page 91 of 136, second paragraph states that "Construction noise effects are temporary in nature". The proponent should clarify the duration of construction activities at Milne Port, Mine Site, and Steensby Port.	Milne Port - construction activities will be limited to the establishment of a freight dock and periodic unloading of constuction materials and equipment required for the construction activities at the Mine Site and upper section of the railway. Duration - 4 years during the open water season; Tote Road Upgrade - first year of construction; Mine Site - 3 year construction period - mining operation (stripping and stockpiling of ore) to begin during the third year of construction; Railway construction - critical path - construction expected to last 4 years; Steensby Port - early staging required in order to complete construction of facilities and railway within 4 years.
CTA-08&09	Volume 5 - Atmospheric Environment, page 103 of 136, states that the "Worst-case predicted operational noise levels are summarized in Table 5-3.9. Graphical representation of summer and winter operations is provided in Figures 5-3.9 and 5-3.10, respectively". According to Figure 5-3.9 on page 101 of 136, there does not appear to be any activities occurring in the rail yard, next to the accommodation complex. Please clarify why rail yard activities were not included in the worst-case operating scenario for the accommodation complex. It should be noted that a worst-case scenario of the Local Study Area (LSA) is not necessarily a worst-case scenario at the accommodation complex.	All worker accommodation will meet OHSA standards which apply. During Detailed Design phase is the appropriate time to confirm which mitigation measures will be applied to ensure that the noise level inside the worker accommodaion meets the recommended criteria.
CTA-10	Volume 5 - Atmospheric Environment, pages 89, 90, and 92 of 136, state that construction noise may be “moderate to loud”. Given the location of the Milne Port and Steensby Port along the shoreline, there is some concern that noise due to construction may travel efficiently over water (due to reduced absorption and the effects of wind and temperature inversions). Please indicate if there are any noise sensitive receptors across or along the shoreline of the Milne and Steensby Ports, beyond the 3 km LSA.	There are no noise sensitive receptors identified across or along the shoreline of the Milne and Steensby Ports, beyond the 3 km LSA.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
CTA-11	In volume 6, p. 129, it is stated that caribou may use gravel roads in their efforts to avoid harassment from inseCTA. Would the railway line not serve the same purpose? On p. 142 it is also stated "that snow accumulation [along railway] will likely facilitate caribou movement". Although it is acknowledged that caribou mortality from collisions with trains may occur, little is said of the probability that caribou will use the railway as a trail and be on the line when a train passes. On p. 147, the EIS concludes that "Currently, the caribou are in a trough of a population cycle. Consequently, a very low probability of direct project-related mortality is expected". On what other factors, besides the limited number of caribou in the region, are these conclusions based?	The conclusion is based on the fact that the low caribou numbers and large amount of available habitat reduces the probability of caribou encountering the train. The road and railway embankments are similar to many other geographic features in the area (e.g. eskers, moraines, boulder fields, talus slopes), so in most areas will not provide unique landscape features that the caribou will be attracted to.
CTA-12	Who would provide the "repeated on-site observations of caribou behavior along the transportation corridors" that would monitor caribou mortality and assess the need to "increase traffic controls including seasonal traffic limitations" proposed on p. 147?	Employees are required to report sightings of caribou along the transportation corridor. The EPP will utilize information collected from employees to recommend management decisions related to seasonal traffic limitations.
CTA-13	It is indicated (p. 139) that aerial surveys regarding caribou were conducted in 2010. Based on the surveys and other sources of information, fifty-two current caribou trails, 'key crossings', and 'broad crossing areas' were identified. It was concluded that "While most of the areas do contain small sections that may be barriers to caribou movement, overall caribou movement in the key and broad crossing area will not be affected by physical barriers". In some areas where embankments would be steep, it is proposed to make their inclination gradual and that fine fill material be placed to facilitate the crossing of caribou. What evidence exists of the permanence of these trails and crossing areas? Could the embankments adapted to facilitate crossing turn out to be underused while other sections of the railway line may turn out to be significant obstacles to caribou movement.	Animal response to mitigation measures will be monitored through the life of the project. Monitoring and mitigation measures will be adaptive giving the opportunity to mitigate or monitor any observed or unexpected impacts in alternative ways. Furthermore, train operations are projected to occur for 300 days of the year, enabling for rail maintenance or periodic reduced frequency of trains due to observed increases in caribou density.
CTA-14	Number of bridges - In Appendix 1B - 3 : p. 9 of 46: (French version - Popular Summary) "Douze ponts seront construits, les plus grands étant ceux qui traversent la rivière Ravn et le lac Cockburn...". In Appendix 1B - 2: p. 6 of 41: (English version - popular summary)."... The railway consists of a rail embankment, wooden ties, and steel rails. A total of 24 bridges will be constructed for the railway, two tunnels, and extensive rock cuts along Cockburn...".	There are actually 31 bridge structures planned along the railway, of which 12 are deemed "major bridges" as they involve multiple spans.
CTA-15	Number of trains - In Appendix 5C - 4: p. 12 of 32: "... The trains will have 4400 bhp engines, 2 locomotives and 110 wagons per train..."and under Schedule of Operations:"... 6 trains per day will travel the railway corridor (145 km) between the Mine Site and Steensby Port ...". In Appendix 5C - 4 : p. 32 of 32: Table 5C-4-3-4: Qualitative Assessment of Fugitive Dust Emission from Train Operation: in Table 5C-4-3-4b. Fugitive Dust Emission from Trains: it is indicated: Total Emissions @ 144 Ore Cars and 2 Loaded Trips / Day (Tonnes)	Discrepancy acknowledged; the air quality assessment is based on a previous railway scenario. Furthermore, 50 years of operating experience with rail transportation of coarse iron ore at the Labrador iron mines indicated that dusting from rail car is not problematic.
CTA-16	Railway ties - In Appendix 2A-2 p. 144 of 703: under reference 12: Matthew Pickard (Baffinland): "The substance they use in the south is called creosote and it makes the ties last longer. We will not be using creosote for this project. We are looking at using cement or steel ties with no chemicals. Good question.... " In Appendix 1B-3, p. 9 of 46: (French version of popular summary)" ... La voie ferrée consistera en un remblai pour la voie (lit de rail), de traverses en bois et de rails en acier...."	The railway ties will be untreated wood ties, although cement and steel ties were both considered. Creosote-treated wood ties will not be used, as preservation is not necessary in this climate.
CTA-17	Number of cars - In Appendix 2A-2 p. 159 of 703: under reference 14:)"Matthew Pickard (Baffinland): Yes, one train will have 145 cars.	Yes, at the time of the meeting referenced, it was planned that each train would have 145 (actually, 144) cars. A different configuration reflecting the latest thinking is presented in the EIS.
DF0-07b	Amount of habitat which will no longer be usable by Arctic char due to physical barriers or barriers caused by shallow water.	No stream sites were identified in the affected Mine LSA streams that potentially could become barriers to upstream fish movement as a consequence of flow alterations.
DFO-01	DFO requests additional information to confirm if blasting will occur under ice cover and if the guidelines of 50kPA will be followed.	As per the EIS, blasting is planned to occur under the ice (see sec.) Appropriate mitigation and monoitoring measures are described. The applicable DFO Guideline is 100 kPA.
DFO-02	DFO requests that the proponent provide assessment of the potential habitat use in the impacted area by local fish species present.	Marine coastal areas are likley to provide forage, nursery and spawning habitat for the majority of marine fish species that are present. Arctic char feed in the nearshore coastal waters.
DFO-02a	Justify why such limited sampling was carried out for marine fishes.	Adequate sampling (66 gillnet sets) was carried out to support the assessment.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
DFO-02b	Justify why sampling was limited to gillnetting.	Gillnetting is a capture technique that provides most comparable quantitative fish collection data over the range of depths, fish species and habitat conditions present.
DFO-02c	How will the limited sampling be used as a baseline to assess impacts of the Project?	The baseline is adequate for effects prediction. Additional baseline will be collected as appropriate to support EEM programs.
DFO-02d	Why was sampling not carried out using standard survey methods (e.g., stratified random sampling)?	Sampling locations were selected to cover the range of habitat conditions and locations over which the full range of potential marine habitat disturbance is expected to occur.
DFO-03a	Please provide and assessment of potential impacts to marine fishes and invertebrates using appropriate representative marine VECs. Examples of marine fishes could include Arctic Cod, Greenland Cod or sculpin.	Potential impacts on marine invertebrates and fishes are captured in the assessment of potential effects (losses/alteration and disruption) on coastal marine habitat as described in Volume 8 Sections 4.4 and 4.5.
DFO-03b	How will potential effects to invertebrates be monitored and assessed?	As noted in the DEIS (Section 4.5.10, p. 298), an aquatic effect monitoring program (AEMP) will be developed in which details of the EEM monitoring programs will be provided. It is anticipated that the EEM programs will include invertebrate monitoring.
DFO-03c	Justify why no primary or secondary producer VECs or indicators were chosen to assess impacts on the benthos or food chain components for the LSAs or RSAs.	The assessment methods are consistent with Guidelines and currently accepted EA practice. The Guidelines were followed in the selection of VECs and Key Indicators. The assessment described trophic levels and inter-relationships. The effects analysis incorporated the primary and secondary trophic levels and their interactions with the benthos into the assessment.
DFO-03d	Provide a rationale for why harp seals, killer whales, minke and humpback whales were not considered VECs.	As noted in Volume 2, Section 3.5.1 of the DEIS, the use of indicators is a pragmatic approach to conducting environmental effects assessment, where evaluating every species within the marine mammal VEC is not practical. The six marine mammal species used as indicator species were selected because of their cultural and social significance to Inuit and many of the species are under consideration by SARA or are listed as Species of Concern or Threatened by COSEWIC. In addition, the VEC's and key indicators were confirmed with potentially affected communities during public meetings convened by Baffinland in April 2010. NIRB also independently identified the VECs adopted by Baffinland.
DFO-03e	Given the importance of Bearded seals within the Project area, especially in the areas of Steensby Inlet, Foxe Basin and Hudson Strait, revise the EIS to include bearded seals as a VEC. The assessment should include the effects the Project will have on the species, with particular focus on habitat change, disturbance, call masking (particularly during breeding season in spring) and pup mortality.	It is acknowledged that bearded seals are a notable component of the ecosystem and that this species has distinct biological attributes relative to other pinnipeds in the RSA that may make it susceptible to effects from the Project. Nevertheless, Baffinland feels that the marine mammal species selceted as Indicators provide a comprehensive and adequate assessment of the Marine Mammal VEC.
DFO-04a	Provide a discussion of what is known regarding North Atlantic Right Whales and whale-vessel collisions, and how this information relates to the assumptions adopted within this EIS for Bowhead Whales.	Ship strikes have been identified as a major cause of mortality for the endangered North Atlantic right whale. The small remnant population of ~ 325 individuals inhabits areas within or near important shipping lanes (Waring et al. 2009). More than half (53%) of the documented right whale deaths are the result of ship strikes (Campbell-Malone et al. 2008). While nearly all species of large whale have been victims of collisions with ships (Laist et al. 2001; Glass et al. 2008), right whales are especially vulnerable likely because of certain characteristic behaviours during which they may be less aware of their surroundings. These behaviours include: surface active group (SAG) activity (individuals interacting at the surface with frequent physical contact); skim feeding (swimming slowly at the surface with mouth open); and logging (resting motionlessly at the surface), an activity frequently observed in nursing mothers (Knowlton 1997). Bowhead whales are not noted for their surface activity in groups; they do rest at the surface and occasionally skim feed at or near the surface. There is evidence suggesting that a greater rate of mortality and serious injury correlates with a greater vessel speed at the time of a ship strike (Laist et al. 2001; Vanderlaan and Taggart 2007; Vanderlaan et al. 2009). Most lethal and severe injuries to large whales resulting from documented ship strikes have occurred when vessels were travelling at 26 km/hr or greater (Laist et al. 2001), speeds not uncommon among large ships and not limited to high-speed vessels. Vanderlaan and Taggart (2007) found that if vessel speeds are less than 28 km/hr, the probability of a lethal injury (mortality or severely injured) due to a ship-strike substantially decreases. In a review of 58 large whale ship strikes in which the vessel speed was known, the average speed of vessels involved in ship strikes that resulted in mortality or serious injuries to the whale was found to be 34.4 km/hr (Jensen and Silber 2003). In the only two documented right whale ship strike mortalities in which the vessel speed was known with some degree of certainty, the vessels were travelling at 40.8 km/hr and 28 km/hr (NOAA Fisheries 2004). The North Atlantic right whale appears on a per capita basis to be more prone to vessel strikes than all other large whales (Vanderlaan and Taggart 2007). Controlled exposure experiments in the right whale summer feeding area in the Bay of Fundy showed that right whales did not respond to the playback of the sound made by a 120-m container ship passing within 100 m in spite of the fact that they were apparently able to hear it

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
DFO-04b	Provide further evidence to support the assumption that Bowhead whales in Foxe Basin and Hudson Strait avoid oncoming vessels and as such, no mortalities would be expected to occur.	Jensen and Silber (2004) assembled a database of whale strikes reported throughout the world. Of the 292 records of confirmed or possible ship strikes to large whales, most were reported in North America, but this may be an artifact of data collection procedures and/or decreased reporting in other global jurisdictions. The probability of a ship strike resulting in a lethal injury (mortality or severe injury) of a large cetacean increases with ship speed (Laist et al. 2001; Vanderlaan and Taggart 2007). Most lethal and severe injuries to large whales occur when vessels travel at 14 kt [26 km/h] or faster, and the probability of severe or lethal injury to a whale approaches 100% in the event of a direct strike when a ship is traveling faster than 15 kt [28 km/h](Laist et al. 2001; Vanderlaan and Taggart 2007). The probability of a ship strike is a function of vessel density, animal density, and vessel speed. The bowhead whale is an ice species that spends most of its life in the presence of ice, except for a brief period during the summer when the ice melts. During the October to June period, the ore carriers will be travelling through pack-ice and some fast-ice. At those times, the ship speed is expected to range from 5.5 to 8 km/h. At those low speeds, bowheads will have little difficulty avoiding the oncoming ships which will be detectable many km away. During the open water period, the ore carriers will travel at a maximum speed of 26 km/h although in Milne Inlet, the speed will be reduced to 18.5 km/h. These speeds are at or below the minimum speeds that have resulted in whale/ship collisions based on the worldwide experience. Most of the fatal ship strikes occur at speeds substantially higher than 26 km/h. Bowheads have had little direct experience with shipping and little information is available. However, it is instructive to examine the information from the Canadian Beaufort Sea where a large bowhead whale population summers. The offshore Beaufort Sea was subject to intensive offshore oil and gas exploration from the mid 1970s to the mid 1980s. During the peak of the activity, there were as many as 50-60 vessels operating including large drillships and dredges, icebreakers, supply ships, fast crew boats, seismic vessels, research vessels, plus the regular community re-supply vessels (Brouwer et al. 1988; Richardson and Finley 1989). During this 10-year period, there were no reports of ship strikes involving bowheads or any whale species. Any such strike would have been reported because the intensive research on bowheads that was ongoing in the region during the industrial period. The lack of strikes indicates that bowheads are able to avoid ships during the open water period.
DFO-04c	Provide a quantitative assessment of the potential for vessel-whale collisions.	It is not possible to provide a meaningful quantitative assessment of the potential for vessel-whale collisions for the species in question in the areas of interest. There are no quantitative data from these specific situations. However, the information on bowheads and other baleen whales summarized in the preceding response (DFO-4b) is directly relevant. Also, all of the relevant studies in the Canadian Arctic have indicated that belugas and narwhals avoid oncoming ships at distances of several km (e.g. LGL and Greeneridge 1986; Cosens and Dueck 1988; Miller and Davis 2002). It seems unlikely that there will be ship/whale collisions associated with the Baffinland project and hence a quantitative assessment would not be very useful. Cosens, S.E. and L.P Dueck. 1988. Response of migrating narwhal and beluga to icebreaker traffic at the Admiralty Inlet ice-edge, N.W.T. in 1986. p. 39-54 In: W.M. Sackinger et al. (eds.), Port and ocean engineering under arctic conditions. Vol II. Geophysical Institute, Univ. Alaska, Fairbanks. 111 p. LGL and Greenerdge. 1986. Reactions of beluga whales and narwhals to ship traffic and ice-breaking along ice-edges in the eastern Canadian high arctic: 1982-1984. Environmental Studies Report No. 37, Dept. Indian Affairs and Northern Development, Ottawa. 301 p. Miller, G.W. and R.A. Davis (eds.). 2002. Marine mammal and acoustical monitoring of Anderson Exploration Limited's open-water seismic program in the southeastern Beaufort Sea, 2001. LGL Report TA2618-1. Rep. from LGL Limited, King City, ON and JASCO Research Ltd., Victoria, BC for Devon Canada Corp., Calgary, AB. 199 p.
DFO-04d	Identify the mitigation measures proposed to reduce the probability of bowhead-whale – vessel interactions.	Given that no significant bowhead/vessel interactions are predicted, no specific mitigation measures for bowheads are proposed. The one exception is that the speed reduction form 26 km/h to 18.5 km/h in Milne Inlet in the open water season will reduce the potential for interactions with bowheads although the reduction is in place to protect narwhals. In the early stages of project operations, marine mammal observers will be present on some vessel passages to monitor the close responses of marine mammals to the vessels.
DFO-05a	That the proponent consult with DFO in order to update walrus distribution maps based on the most current available survey and IQ information. The proponent is further encouraged to consult with DFO on appropriate survey methods in order to collect accurate baseline information which will also serve to inform future monitoring programs.	DFO biologists (Rob Stewart 2011, pers. comm.; Stacey Frame 2011, pers. comm.) in Winnipeg were contacted for walrus distribution maps derived from aerial surveys and IQ interviews. DFO has stated that HTAs in the area of interest have partial ownership of this information (including the aerial survey data) such that they control the release of the information. The HTAs need to approve release of the information before we can review it or incorporate it. We are waiting to hear back from DFO whether they were successful in getting approval for the use of the aerial survey and IQ information in the DEIS. Stewart, Rob. 2011. Personal Communication. Research Scientist, Marine Mammal Productivity, DFO, Winnipeg, Manitoba. Phone 204 983-5023. E-mail rob.stewart@dfo-mpo.gc.ca.Frame, Stacey. 2011. Personal Communication. Fish Habitat Biologist, DFO, Winnipeg, Manitoba. Phone 204 983-0186. E-mail stacey.frame@dfo-mpo.gc.ca.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
DFO-05b	Please provide a thorough effects assessment using the current survey data with respect to the "no significant" impacts conclusions reached in 5.7.2.2 (Disturbance) in section 5.0 (pp. 176-182). For example, fig. 4.18 in app. 8A-2 shows locations of numerous walruses within approx. 3-20 km of the proposed Steensby Inlet port.	See LGL Response to DFO IR #5-a. The current DFO walrus survey data are not available at this time. According to DFO (Rob Stewart 2011, pers. comm.), the primary survey data were counts of walrus at widely separated haul out sites. Specific haul out sites mentioned were North and South Ooglit Islands, Bushnan Rock (Koch Island), southwestern Foxe Basin and the north shoreline of the Foxe Peninsula. All but the Bushnan Rock (Koch Island) sites are far from the shipping route.
DFO-05c	Walrus were identified as a VEC, yet it is noted surveys to count walruses on haul-outs were not conducted, specifically in Steensby Inlet and Foxe Basin. Given that this is an important behaviour of the species and would represent the period and areas where project-species interactions would be considered most likely, please provide baseline survey data to support the EIS conclusions and future monitoring programs.	Walrus were counted whenever they were seen, including at haul out sites at Bushnan Rock and Manning Island. During systematic surveys of Steensby Inlet the aircraft would transit along the shoreline between east-west transect lines allowing a large percentage of the shoreline to be surveyed for hauled out walrus. In addition, shoreline surveys of northern Foxe Basin including the Koch, Rowley, and part of Bray Islands were completed in August, September, and October of 2008; no haul out sites were observed in Steensby Inlet or northern Foxe Basin during these surveys.
DFO-05d	Provide justification for this trade-off and the additional risk of impacts to walrus as a result of this routing.	The closest distance between the southern vessel route option and Salisbury Island remains >20 km (see Figure 8-5.6). The northern route remains the shortest and preferred route.
DFO-05e	Justify why disturbances caused by the low altitudes of the Boeing 737s would not pose a significant risk to walruses in Steensby Inlet at times when walrus haul out in significant numbers, as was the case in September 2006 (appendix 8A-2, fig. 4.18).	We did not observe substantial numbers of walrus hauled out in Steensby Inlet during frequent aerial surveys in 2007-2008 (see Response to DFO IR #5c). Noise levels produced by aircraft will be monitored at the port site and at select haul out sites for a brief period during the construction and operational phase of the Project. Noise levels and walrus behaviour at haul out sites that are close to the flight path will be examined. During the winter Steensby Inlet is covered with fast ice and, therefore, in that season walrus disturbance from aircraft overflights will be negligible within Steensby Inlet. The aircraft altitude when it crosses the fast ice edge into pack ice of Foxe Basin would be approximately 9100 m above the water/ice surface. A preliminary analysis of possible in-air noise levels at a haul out location on Koch Island closest to this flight path estimated that the sound level from the aircraft will be 73 dB in the one-third octave band centred on 100 Hz. Other frequencies have lower received sound levels. No change to the conclusion reached in the DEIS is necessary.
DFO-05f	What mitigation measures would be undertaken to prevent impacts to walrus during these events?	See "Planned Mitigation for Aircraft" in Section 5.7.2.2 of the EIS.
DFO-05g	Provide information on what is known about long term chronic exposure of walrus to ongoing disturbance.	There is no literature regarding effects of chronic exposure to disturbance on walrus. The lack of this literature is not considered serious for two reasons. First, there are many cases of pinnipeds adapting to chronic exposure to human activities of many kinds including noise disturbance. Second, there is no evidence to indicate that any of the interactions with the Project will be significant to the walrus population,
DFO-05h	Provide an assessment of the potential impacts to walrus from repeated disturbances over the life of the Project.	Disturbance from aircraft overflights would be limited to the construction phase of the Project (48 months). During the construction phase, there will be fast ice in Steensby Inlet and walruses would not be in the area. Thus, there would be no disturbances for 7-8 months of the year. Therefore, there are limited possibilities for disturbance from overflights during the construction phase and almost no possibilities during the operation phase of the project. There is no likelihood of any long-term effects from aerial overflights on walruses.
DFO-05i	Provide justification as to how the effects of disturbance on walrus are "fully reversible" given this species is known to be sensitive to disturbance and would be subject to chronic disturbance over decades from this Project.	The potential disturbance will not result in physical harm to walrus (i.e. contact with the animals, hearing impairment, etc.). It is unknown if walrus would experience a physiological stress response to aircraft overflights, but the limited literature available on physiological stress response of marine mammals suggests a return to baseline conditions shortly after the stressor is removed. The literature is full of examples where marine mammals have habituated to the presence of regular, non-threatening disturbances associated with human activities. There is no reason to assume that walruses will be any different.
DFO-05j	Provide further justification for statements made within Section 5.7.2.2.	Based on the literature reviewed in Section 5.7.2.2 – Vessel Traffic: "For walruses hauled out on ice, the response to a vessel is dependent on distance from the vessel (Brueggeman et al., 1990, 1991, 1992) and vessel speed (Fay et al., 1984). When an icebreaker was underway in open water, more than 50% of walruses hauled out on ice pans responded by entering the water or becoming attentive when the vessel approached within 460 m; at distances >460 m, a lower percentage of walruses responded (Brueggeman et al., 1990, 1991, 1992). Fay et al., (1984) reported that walruses responded at farther distances when a ship approached from the downwind direction compared with upwind, and that walruses in water show less reaction than those hauled out on ice"
DFO-05k	Further define what is meant by "temporary".	"Temporary" is used in the context of a walrus exhibiting avoidance behaviour in reference to an oncoming ore vessel, for example by diving into the water, 'perhaps at distances of 400-500 m or up to several kilometers'. The avoidance behaviour would cease when the noise disturbance would cease or the noise level was below a level causing the minor behaviour reaction (as a result of the noise disturbance moving away from the animal or the animal moving away from the noise disturbance, or a combination of both). The term "temporary" refers to the amount of time it would take before the walrus returned to its previous condition, i.e. the vessel has passed by and is no longer affecting walrus behaviour. At a ship speed of 6 kts (11.1 km/h) it would take approximately 5-6 minutes for the vessel to travel 1 km. If distance were 'several' kilometers (~11 km), then it would be approximately 60 minutes. Therefore this phenomenon could last between 5 and 60 minutes.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
DFO-05l	Provide published information and expert opinion that support claims that walruses will not likely leave terrestrial haul-out sites in response to passing ore carriers at distances of 4.6-8 km (table 8-5.6).	Provided in DEIS literature review from Section 5.7.2.2 – Vessel Traffic.
DFO-05m	Please explain this apparent contradiction.	Challenging a ship does not make a walrus more susceptible to vessel collisions. It does not imply physically attacking the ship. This statement also does not imply that this is a systematic behaviour observed from all walruses. In addition, if a walrus challenges a vessel, it also implies that the animal is aware of its presence and unlikely to be struck by it. "Risk of vessel collisions with marine mammals is considered low given their avoidance of ships" is a statement concerning marine mammals and their general response, as a group to the presence of vessels based on the literature review provided in Sections 5.6 to 5.11 of the EIS. The general avoidance response to vessel traffic as it relates specifically to walrus is also described in Section 5.7.2.2.
DFO-05n	Provide a more thorough explanation for how maintaining a constant vessel course and speed "whenever possible" and reducing idling of engines when docked will sufficiently mitigate disturbance to walrus from ore-carrying ships such that the significance of predicted residual effect is non significant at a high level of confidence.	The predicted residual effect of vessel traffic on walruses would be non-significant without the inclusion of these planned mitigations based on the literature available, as described in Section 5.7.2.2. The inclusion of these mitigation measures further reduces any potential risk of vessel collisions and noise disturbance to walrus, and other marine mammals.
DFO-06	Explain why the interaction between narwhal and shipping activity is limited to Milne Inlet when it was stated that narwhal are thought to overwinter in Hudson Strait.	The EIS includes a detailed effects assessment of shipping activity on narwhals in Hudson Strait during the winter period in Section 5.9.2.2 ("Icebreaking" and "Residual effects of Icebreaking").
DFO-07a	Amount of habitat which will no longer be usable by Arctic char due to reduced discharge.	As discussed in Section 4.5.5.10 (page 266), the proportion of a given basin that will be diverted was used as a surrogate for the amount of flow to be diverted within that basin, and this same number was used as a surrogate for predicting alterations in the amount of physical habitat available to Arctic char within a particular water body. This approach was based on the information that was available at the time of writing and, although Baffinland recognizes that it is somewhat simplistic, it is considered to provide a conservative estimate of potential alterations to habitat availability.
DFO-07c	Will the reduction in discharge result in increased stranding of fish?	As discussed in Section 4.5.5.14 (page 270), the diversion of flows for at least some months in two tributaries to Camp Lake and three tributaries to Sheardown Lake has the potential to strand juvenile Arctic char as they move downstream to overwintering habitat in Camp Lake and Sheardown Lake during late summer and fall. However, specific sites that potentially could become downstream barriers were not identified on the bases of existing information. As described on p. 270, the effects of the Project on fish stranding due to water diversion at the Mine LSA was considered to be negligible with mitigation. Potential mitigation is described on p. 270 (see also response to comment DFO-7e).
DFO-07d	Will the predicted decrease in productive capacity impact the use of these watercourses as feeding and rearing habitat?	As discussed in Section 4.5.5.11 (page 268), Camp Lake tributaries 1 and 2 and Sheardown Lake tributaries 1, 9, and 12 will experience a reduction in productive capacity due to loss and alteration of habitat upstream and downstream of existing fish barriers, in combination with water and sediment quality changes. Decreased productive capacity is unlikely to preclude the use of any of these streams, but a moderate reduction in the productive capacity is predicted for Camp Lake tributaries 1 and 2 and Sheardown Lake Tributary12. A high level effect is predicted for the productive capacity of Sheardown Lake tributaries 1 and 9.
DFO-07e	Any measures that can be implemented to mitigate impacts to fish habitat and/or fish passage.	Section 4.5.5.14 (page 270) provides a discussion of potential measures that could be implemented to mitigate the effects on fish stranding and loss of access to habitat resulting from stream diversions. It is unlikely that reduced productive capacity resulting from habitat reduction can be mitigated.
DFO-08	DFO requests additional information to confirm if blasting will occur under ice cover and if the guidelines of 50 kPA will be followed.	As noted in Section 4.4, p. 246, a detailed blasting management plan will be developed, which will follow DFO blasting guidelines (Wright and Hopky 1998). It is also indicated that if any issues associated with meeting these guidelines are identified, they would be discussed with DFO prior to undertaking blasting activities. Blasting will not be conducted in-the-wet under ice cover in freshwater fish habitat.
DFO-09	DFO requests an assessment of alternative water crossing designs which would avoid the loss of upstream fish passage.	Crossing designations (i.e., culverts vs. bridges) and designs were developed initially on the basis of feasibility and practicality. This was followed by an iterative process involving design engineers and project biologists to minimize the number of crossings that were left with residual fish passage issues. This process was served by ongoing biological and geophysical data collections (2007-2010), particularly at locations where notable fisheries concerns were identified (e.g., the South Cockburn Alluvial Fan). In some cases culvert designs were replaced with bridges; in others culvert designs were modified to improve fish passage potential. Volume 7, Section 4.5.6.3 provides an extensive discussion of crossing design constraints and culvert design options that were considered and will be implemented where feasible to maximize fish passage potential.
DFO-10	DFO requests additional information on the water extraction plan for Phillips Creek with details on proposed locations, timing and volumes to be extracted and details on the criteria or process that will be used to determine the amount of water to be extracted relative to baseline flows conditions for Phillips Creek.	This has been evaluated in Volume 7, Section 2.3.2. Table 7-2.23 shows that the proposed water takes from Phillips Creek are almost immeasurable relative to the flows.

Table 1

Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
DFO-11a	The proponent uses the terms: suitable fish habitat preferred spawning habitat and suitable overwintering habitat throughout the DEIS. DFO requests that the proponent define these terms and provide the references which were used to define them.	Habitat suitability for the various life history components for each of the two freshwater fish species were based on an extensive review of existing scientific information that is provided in Appendix 4.4-3 of Appendix 7C (*A generalized life history description for Arctic char and ninespine stickleback with emphasis on Baffin Island populations*). Fish species habitat requirements are also summarized in the *Mary River Project railway/access road watercourse crossing assessment protocol* (in Appendix A of Appendix 5.1-1 of Appendix 7C).
DFO-11b	The sample design for fish seems to vary from year to year and site to site. DFO requests that the proponent clarify the general approach and methodology by providing the references noted above as well as explaining variations noted in the sampling protocols from year to year and site to site.	See Attachments 4, 5 and 17. Our interpretation of the request is that it refers primarily to stream surveys. These surveys were conducted over a number of years and to some degree the sampling methodology evolved over time as understanding of conditions improved. In some cases methodologies were changed or refined to reflect changing priorities or objectives. For example, the 2007 stream survey along the railway corridor was intended primarily as a reconnaissance survey to maximize the area that could be covered in the relatively short open water Arctic season. As stated in Appendix 7C (Section 5.1.1.1; page 93), the 2007 assessment protocol was intended to provide preliminary information regarding the observed/potential fish habitat at each site, and identify locations at which additional and more detailed assessments could be required. This information was then used to develop the more intensive protocol used in 2008. The same protocol was used again in 2010 where information gaps were identified for potentially fish bearing streams (e.g., due to railway re-alignments). As part of the 2008 field program, in recognition that onset of winter might preclude a survey of all sites along the railway and access road corridors, the study team conducted a prioritization exercise in which all streams with any reasonable potential to support fish were surveyed first. As a result, a large number of streams and the majority surveyed in 2010 were not fish bearing and were subjected to a less intensive survey regimen.
DFO-11c	Length stratified sample of ages is not useful in terms of characterizing fish populations and following changes in age structure of Arctic Char as development proceeds. Ideally a random sample (over space and time) should be used. DFO requests the rationale for the approach used over a random sample approach.	The relevant statement (Appendix 7C; Sec. 4.4.1.1; page 64) is incorrect and should be re-worded to read: *"Ageing structures (otoliths) were collected from all gillnet-caught Arctic char mortalities and fish sacrificed for metals analysis from all Mine Area lakes, and from a length-stratified sub-sample of electrofishing-caught fish from Mary River."* Generally speaking, fish studies were designed and implemented to obtain a reasonable amount of biological data, while minimizing fish mortalities. Mortalities were limited to unavoidable gill net mortalities and fish sacrifices necessary to acquire tissue samples. Electrofishing surveys on the Mary River resulted in no Arctic char mortalities. A small subsample of Arctic char was therefore sacrificed to obtain tissue samples for metals analysis, and otoliths were collected to provide supporting age information. Since the objective of aging structure collection was to support the metals analysis and not to characterize the population (i.e., the captured fish were all juveniles with narrow fork length and age ranges), and given the need to collect a small sample spanning the available length range, a length stratified approach is considered appropriate.
DFO-11d	With the hoop net sampling, only the first 50 fish were measured each day. This may introduce biases in data. DFO requests clarification on why fish were not sampled randomly at intervals throughout time.	The relevant statement (Appendix 7C; Sec. 4.4.2.1; page 69) is misleading and should be re-worded to read: *"All hoopnet-caught fish, or a minimum of 50 fish per day when larger numbers were captured, were measured for fork length."* As presented, the statement is consistent with the field sampling protocol which specified that only the first 50 fish were to be measured each day at each hoopnetting location. However, this number was meant to be interpreted as "at least 50 fish" and was intended to ensure a reasonable sample size, while at the same time allowing the field staff some discretion in determining how many fish could be sampled safely without causing undue stress to fish in the holding container (i.e., stress due to crowding, increasing water temperature or oxygen depletion). Of the 109 hoop net sampling sessions conducted in 2007 and 2008, only 23 (21%) were actually sub-sampled for fish measurements. Of the 5,926 Arctic char captured in hoop nets, 3,979 (67%) were measured. Ninespine stickleback were much less abundant and all were measured. The hoop nets were only checked once daily, and the contents were first emptied into a holding container. Unusually large or small fish (typically very few) were measured to obtain a daily size range, and the remaining fish were sampled randomly, up to a minimum of 50 individuals per day. Measurements were therefore effectively random and representative.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
DFO-11e	The report states that they attempted to achieve good temporal and spatial coverage for fish sampling on lakes. DFO request clarification on the spatial coverage that was used to verify presence/absence of fish.	Excluding the large Mine LSA lakes, which were surveyed extensively (Volume 7; Appendix 7C), determination of fish presence/absence generally involved relatively small lakes or ponds within the various freshwater LSAs. To determine fish presence/absence, field crews typically set one or two gill nets. If these initial sets failed to capture fish, additional sets were placed in alternate habitats or depths. Gillnetting was supported in all cases with nearshore electrofishing targeting ninespine stickleback and smaller juvenile Arctic char. Electrofishing surveys were extensive, and were carried on until the field crews were confident that fish presence/absence had been established. Unavoidable logistical constraints and the large number of waterbodies requiring surveys dictated that not all lakes and ponds could be gillnetted. Of the lakes that were selected for fish presence/absence determination only, several large, deep lakes (e.g., in the Steensby Port LSA) were assumed to support Arctic char and were not gillnetted. Smaller lakes that presented a reasonable expectation of providing adult, overwintering or spawning Arctic char habitat were gillnetted. All lakes and ponds that were selected for fish presence/absence determination were electrofished, with the exception of the smallest shallowest ponds where presence/absence could be verified easily through visual inspection. As a rule, field crews were able to capture fish easily and in abundance wherever fish were present. Where fish were not captured early, they were not captured at all regardless of effort.
DFO-12	Provide an analysis of potential compensation option, taking into consideration the hierarchy of preferences outlined in the No Net Loss Policy and Practitioner's Guide to Habitat Compensation. The analysis will need to include feasibility of the various options, and/or supported rationale for dismissal, prior to proceeding to the next compensation approach in the hierarchy. Consideration should also be given to compensation options in the marine environment since fish habitat loss and alteration is also predicted to occur in the marine environment.	At the present stage in Project planning, and consistent with the EA Guidelines, a No Net Loss Plan has been developed and tabled as Appendix 10D-7. The Plan addresses the items identified in the EIS Guidelines. The Plan addresses the policy requirements of DFO. It includes an estimate of total fish habitat loss and describes the methods used for estimation of both marine and freshwater habitats. The document includes the identification of three candidate options for Fish Habitat Compensation. Note, as the Project moves through the various stages of evaluation and regulatory approval, a decision will be made by the Miinster of Fisheries as to the acceptability of any loss of fish habitat and whether to issue an Authorization which permits this loss to occur. A binding agreement on fish habitat compensation will need to be reached between the Minister and the Proponent. Baffinland is working cooperatively with DFO to develop a detailed FHCP and Agreement, however the information provide in the EIS is responsive to the EIS Guidelines and adequate for the purposes of impact assessment. Baffinland will complete the FHCP and Agreement along a schedule to be worked out jointly with DFO, and as a separate approval process from the EA.
DFO-13	Describe how 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) in response to the Project.	Baffinland has developed Environmental Monitoring and Mitigation Plans (Sec 7.0 Volume 10) which focus on measuring the effects of the Project on the environment and on establishing the effectiveness of mitigation measures which are intended to reduce or eliminate potentially negative effects. The described framework lays out design principles and defines the various categories of project-induced changes that can be detected through effects monitoring. Environmental effects monitoring will, of necessity, be designed to differentiate non-Project change from Project - induced change. However monitoring programs will not be designed to attribute a cause to any such non-Project changes. That is not normally an objective of a Project EEM, nor is it a requirement of the EIS Guidelines, which state that : "The Proponent shall present environmental management plans developed to eliminate or mitigate potential negative impacts of the Project on the biophysical environment …….. The Proponent shall also identify any residual effects after appropriate mitigation measures are implemented. These management plans shall target identified VECs"
DFO-14	DFO requests that the potential impacts on marine mammals of opening new leads due to shipping be fully assessed.	This question is addressed in the response to PC IR #4-2. No new leads are predicted to occur as a result of ice breaking associated with the Project. Within the landfast ice large pans of fast ice are not expected to break loose because of the limited number of leads that form naturally within the Steensby Inlet landfast ice (Vol. 8, Section 2.6.2.1).
DFO-15a	DFO requests clarification of the term "nominal" shipping corridor?	The term "nominal" is defined as "according to plan or design". Thus the nominal shipping corridor is in accordance with the current plans for the Project. As noted, during operation, the ships Master may chose to vary the route from the identified corridor as required to ensure the safety of the crew, the vessel and its cargo.
DFO-15b	Please verify that the "nominal" shipping corridor is 1.5 km wide as is indicated in Figure 8-2.2.	The "nominal" shipping corridor is 1.5 km wide as indicated in Figure 8-2.2.
DFO-15c	Further, how was the shipping route defined?	The shipping routes are described in Volume 8, Section 1.2.1, and was defined using various literature sources for typical sea ice conditions, and an ice and marine shipping assessment was conducted in support of the Project to determine viable routes for shipping (Enfotech 2010; see Appendix 3F-1).
DFO-15d	Please describe whether the LSA shipping route as shown in Figure 8-2.1, is fixed or somewhat flexible in response to other factors (e.g., weather, safety concerns).	The shipping route is defined; however it is not fixed, and shall be flexible in response to safety and weather factors. This is outlined in the Shipping and Marine Mammals Management Plan (Appendix 10D-10), Section 3.2.2.3 (Safety) the Master of the ship ultimately has the responsibility for the safety of the ship, crew and cargo, and protection of the environment, and therefore has the authority to adjust speed, or deviate from the route if necessary.
DFO-15e	DFO requests that the proponent verify that the data used are appropriate and correct.	The ice data used to define the extent of landfast ice cover in Figures 8-2.1 and 8-2.2 is from a 10-year average from satellite images from 2000 to 2009. Markham (1981) and Prinsenberg (1986) and also ENFOTEC (2010) were used to provide a written summary of typical ice conditions across Foxe Basin. We believe the various sources of information are both reasonable and correct.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
DFO-15f	DFO requests the rationale for not including the 10/10 class of ice be provided.	The authors eliminated the 1/10 and the 10/10 ice cover to calculate the amount of disturbance to pack ice along the shipping route in the RSA. Section Table 8-2.1 (2.5.4 Vol. 8). It was assumed that there would be no measurable disturbance to these ice densities from ships passage.
DFO-15g	DFO requests that the proponent verify whether the text or the table is correct.	The title of fourth column of Table 8-2.1 should read Proportion of Pack Ice Disrupted by a Single Ship Track. Because the disruption is temporary and does not temporally overlap with successive transits, this represents the maximum aerial disturbance to ice at any given time.
DFO-15i	DFO requests that FedNav experience with winter shipping in the Arctic with cape-class ore carriers be provided to support the estimates.	Fednav has not operated cape-class ore carriers in the arctic. All operations have been with smaller sized ships. Having said this, Fednav remains one of the most experienced ship operators in the Canadian arctic.
DFO-18a	Provide a quantitative risk analysis for the accidents and malfunctions events contemplated in the EIS, including but not limited to marine mammal-vessel collisions, vessel groundings, and accidental spills.	Accidents and malfunctions are unpredictable events in terms of exact location of occurence and quantities of materials spilled. A qualitative risk analysis is presented in Section 3 of Volume 9. The Emergency and Spill Response Plan (Appendix 10C-1) presents an analysis of the most likely spill scenarios. Appendices 9A, 9B and 9C presents spill modelling scenarios for Steensby Port, Milne Port and along the shipping lane.
DFO-18b	Justify the risk rating of moderate for events that will have catastrophic environmental impact although the likelihood of occurrence is rare or unlikely.	Volume 9, section 3.8 discussed the outcome of a major diesel fuel spill either at Steensby Port or along the shipping lane. It is important to note the natural weathering process of a diesel spill (section 3.8.2). Although such a spill would be serious, it effects would be of short duration due to this natural weathering process. Appendix 9C discusses the potential effects of such a spill. Table 4.2 of this appendix summarizes the sensitivity and risk of such a diesel spill along the shipping route. The qualitative analysis undertaken indicates that all ecosystems, at worst, the effects of a diesel fule spill would be felt for a period of weeks to months. For this reasons, the rating is considered moderate.
DFO-18c	Table 9.3-2 indicates that a major diesel spill at sea has a “very low” risk rating. Stating the likelihood as “unlikely” results in the impact according to Table 3 in Appendix 10A-2 being considered “insignificant”. Please further describe the measures that are proposed to be taken to reduce the likelihood of a major spill and provide the criteria used to determine the significance of a major diesel spill based on established EA practice (e.g. magnitude, duration, reversibility etc.) and how these were applied in determining the significance of this effect.	Major fuel spills at the ports or along the shipping lane are discussed in Volume 9, Section 3.8 and Appendices 9A, 9B and 9C. Magnitude, duration and reversibility associsated with a fuel spill events are presented for what is considered a very large spill scenario. The measures proposed to reduced the likelyhood of such spills are presented in the Emergency and Spill Response Plan (Appendix 10C-1), the Steensby Port OPEP (Appendix 10C-2) and Milne Port OPEP (Appendix 10C-3).
DFO-19a	Provide information on the cumulative effects models considered and how they were incorporated, or rationalize why the assessment relied on “professional opinion” alone to support significance determinations.	The cumulative effects assessment was qualitative and did not involve modelling because detailed analysis was not required to support the conclusions.
DFO-19b	Provide further justification for the methods used to assess and assign significance of cumulative effects and explain how the varying effects from a number of stressors were considered together in the cumulative effects assessment.	The cumulative effects assessment used the same asssessment methodology as the rest of the EIS. See Volume 9, Section 1.2.5.
DFO-20a	Explain the rationale for the threshold values used and provide supporting evidence that they are precautionary.	This information is provided in each assessment. Refer to the specific Volumes of the EIS (Volumes 4 through 8).
DFO-20b	Tables 8-5.4, 8-5.8, 8-5.11 (construction phase), 8-5.14 (construction phase), 8- 5.17 (construction phase) give “high” levels of confidence in all cases except one (moderate for narwhal). Please provide rationale for the “high” levels of confidence given the admission that “there is expected to be much variation in response to sound type and level”.	The variation expected in marine mammal responses to various sound types and levels is not the key factor in determining the level of confidence in an effects prediction. As noted for each marine mammal indicator species, measurable parameters were derived to provide guidance in assessing changes in habitat, behaviour, and health. The selected threshold for each measurable parameter was intended to identify a level of what would be considered unacceptable change. In situations where thresholds were well below the indicated value or negligible, confidence level was generally considered high. In situations where thresholds were approached or exceeded confidence levels were rated as low to medium. Confidence levels were also judged to be low or medium in situations where available data were lacking to support the assessment. Of note, the reviewer(s) is incorrect when they state “Tables 8-5.4, 8-5.8, 8-5.11 (construction phase), 8-5.14 (construction phase), 8-5.17 (construction phase) give “high” levels of confidence in all cases except one (moderate for narwhal).” The EIS (Table 8-5.17) acknowledges that there is a medium level of confidence regarding masking effects of bowhead whales during the Construction Phase.
DFO-20c	Explain how the effects assessment in the EIS accounts for these scenarios.	We are unaware of evidence that supports the “ripple effect” theory of disturbance presented by the reviewer. Based on available information, most indicator species assessed in the EIS exhibit temporary and localized avoidance responses to disturbance sources. In situations where there was much uncertainty regarding the nature and duration of an avoidance response, a low or medium level of confidence was assigned and follow-up monitoring was recommended.
DFO-20d	Explain the implications of marine mammal segregation by age and sex on the effect assessment in the EIS.	The assessment process undertaken for this EIS considered sensitive life stages and important areas (e.g., feeding, nursing, breeding, or haul-out habitat) for marine mammals. For all indicator species, measurable parameters and threshold levels focused on these aspects of a marine mammal’s life history. Distances and estimated underwater sound levels from Project activities relative to important habitat was provided when possible and effects were assessed based on this information.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
DFO-21a	Given that climate change could also cause changes in animal and environmental conditions in the LSAs and RSAs, how will the proponent distinguish these from localized or cumulative effects caused by the operations themselves? Similar monitoring in adjacent/similar areas should be undertaken to ascertain if animals are displaced from the mine operations area, or if density or behavioural changes are climate-related.	Suitable reference (or control) sites will be selected during the preparation of the final Monitoring and Mitigation Plan that will be developed in consultation with appropriate regulators. Surveying similar sites away from an area potentially affected by Project activities should allow researchers to account for the influences of "natural" covariates (including ice cover and type) on marine mammal distribution and abundance.
DFO-21a	Given that climate change could also cause changes in animal and environmental conditions in the LSAs and RSAs, how will the proponent distinguish these from localized or cumulative effects caused by the operations themselves? Similar monitoring in adjacent/similar areas should be undertaken to ascertain if animals are displaced from the mine operations area, or if density or behavioural changes are climate-related.	The effects of the environment on the Project (including climate change) are discussed in Volume 9, Section 2. The effects of climate change on the behaviour of the animals is beyond the scope of this EIS.
DFO-21a	Given that climate change could also cause changes in animal and environmental conditions in the LSAs and RSAs, how will the proponent distinguish these from localized or cumulative effects caused by the operations themselves? Similar monitoring in adjacent/similar areas should be undertaken to ascertain if animals are displaced from the mine operations area, or if density or behavioural changes are climate-related.	Monitoring of reference locations as per the AEMP should serve to differentiate between potential project affects and those potentially caused by external factors such as climate change.
DFO-21b	Explain how ongoing environmental changes were considered in the cumulative effect assessment.	Changing ice-conditions attributable to climate change are not expected to affect our impact predictions. The assessment of Project activities on marine mammals did not show any significant effects during either the ice-covered or open-water seasons; therefore, changes in the length of these seasons are not expected to change the predictions made in the DEIS.
DFO-22a	Provide a complete assessment of underwater noise modelling for SI, FB and HS and potential impact on marine mammals.	The impact predictions in the EIS were based, in part, on underwater noise modelling for Steensby Inlet, Foxe Basin and Hudson Strait. The noise modelling was conducted by JASCO Research and included as Appendices 8C-1 and 8C-2 in the DEIS. We have included Appendix 8C-3, omitted from the DEIS, as Attachment 6.
DFO-22b	Provide a full explanation/justification of how high uncertainty in sound propagation model inputs contributes to the level of uncertainty in the model outputs.	Conservative assumptions have been made with respect to any sound propogation model inputs. As a consequence, the model outputs also reflect a similar level of conservativism (i.e. err on the side of cautrion) and will overstate any output values.
DFO-23a	Provide further information on the approach that will be used to acquire acoustic signature measures for these carriers in different ice and bathymetric conditions.	The details of the acoustic measurement program will be provided in the final Monitoring and Mitigation Plan for the Mary River Project. The Plan will be developed and finalized after consultation and input from DFO, other regulators, and community members. Standard and scientifically credible procedures will be followed.
DFO-23b	The EIS says that the icebreaking ore carriers will be designed using the best technology to be silent but there is no support provided for this. On the contrary, Table 4 in Appendix 8C-1 states the carriers will be equipped with 2 x controllable pitch nozzled propellers, 4 blades, 8.3 m diameter. It is understood that variable pitch propellers are not efficient with regard to radiated noise and should be avoided for noise-reduced ships. Provide information on the mitigation efforts to reduce the acoustic footprint of the icebreaking carriers.	Variable pitch propellers enable the effective operation of an ice breaker by providing the combination of propulsion power and maneuverability required to penetrate ice effectively. Specifically, the variable pitch propellers allow the vessel to shift from forward gear directly to reverse without any change in power to the propellers. The vessel will be designed using noise reduction technology wherever practical, however variable pitch propellers are a necessity.
DFO-23c	What effect will icebreaking have on sound pressure?	In general, icebreaking produces stronger and more variable sound levels than would normally be produced by a ship transiting in open-water (see Section 6.2.3 in Richardson et al. 1995). Physical crushing of ice contributes little to the overall increase in noise during icebreaking. Based on several field studies, icebreakers pushing ice radiate noise about 10-15 dB higher than when underway in open water, primarily due to stronger propeller cavitation (Richardson et al. 1995). In general, spectra of icebreaker noise are wide and highly variable over time given the alternating periods of ramming and backing. For purposes of the EIS, sound levels from an icebreaking ore carrier (Cape-size) were modelled at Steensby Inlet, Foxe Basin and Hudson Strait during periods with thin and thick ice cover (Matthews et al. 2010); these modelling results were incorporated into the assessment for marine mammals. Matthews, M. N. R., M. Zykov, and T. Deveau. 2010. Assessment of underwater noise for the Mary River iron mine: construction and operation of the Steensby Inlet Port Facility. Tech. rep. prepared for LGL Limited by JASCO Applied Sciences. Richardson, W. J., C. R. Greene, Jr., C. I. Malme, and D. H. Thomson. 1995. Marine Mammals and Noise. Academic Press, San Diego, CA. 576 p.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
DFO-24a	The EIS reports that "Any masking that might occur along the shipping route, as a vessel passed by, would occur for only a short time (2-3 h)". A few hours represents a significant period of time in terms of masking of mother-calf communication especially if, say, walrus abandon a haul-out in response to ship noise. In Volume 8, section 5.7.2.3, justify how potential masking of walrus calf- juvenile calls (300-450 Hz), "which are distinct and used for mother-calf communication", by ship noise warrants a non-significant rating (in table 8-5.8).	The current worst-case estimate indicates that the communication space for marine mammals could be affected for a time period of approximately 6.3% (3 h of every 48 h) due to vessel traffic. This is the maximum amount of time for an animal that was close to the ship track. Animals further away from the track will be exposed to potential masking conditions for smaller amounts of time depending upon the perpendicular distance from the ship track. Based on the established impact assessment criteria alone, this warrants a "non-significant" impact assessment rating. In addition, the biological significance of communication masking for marine mammal species and species-specific adaptations to changes in ambient noise levels (distance of communication space required, hearing directivity) are unknown, including for walrus mother-calf communication. It would therefore be impossible to determine what would represent a biologically "significant period of time in terms of masking of mother-calf communication" for either individuals or a population. The mother-calf bond in animals is very strong. It is likely that mother-calves would remain in close proximity to one another, compared to the distance separating them from the vessel, and in close proximity to the haul-out site. It is highly unlikely that a mother and her calf would become permanently separated. The closest distance that the vessel route is planned with respect to known walrus calving sites in the northwestern portion of Foxe Basin (according to IQ as indicated in the Marine Mammal Baseline report, Appendix 8A-2) would be > 10 km for one site to the west of Koch Island, with the majority of calving sites being much farther from the shipping route. In addition, Koch and Rowley Islands would provide a partial noise barrier to calving sites on their western sides as the vessel route passes on their eastern side. The combination of these factors would also act to further reduce the maximum extent of masking described in the assessment, and consequently, the potential impact. Furthermore, many marine mammal species such as killer whales (Holt et al. 2009), blue whales (Di Iorio and Clark 2009), right whales (Parks et al. 2007), harp seals (Serrano and Terhune 2002), and Weddell seals (Terhune et al. 1994) have adapted acoustic communication strategies to compensate for changes in ambient noise. These strategies can include increasing the amplitude of calls, increasing calling rate, shifting calling frequency, and increasing the duration of calls. It is unknown, but possible, that walrus, including mother-calves, use one or many of these strategies to adapt to changing ambient
DFO-24b	While the duration of masking may be short relative to the interval between transits, it is still significant to the species in question in terms of its behavior and life history. Provide more thorough examination of the effects of shipping noise for all marine VECs along the shipping route over a period ranging from several minutes to several hours for species that depend on social communication for mating, group cohesion, etc. and acoustic sonar for feeding.	The available information regarding the effects of shipping noise for all marine mammal species is thoroughly covered in the EIS. There is currently little information about the biological significance of masking, or lack thereof, in terms of behaviour and life history. For many species, there would be no, or very little, frequency overlap between the vessel noise and the vocalizations used as described in the EIS. Acoustic sonar frequencies are of much higher frequency than those produced by shipping vessels and are not a concern when considering the impact of masking from shipping noise. Again, the available information is summarized in the DEIS.
DFO-24c	The EIS frequently states that call masking by shipping noise is unlikely because the sounds important to that marine mammal species are predominantly at higher frequencies than the shipping noise (e.g., Vol. 8, section 5.7.2.3, top of p. 186). The most uniformly effective mask is broadband noise such as the broadband (10-2000 Hz) sound fields used in the underwater noise modeling for the ore carriers (appendix 8C, table 16). For human speech, when a masking source with noise spanning 20 Hz to 4 kHz is present, the signal must be 12 dB louder than the broadband noise to achieve 80% word recognition. Provide better justification for rating masking effects as low magnitude, especially for low- frequency specialists like bowhead whales.	See Response to DFO IR #24a.
DFO-25a	As described in Tables 8-5.3 and 8-5.7, what are the frequency characteristics and source level of the proposed acoustic deterrent systems? For some such systems, at close ranges some animals could be exposed to sound levels loud enough to cause TTS after even a short exposure.	The proposed short-term acoustic deterrent system has not been selected at this stage in the Project. This type of information will be included in the final Monitoring and Mitigation Plan for the Mary River Project. The Plan will be developed and finalized after consultation and input from DFO, other regulators, and community members. An example of an acoustic device that successfully deterred harbour seals from an area with salmon is provided in Yurk and Trites (2000). Yurk, H. and A.W. Trites. 2000. Experimental attempts to reduce predation by harbor seals on out-migrating juvenile salmonids. Transactions of the American Fisheries Society 129: 1360-1366.
DFO-25b	Some mitigation measures will be based on sound modeling. Given the time to analyze acoustic data can be lengthy, when would new "safety radii" be adopted, if the results warranted this?	Modelling for noise levels can be developed and run when detailed engineering design and construction methods have been developed. This can be completed in advance of actual construction. Once construction commences, an adaptive management approach will be applied.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
DFO-25c	What effects would shipping noise have on key fishes? How will it be monitored and mitigated?	The effects of shipping noise on fish are discussed in Volume 8, Section 4.5.2.2 (Habitat Alteration). As already discussed in this EIS section, results of studies on the effects of shipping noise on fish show mostly short term behavioural effects, and are localized, short-lived and completely reversible. Short-term effects of avoidance behaviour have been shown; however longer-term effects on distribution have not been proven (Bowles et al. 2007). Fish have been known to move out of the area when a vessel is present, and return to normal activities when the vessel has left. Handegard and Tjostheim (2005) showed that fish avoided the area approximately 15 minutes before the passage of a vessel, while Draštik and Kubečka (2005) demonstrated that, while smaller fish avoided the vessel, larger fish did not. Information on the physiological effects of shipping noise on fish is also limited (Bowles et al. 2007). As was specified in the EIS, mitigation measures for fishes in the area are difficult to maintain for shipping, beyond minimizing vessel traffic in key areas. The vessels will be specifically designed to reduce noise output. Other mitigation measures to reduce noise output in both the Steensby and Milne ports, such as reduced shipping speed, and minimize engine idling at the ports, will also be employed to mitigate effects of shipping on fishes, and these have already been outlined for marine mammals such as the Ringed Seal (see Volume 8, Section 5.6). References Bowles, A., S. Graves, and T. Yack. 2007. Aquatic Noise Pollution from Oil Tankers and Escort Vessels in Prince William Sound, Its effects and impacts on the Marine Environment of the Sound - Literature Search from 1980 to Present. Report by Hubbs-SeaWorld Research Institute for Prince William Sound Regional Citizen's Advisory Council on Project 854.07.1 Draštik, V., and J. Kubečka. 2005. Fish avoidance of acoustic survey boat in shallow waters. Fisheries Research 72(2-3):219-228. Handegard, N.O., and D. Tjostheim. 2005. When fish meet a trawling vessel: examining the behaviour of gadoids using a free-floating buoy and acoustic split-beam tracking. Canadian Journal of Fisheries and Aquatic Sciences 62(10):2409-2422. There are no mitigation or monitoring measures proposed to address effects of noise on fishes.
DFO-25d	In section 5.7.2.3 it says that "The amount of masking will be a function of how close to the ship's path the walrus is". Provide quantitative analysis to indicate how the walrus' communication space will change in response to the distance between it and the ship. [A paper by Clark et al. 2009 (Mar Ecol Prog Ser, vol. 395: 201–222) presents an analytical paradigm to quantify changes in an animal's acoustic communication space as a result of spatial, spectral, and temporal changes in background noise, providing a functional definition of communication masking for free-ranging animals and a metric to quantify the potential for communication masking. This paper may be useful.]	A quantitative analysis indicating how the walrus' (or other marine mammals') communication space would change in response to the distance between it and the ship could theoretically be performed. It would involve a number of assumptions, but the actual impact on the individuals or populations could not be determined from such a quantitative analysis. At best, such a study might provide a more realistic measure of the worst-case scenario for loss of communication space for individuals rather than assuming the more severe case of complete masking for 3 h out of every 24 h (see also Response to DFO IR #24a). The analysis would require calculating the communication space in the absence of the masking noise (ore carrier in this case) and calculating the reduction in communication space in the presence of the masking noise. The analysis would need to consider (or make assumptions regarding) the ambient noise level without the masking source, the noise level and frequency range of the masking source along with the corresponding transmission loss, the frequency and duration of masking events, the source level and frequency range of the vocal signal from the sender and its corresponding transmission loss, the density of conspecifics (potential receivers) and their distance from the sender, and the species' recognition differential (which considers the detection threshold, directionality index, and signal processing gain). There are no reliable data on almost any of the above parameters needed for useful modelling to be conducted.
DFO-26a	Provide in-air audiograms and a description of walrus hearing abilities.	To the best of our knowledge, there is no in-air audiogram available for walrus. Kastelein et al. (1993) showed that walruses react to airborne sounds at 0.25 to 8 kHz, but absolute thresholds were not determined. The underwater hearing abilities of walrus are summarized in Section 5.4.1.3 of the EIS and provided in detail in Kastelein et al. (2002). Kastelein, R.A., C.L. van Ligtenberg, I. Gjertz and W.C. Verboom. 1993. Free field hearing tests on wild Atlantic walruses (Odobenus rosmarus rosmarus) in air. Aquatic Mammals 19: 143–148.
DFO-26b	Provide an assessment of the potential impacts to walrus due to airborne noise resulting from Project activities.	An assessment of the effects of aircraft overflights on walruses was completed (Volume 8, Section 5.7.2.2), including a review of available information on walrus response to aircraft overflights. A meaningful quantitative assessment similar to that conducted for cetacean response to underwater noise sources is not possible given that there is no available in-air audiogram for walruses and that in-air sound levels from aircraft overflights that elicit avoidance responses by walruses are lacking. Therefore, results of a quantitative assessment of this nature would be at best speculative. The DEIS notes that Steensby Inlet is not considered an area where walruses haul out in high numbers. However, it is acknowledged (Volume 8, Section 5.7.5) that there is uncertainty about how many walruses use Steensby Inlet during the open-water period and how walruses that may occur there will respond to daily overflights of Boeing 737s during the Construction Phase. Given these uncertainties, monitoring will be undertaken as per Appendix 10D-10 at the Steensby Inlet Port site during the Construction Phase to document walrus occurrence and the potential response to site activity, including aircraft overflights.

Table 1

Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
DFO-26c	Provide an assessment of the noise generated by jet-engine aircrafts and potential impacts to marine mammals, or provide further justification as to why jet-engine aircraft should not be included in the assessment.	The reviewer is referred to Response to DFO IR #26B regarding the assessment of walrus response to aircraft overflights in Steensby Inlet during the Construction Phase. In addition to the information provided in that response, the probable flight path of 737 jets arriving from and departing Steensby Inlet for Iqaluit were examined. The aircraft would be at an approximate altitude of 8500 m at its closest horizontal distance to Koch Island where walrus are known to haul out in relatively high numbers. It would be at an approximate altitude of 9100 m when it crosses the landfast ice edge into pack ice between Koch Island and the Baffin Island shoreline. A preliminary estimate of the sound level at the air/water surface in both these locations would be about 73 dB at the 100 Hz frequency. Noise levels from passenger jets at near cruising altitudes are almost undetectable from the ground. Walruses and other marine mammals are unlikely to respond to these noise levels.
DFO-26d	Please provide justification to support the conclusion that hearing impairment that may last for minutes, hours or days would not pose a significant risk to a marine mammal in its avoidance of predators, passing ships or other potential threats.	This conclusion was not reached. As stated on p. 185 of Volume 8, walruses in Steensby Inlet are not predicted to be exposed to in-air sound levels from aircraft overflights (Boeing 737) that exceed thresholds for hearing impairment in pinnipeds (149 dB re 20 µPa (peak)(flat) or 144 dB re 20 µPa2 • s (Mpa) in air (Southall et al., 2007). Southall, B.L., A.E. Bowles, W.T. Ellison, J.J. Finneran, R.L. Gentry, C.R. Greene Jr., D. Kastak, D.R. Ketten, J.H. Miller, P.E. Nachtigall, W.J. Richardson, J.A. Thomas, and P.L. Tyack. 2007. Marine mammal noise exposure criteria: initial scientific recommendations. Aquatic Mammals 33(4):411-522.
DFO-27	Text in section 5.4.1.3, it states that "harbour and ringed seals are close relatives, and hearing abilities of phocinid seals as a group appear to be similar, it has been assumed that both the underwater and in-air hearing abilities of ringed and harbour seals are similar". Harbour and ringed seals are ecologically different enough that it is not safe to assume they have similar communication abilities. The in-air audiograms of harbour and harp seals demonstrate they are not especially similar. The underwater audiogram for the harbour seal is noticeably different than the in-air audiogram indicating that one does not provide a close indicator of what the other will be. Provide additional references to support the assumptions identified above.	Audiogram data (in water) exist for ringed seals as well as the following additional pinnipeds: harbour seal, harp seal, northern elephant seal, Hawaiian monk seal, grey seal, northern fur seal, California sea lion, and walrus (see Southall et al. 2007 for a review). There are no data on the sensitivity of ringed seals to airborne sounds. Of the species with audiometric data, available evidence indicates that the ringed seal is most closely related to the harbour seal (see Árnason et al. 1995). Additional reasons for selecting the harbour seal for comparison are that more hearing studies, including some of those considered to have produced the "highest-quality" data, have been conducted on the harbour seal than on any other pinniped species. Árnason, Ú., K. Bodin, A. Gullberg, C. Ledje, and S. Mouchaty. 1995. A molecular view of pinniped relationships with particular emphasis on the true seals. Journal of Molecular Evolution 40:78-85. Southall, B.L., A.E. Bowles, W.T. Ellison, J.J. Finneran, R.L. Gentry, C.R. Greene Jr., D. Kastak, D.R. Ketten, J.H. Miller, P.E. Nachtigall, W.J. Richardson, J.A. Thomas, and P.L. Tyack. 2007. Marine mammal noise exposure criteria: initial scientific recommendations. Aquatic Mammals 33(4):411-522.
EC-01-1	Safe navigation in ice-covered waters depends on the experience,knowledge and skill of the ice navigator. Currently, most ice navigator training programs are ad hoc and there are no uniform international training standards. The project is proposing to have 10-12 large (cape class) icebreaking ships working year-round to transport ore through waters that are ice covered for a major part of the year. year. How will the proponent ensure safe navigation in these waters?	Operation of the ore carrier fleet will be contracted out to a reputable and experience navigation firm which has Arctic navigation experience and will work inline with Coast Guard initiatives.
EC-01-2	2) The accidental release of oil or toxic chemicals can be considered one of the most serious threats to Arctic ecosystems as a result of shipping. Concentrated aggregations of birds and mammals, often in confined spaces such as leads and polynyas, increase the risk to the animals in the case of an oil spill in the Arctic. Even small spills can have large consequences if they occur where species are concentrated. How will the proponent identify and monitor various locations where marine birds and mammals may concentrate? How will the proponent mitigate impacts on wildlife in the event of an oil spill, for example will the proponent have oil spill response capability and equipment in strategic locations along both shipping routes, and if so where?	The Emergency and Spill Response Plan is presented in Appendix 10C-1. The Oil Pollution Emergency Plans for both the milne Port and Steensby Port are presented in Appendix 10C-2 and Appendix 10C-3.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
EC-01-3	3) The introduction of invasive species into the Arctic marine environment from shipping can occur and the risk may be enhanced due to changing climate, possibly making conditions more favourable to some species. The most risk exists where a transfer of organisms from ecosystems of similar latitudes and conditions can occur. Introduction can occur through both ballast water and hull fouling. The proponent has explained that ballast water will be exchanged offshore (in the mid-Atlantic) before the ships come into port. What precautions are being considered with respect to hull fouling? Please describe the likelihood that invasive species (including parasites) would also be transported in the bilge water of ships, and the potential negative impact that this could have on the marine food web and marine mammals.	The low-friction coating on the ice-breaking ore carrier is considered an anti-fouling coating. This coating is non toxic (see MSDS). No bilge water will be discharged at the Steensby or Milne ports. Management of ballast water is described in Volume 9 Section 9.3.4.4 and Appendix 10D-10. In compliance with the Canadian shipping protocol, ballast water will be exchanged prior reaching the port of Steensby or Milne.
EC-01-4	4) Ship emissions to the air (i.e. CO2, NOx, CFCs, methane, particulate matter, etc.) have been associated with climate change effects and in the Arctic could have significant regional impacts on both human and environmental health. For example, black carbon, a component of particulate matter produced by marine vessels through the ncomplete oxidation of diesel fuel, has been shown to accelerate ice melt. Effective reduction of ship emissions can be achieved through the application of feasible and best available technologies, through air emissions reduction techniques and through effective implementation of relevant IMO regulations. What is the proponent proposing to do to evaluate, mitigate and monitor these potential effects?	The design of the ore carriers is not complete yet. All engine emission levels will comply with the latest International Marine Organization guidelines for emissions when the vessels are ordered.
EC-01-5	5) Ice-breaking may result in earlier spring break-up and later fall freeze-up and regular ship movements at the end of either season may change ice regimes along both the southern and northern shipping routes. Ice regimes affect the entire arctic marine food web, from primary productivity up to marine mammals, birds and top predators. How is the ice regime along the southern and northern shipping routes predicted to change as a result of marine shipping over the life of the project? How will changes in the ice regime influence the marine food web and the distribution and abundance of marine mammals and birds? How is the open water season defined for Milne Inlet?	As stated in the EIS: Volume 8, Section 2.1; and Volume 3,Section 3.2.2, shipping to Milne Port (northern route) will only occur during the approximately 90-day ice-free period of July 15 to October 15. This is the defined "open water" season. Therefore, no shipping related effects to sea ice are anticipated along the northern route. It is noted in the EIS (In Volume 2, Section 2.6.2.1) that ice breaking could delay formation of a continuous, competent ice surface due to repeated disturbance of newly formed ice, however, given the variability of the timing of freeze-up, any localized disruption in the timing of ice formation would be restricted to a small area around the ship track, (1.5 to 6.5% of Steensby Inlet) the effects of which would be minimal in the context of the natural variability in the timing of formation and in the spatial context of landfast ice development in Steensby Inlet. The potential effect of the disruption of landfast ice due to ice breaking activities was considered to be Not Significant. Therefore, there are no changes predicted to the food web or the distribution and abundance of marine mammals and birds resulting from this minimal change. As part of the Ice shipping study conducted for the Project (Appendix 3F-1 - Enfotec, 2010) the open water season for Milne Inlet was defined by conducting a detailed month-by-month analysis of the winter ice atlases compiled by the Canadian Ice Service since 1990. These ice atlases are based on high resolution synthetic aperture radar (SAR) image from aircraft (1990 – 1995) and RADARSAT (from 1998 to 2010). This data was augmented with satellite image data contained in Enfotec archives dating back to the 1980s.
EC-02-1	1) Please specify the number and location (including a map or geospatial coordinates) of all Red Knot sightings recorded during surveys from 2006-2008 as well as any recorded signs of breeding or nesting.	Vol 6E-1, pg. 16 of 20, reported in error that Red Knots were observed in surveys along transportation routes. Initial reporting included an unverified report of Red Knot, but that sighting was never confirmed. Red Knots were not observed during any surveys.
EC-02-2	2) For each Species at Risk encountered during surveys, please identify potential adverse effects of the project on each species, how they will be mitigated and how the efficacy of mitigation measures will be monitored as required under S. 79 of SARA.	Based on EC's comments, Volume 6 requires further consideration to address potential impacts, specifically on Ivory Gull and Ross's Gull. Baffinland will conduct additional impact assessments on those species and provide prior to the technical meetings.
EC-03-1	1) As per the bullets outlined above from Section 8.1.11.2 of the EIS Guidelines issued by the NIRB, please describe potential impacts to migratory birds from year-round shipping within this Key Habitat Site, mitigation measures that are proposed to address these potential impacts and monitoring programs to evaluate residual impacts and the efficacy of mitigation measures.	Volume 6 – Section 4.10.3 identifies the only perceived threat to the Resolution Island area (found within Key Marine Habitat Site # 28 – Frobisher Bay) is that of a major accident (e.g., oil spill). See section Section 4.10.3 for additional information. The impact assessment was limited to reasonable expected project activities. Major events such as oil spills are addressed in the operating mine's EHS plans.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
EC-03-2	2) Please provide a rationale as to why it is necessary for the shipping route to pass in such close proximity to Resolution Island, and describe any feasible alternative shipping routes that could be used in this area.	Acknowledged; the shipping route shown in the EIS closely approaches Resolution Island, which is not necessary. The ships sailing through Hudson Strait under normal operating conditions and particularly when navigation through thick pack ice is not necessary, are expected to remain a minimum of 15 km off-shore. Figures 8-1.1 and 8-2.1 have been revised to reflect this (see Attachment 13). This setback from the coastline is consistent with the setbacks recommended in the key migratory bird marine habitat sites document (Mallory and Fontaine, 2004). Deviation from the nominal route, will mainly occur during ice cover, when ice breakers will be navigating through the ice and may adjust course to avoid problem ice areas.
EC-04-1	Please describe the frequency and volume of grey water, treated sewage, and bilge water discharges from vessels anticipated to be used throughout the project within Steensby Port and Milne Inlet Port and during a typical transit to and from Steensby Port and Milne Inlet along the northern and southern shipping routes to Davis Strait (including passage through Hudson's Strait). Please include in these discharges expected releases of marine lubricants, fuel oils, gear oils, hydraulic oils, greases and cleaning oils.	Ships will not be releasing any discharges other than ballast water at the port sites. Any discharges of treated sewage and bilge water will occur during transit at the discretion of the ship and in accordance with regulation. No releases of oils or greases are expected, but accidents and malfunctions are possible and management systems will be in place to respond to accidents.
EC-04-2	Please describe how grey water, treated sewage, bilge water and other discharges are likely to disperse within the shipping lane under open water and ice cover conditions. Provide the estimated concentration of oily substances in various discharges, how ship design will assure compliance with applicable regulations on discharges and how discharges will be monitored for compliance.	Any ship sailing in Canadian waters must meet design requirements and operational practices that adhere to Canadian shipping regulations.
EC-05-1	1. Please expand the assessment of marine shipping impacts to include marine birds (e.g Thick-billed Murres) as a VEC.	Thick-billed Murres were not considered a VEC. NIRB identified migratory birds as the VEC, and four Key Indicator species were identified for specific assessment (Volume 6, Sec. 4.2).
EC-05-2	2. Please provide information on the potential disruption or alteration of spring and fall migrations of seabirds and seaducks from marine shipping, including location, timing, species and estimated numbers of birds along both the northern and southern shipping routes that may be affected or provide a clear rationale backed by supporting information as to why this was not scoped in as a potential project interaction.	Recurring and regular ship transit was not considered an effect pathway (Volume 6, Sec. 4.3.1). It is unclear to Baffinland how shipping can affect bird migration. Eiders (a seaduck) were identified as a Key Indicator for the VEC migratory birds. Baffinland's assessment focused on the effects of the project on Eider habitat. Sensory disturbance from shipping was considered as only a minor project interaction.
EC-05-3	3. Please describe mitigation measures to reduce disturbance to birds from ship vessels along the shipping lanes, measures to avoid vessel collisions with birds, and measures to reduce the release of contaminants into the marine environment from operational and accidental discharges, and how the success of these mitigation measures and impacts to birds will be monitored.	Vessel collisions with birds – Baffinland is unaware of any existing information on the potential for ship collision with flightless Thick billed Murres. Appendix 10D-10 addresses shipping management related to the prevention of contaminants entering waterways through normal operations. Section 4.5.2 focuses on ship interactions with Marine Birds and monitoring of potential impaCTA. The management plans are adaptive in nature so that monitoring and mitigation can be altered with respect to potential impaCTA. Appendix 10C-2 describes measures and mitagation for responding to accidental spills. effects of accidents are not considered in the impact assessment of regular project activities.
EC-06-1	Please update the analysis of cumulative effects from marine shipping according to the bullets from the NIRB EIS guidelines highlighted above,accounting for the expected shipping activities associated with the Kiggavik Uranium project.	We acknowledge that the Kiggavik Project was not included in the CEA. However, according to Areva's project proposal, shipping associated with this project is estimated at 5-7 ships, a portion of which will sail through Hudson Strait each open water season. This compares to an average of 173 voyages that sail through the Quebec portion of Hudson Strait and 102 voyages that sail within Nunavut waters of Hudson Strait in the July-October period (Volume 9; Table 9-1.1). A portion of this traffic may be the same ships, and would represent sailings as part of a round trip in most instances. It remains, however, that the Kiggavik`s anticipated ship traffic is minor in relation to the pre-existing level of shipping through Hudson Strait, the level of traffic of this project is negligible and would not change the conclusions of the assessment. It was concluded that the potential scenario of a doubling of production at Mary River would be the main cumulative effect that would result from ship traffic.
EC-07-1	1) Please provide information on the density (number of individuals or detections) of each species of shorebird and songbird detected in surveys broken down by habitat type. Please indicate the sample size of survey plots and point counts in each habitat type and each year, provide the number of active nests recorded for each species by habitat type.	This is baseline information that did not contribute to the project's impact assessment or impact statement. Regardless of quantitative results, it is unclear how density estimates will be useful for impact assessment and mitigation planning. Protection of migratory bird habitat and nests will be implemented regardless of bird densities.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
EC-07-2	2) Please provide the density estimates for songbirds and shorebirds from the two studies that were cited in Volume 6 – Section 4 and Appendix 6E-1 (Weider and Hobaek 2000 and Morrison et al. 2001) for comparison with densities estimated from the baseline surveys.	This is baseline information that did not contribute to the project's impact assessment or impact statement. The baseline and impact assessment does allude to relatively low densities. Regardless of quantitative results, it is unclear how density estimates will be useful for impact assessment and mitigation planning. Protection of migratory bird habitat and nests will be implemented regardless of bird densities.
EC-07-3	3) Please provide an assessment of the potential impacts to songbirds and shorebirds from construction and operations along the proposed transportation corridors linking the mine site to the two ports.	Songbirds and shorebirds were not VECs for reasons as justified in Volume 6, Section 4.2. effects on shorebirds and songbirds were addressed an assessment of general habitat loss, quantified by proportional loss of ELC units (as an index of vegetation units and habitat types). There are no project interactions known to disproportionally affect particular species of songbird or shorebird.
EC-08-1	1) Please calculate Zones of Influence for each of the airstrips based on the expected aircraft types using each airstrip, the noise levels generated by each type of aircraft during take-off and landing and the area during which aircraft will be below an altitude of 650 m during take-off and landing.	This information will be provided separately from this IR response, prior to the technical meetings.
EC-08-2	2) Based on this information, please update estimates of the changes in habitat effectiveness for each of the bird VECs based on revised estimates for airstips.	Effects of individual project components were not assessed. Habitat loss was determined assuming that habitat effectiveness would be reduced to zero within the entire Potential Development Area (PDA).
EC-09-1	1) Please include attraction of predators and scavengers to project facilities and domestic waste at camp sites in the assessment of project interactions.	Appendix 10D-4 of describes the management of waste as part of the Project. The management of wastes as part of the Project will be sufficient to adequately prevent the attraction of predators and scavengers to project facilities. Adaptive management will serve to further mitigate unforseen interactions with wildlife.
EC-09-2	2) Please describe how all waste streams will be segregated, stored, treated and disposed of, and how waste management systems will be designed to minimize attraction of predators, scavengers and other migratory birds.	This is described in Appendix 10D-4 Waste Management Plan. Wastes will be segrated at source. Food/kitchen wastes will be incinerated. Only inert waste will be landilled.
EC-09-3	3) Please describe how the success of waste management activities in reducing the attraction of predators, scavengers and other migratory birds will be monitored.	This is described in Appendix 10D-4 Waste Management Plan. Wastes will be segrated at source. Food/kitchen wastes will be incinerated. Only inert waste will be landilled.
EC-10-1	1) Please describe mitigation measures that will be put in place to reduce human-polar bear interactions over the life of the project (from construction to closure and reclamation).	This is described in the Terrestrial Wildlife Mitigation and Monitoring Plan - Appendix 10D-11. A specific EPP # 2.10 provides instruction to employees for dealing with polar bear encounters.
EC-10-2	2) Please describe what mitigation measures are in place to contain accidental fuel spills from ships at port facilities as well as along shipping routes and how wildlife protection is incorporated into spill response plans.	Refer to OPEP for Steensby Port (Appendix 10C-2) and OPEP for Milne Port (Appendix 10C-3).
EC-10-3	3) Please describe what mitigation measures will be used to identify polar bear maternity denning areas and avoid the disturbance of female bears in maternity dens.	As noted in Volume 8, Section 5.11 of the DEIS, information regarding the location of denning areas has not been published, but Hall Beach elders noted that the southeastern portion of Steensby Inlet provides good denning habitat. Given that Project activities in Steensby Inlet are expected to occur prior to and during the period when polar bears establish dens, it seems unlikely that polar bears would establish a den in a "disturbed" area; thereby, minimizing the risk of interactions between Project activities and denning polar bears. There are no plans to actively search for and identify maternity denning areas at the Steensby Inlet port site. If a denning site is found, the GN DoE will be contacted and the area will be avoided to the extent possible
EC-11-1	1) Were the model outputs for the GCM grid cells closest to each meteorological station used in the comparison or was areal grid averaging used in the derivation of the seasonal and annual GCM-predicted values (in Table 5-1.1) or climate projections (in Tables 5-1.2 – 5-1.5)?	Predicted values are a result of grid cell averaging over the selected domain (400,000 square kilometers over Northern Baffin Island)
EC-11-2	2) Each GCM has a different grid resolution. In the comparisons, were all model grids set to a common grid?	The highest resolution GCM data that was publically available at the time of the study was used in the assessment. Further refinement in resolution (i.e., downscaling) was not completed
EC-11-3	3) Are the seasonal/annual predicted baseline values presented in Table 5-1.1 from a specific scenario, or are the values an average of both of the modeled scenarios?	The seasonal/annual baseline values presented in Table 5-1.1 are the same for both scenarios (i.e., A2, B1).
EC-12-1	Please provide an inventory of stored CEPA-regulated substances. The inventory listing should include the type and maximum quantity of regulated materials stored at each location.	All MSDS of regulated substances are provided as an appendix to the Emergency and Spill Response Plan (Appendix C-1). While these MSDS were not included in the DEIS, the appendix provides a listing of these substances.
EC-13-1	1) Please clarify if a waste management facility is going be constructed at Milne Inlet.	Yes there will be waste management facilities located at Milne Port (incinerator, waste transit facility, land farm).
EC-13-2	Please update the Waste Management Plan to provide information regarding waste management at Milne Inlet.	The Waste Management Plan presented in Appendix 10D-4 also applies to Milne Port.

Table 1

Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
EC-14-1	Page 26 of the draft EIS indicates that remediated hydrocarbon contaminated soils from landfarms will be transferred to landfill when the hydrocarbon levels meet the applicable Nunavut remediation standards. However the applicable levels and the supporting information for them are not provided. Please provide the levels and reference for these standards.	The Site Remediation Guidelines for Nunavut will apply.
EC-14-2	2) Hydrocarbon contaminated snow and ice will be placed in a containment area at the landfarm but no information is provided on what measures will be taken to prevent bird landings during unfrozen conditions. Please outline how wildlife will be kept away from this contaminated material.	During summer months, water/runoff will be removed as required to minimize pooling of water.
EC-15-1	1) Please provide an assessment of the potential impacts and alternatives to using CaCl brine as a dust suppressant.	The use of CaCl solution is authorized for use in Nunavut. In the absence of usage guidelines for Nunavut, usage will follow the application guidelines established by the Ministry of Transportation of Ontario.
EC-15-2	2) Please describe what alternatives were examined for the management of waste brine.	At present, a limited amount of brine is used for exploration drilling - refer to EPP procedures for drilling.
EC-16-1	1) Please describe what routine monitoring will be carried out on the discharge water.	Refer to Appendix 10D-2 for surface water runoff and to Appendix 10D-3 for Wastewater Treatment Plant discharges
EC-16-2	2) Please update the Wastewater Management Plan (Appendix 10D-3) to include this treatment system.	This management plan will be updated for the FEIS as detailed design becomes available for these facilities. However, the current management plan provides information on what is currently done and will be done for all future wastewater treatment facilities.
EC-17-1	1) Please describe how the effluent will be treated to ensure compliance with the Fisheries Act.	A functional description and treatment parameters of all wastewater treatment plants will be provided in the FEIS
EC-17-2	2) Please provide estimates of best achievable effluent quality	Refer to Appendix 10D-3. These levels of treatment will be achieved by all wastewater treatment plants constructed for the Project.
EC-17-3	3) Please revise The Wastewater Management Plan to include the treatment system at Steensby Port.	This managment plan will be updated for the FEIS
EC-18-1	Please clarify if the conveyer at Steensby Inlet will be covered and equipped with dust control equipment at all transfer points, similar to the conveyer at Milne Inlet (p. 76) and mine site (p. 87).	Yes, the conveyors at Steensby Inlet will be covered, and dust collection equipment will be installed at transfer points.
EC-19-1	Please describe how the incinerators will be decommissioned and their ultimate fate.	This information will be provided in the FEIS.
EC-20-1	According to Table 2.4 no lake water quality sampling was conducted to ascertain baseline conditions along the Milne Tote Road or at Milne Inlet and only one site (Mid-rail Camp Lake) was sampled for the whole railway corridor. Limited baseline data in these areas will make it difficult to discern what impact, if any, project activities are having on lake water quality along the road and rail lines and at Milne Inlet. Request: Environment Canada requests that baseline sampling be carried out to characterize the lake water quality along the Milne Tote Road and the rail corridor as well as around Milne Inlet	Mid-rail camp lake was sampled because it is a potential camp water supply source. Other lakes adjacent to the tote road and railway were not sampled as this was not required to complete the effects assessment.
EC-21-1	Stream water quality summary statistics reveal that the majority of sites sampled between the mine site and Steensby Port and the mine site and Milne Inlet were sampled only 4 times (Table 3.2) and 3 times, respectively (Table 3.3). Limited sampling in these areas is likely insufficient to capture natural variation in these study areas and will make changes that result from project related impacts difficult to identify. Request: Please describe how a realistic water quality baseline can be developed from the available data and any supplemental sampling, comparisons to baseline made and changes detected.	Sampling is being resumed in 2011 to continue to build on the existing data for the purpose of future monitoring.

Table 1

Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
EC-22-1	According to Table 2.5 of Appendix 7B, no sediment samples were taken from lakes or streams for the railway corridor, Milne Tote Road or the Milne Inlet areas. Lack of this baseline data will make it difficult to discern what impaCTA, if any, project activities are having on sediment quality in these areas when construction and operation activities are underway. Request: Please describe how a realistic picture of baseline sediment quality for the project area can be developed from the available information and/or further sampling.	Baffinland is continuing its baseline sediment quality collection program in 2011. Supplemental sediment quality sampling sites in the vicinity of Milne Port, Milne Inlet Tote Road and Railway Alignment will be added to the existing sampling locations to ensure that adequate baseline data is available for comparison with environmental monitoring data. There is an opportunity to collect up to two full years of supplemental lake water quality data prior to initiating development. Details regarding additional sediment sampling locations will be provided to clarify how further sampling will improve the coverage of the baseline data set and allow for comparison during environmental monitoring. See the EC-20-1 response for details regarding Aquatic effects Monitoring, Environmental effects Monitoring and environmental construction monitoring.
EC-23-1	The data presented in Table 3.5 of Appendix 7B indicate that a very small number of samples were collected at the sampling stations near the mine and near the Steensby Port Site. As a result, sediment sampling likely lacks sufficient sample size to characterize the variability of the mine and Steensby Port areas. Requests: 1) Please explain how a realistic picture of baseline sediment quality for these areas can be developed from the available information.	Sediment sampling carried out to date has been sufficient to establish a baseline for the effects assessment. Development of an aquatic effects monitoring program is ongoing and will include additional the establishment of additional sediment sampling stations and or additional sampling of existing stations.
EC-23-2	2) Environment Canada requests that further baseline information be gathered to ensure the data is representative of natural conditions and is useful for comparison to post development monitoring data.	As described above, water quality sampling is resuming in 2011 to build on the existing data, and development of the aquatic effects monitoring program may identify the need to establish additional stations for long-term monitoring. Baffinland will compile the additional available weekly or biweekly compliance sampling and provide it prior to the technical meetings.
EC-24-1	Page 3 of Appendix 7B indicates that samples were collected on a weekly basis in the mine site area (i.e. at sites, A0-10, C0-10, E0-03, E3-01, E4-01, F0-01, G0-01, G0-09, and L0-01) in 2007 and 2008 but that the 2008 results were not included in the draft EIS submission because they were collected to meet regulatory requirements. However we note that these locations are identified in Figure 1.2 which is entitled “Stream Water Quality Sample locations Mine Site 2005 -2008”. It is unclear if the results for these samples were included when the summary statistics for the mine area were calculated (Table 3.1). From the information presented, the 2008 data would be a useful addition to the data used to develop the water quality baseline for the mine site area. Requests: 1) Please clarify if the 2008 samples were included in the stream water quality summary statistics for the mine area (Table 3.1)?	The baseline study presented seasonal (spring, summer and fall) sampling results for a large network of streams over a three year period (2006 to 2008). This provides a good baseline. Weekly (or biweekly) sampling was also carried out for compliance monitoring, as indicated in the baseline report. This was carried out within the Mary River only, and this data was not included in the baseline report. Baffinland will compile the additional available weekly or biweekly compliance sampling and provide it prior to the technical meetings.
EC-24-2	2) Please provide the data collected during 2008 along with the relevant summary statistics.	As indicated in Appendix 7B, summary data from the weekly sampling conducted at the mine site in 2008 was not included in the overall stream water quality summary statistics. Data and summary statistics from the weekly sampling conducted at the mine site in 2008 will be provided.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
EC-25-1	Page 1 of Appendix 7B indicates that baseline sampling at the mine site,Environment Canada requests that the proponent collect sufficient reference samples to ensure that a true baseline is determined. Water quality and sediment samples from both under ice and open water conditions should be collected from this reference site and from additional stream and lake reference sites outside the local study area. along the tote road and at Milne Port was undertaken concurrent to exploration activities and mining of the bulk sample. Given the proximity to industrial activity the samples may not provide a true indication of baseline conditions. To detect/correct for these impacts it is customary to collect samples from reference sites comparable to the study area (e.g., in terms of bedrock composition, hydrology, nutrient status) with the number of reference sites being commensurate with the size of the project being undertaken. To that end, the proponent identified one reference lake, Candidate Reference Lake, located south of the mine site and east of Mary Lake (see Figure 4.1-11 of Appendix 7C for location). Unfortunately it would appear that only 2 water quality samples and that no sediment quality samples have been collected from the reference site. This sampling effort is insufficient for comparison to existing and future water and sediment monitoring results in the project area. Request: Environment Canada requests that the proponent collect sufficient reference samples to ensure that a true baseline is determined. Water quality and sediment samples from both under ice and open water conditions should be collected from this reference site and from additional stream and lake	As indicated in the EIS, one Candidate Reference Lake and several Candidate Reference Streams have been identified for the Project. Baffinland is continuing its baseline water and sediment quality collection program in 2011. Water and sediment quality sampling in the Candidate Reference Lake and several Candidate Reference Streams will be completed in order to verify the identified baseline conditions in the vicinity of Milne Port, Milne Inlet Tote Road and Mine Site. There is an opportunity to collect up to two full years of supplemental stream water quality data prior to initiating development. Details regarding the water and sediment quality sampling program will be provided to clarify how further sampling will improve the coverage of the Candidate Reference Lake and several Candidate Reference Stream baseline data set and allow for comparison during Aquatic effects Monitoring, Environmental effects Monitoring and environmental construction monitoring.
EC-26-1	Environment Canada requests that the proponent collect sufficient reference samples to ensure that a true baseline is determined. To better characterize reference conditions, more primary and secondary producer surveys in Candidate Reference Lake and other reference freshwater lakes and streams should be undertaken.	As noted in Section 4.5.10 (p. 298) a screening exercise was undertaken to identify an appropriate reference lake for the Mine Area and field sampling was undertaken in 2008 in the Candidate Reference Lake. As indicated on p. 298, additional reference waterbodies will be identified, as required, and described in the aquatic effects monitoring plan. In addition, the Metal Mining Effluent Regulations (MMER) specify site-specific monitoring of benthic invertebrate communities, including monitoring of reference areas, and the monitoring program will address these and other MMER requirements.
EC-27-1	According to page 11 of Section 2.5.2, sewage effluent modeling results for Steensby Inlet show that when released at 35 m below the surface wastewater effluent will not rise beyond water depths of 20 m and would therefore not come into contact with sea ice. This statement confliCTA with Section 3.5.2.5 which indicates that the effluent would be released at a 20 metre depth. Further a review of the modeling in Appendix 8B-3 reveals that: 1) the modeled scenarios were only conducted during ice-free conditions (i.e., June and September); 2) the effluent in the scenarios was discharged at 20 m below sea level not 35 m as indicated in Volume 8 and 3) the effluent was expected to equilibrate, on average, at 12 m and 7.5 m below sea level in September and June, respectively not at 20 m as stated. Requests: 1) Environment Canada requests that the confliCTA between sections 2.5.2 and 3.5.2.5 be clarified.	The discharge of the treated effluent from the Steensby Port wastewater treatment plant will be at a 20m depth as modelled in Appendix 8B-3.
EC-27-2	Environment Canada requests clarification of how the modeling results in Appendix 8G-3 lead to the conclusions presented in section 2.5.2.	The Project Description (Vol. 3 Section 2.5.2) incorrectly states that the treated wastewater effluent from the construction and permanent camps at Steensby Inlet will be discharged to the marine environment through an outfall at approximately 35 m below the water surface. The modeling presented in Appendix 8B-3 uses 20 m depth as input to the model. The correct depth of discharge is 20m. There is an inconsistency between the modeling in App 8B-3. The Project Description (Vol. 3 Section 2.5.2) incorrectly states that the treated wastewater effluent from the construction and permanent camps at Steensby Inlet will be discharged to the marine environment through an outfall at approximately 35 m below the water surface. The modeling presented in Appendix 8B-3 uses 20 m depth as input to the model. The correct depth of discharge is 20m.
EC-27-3	3) Environment Canada requests that additional modeling be carried out using the correct input parameters including release depth and under ice conditions.	See response to IR EC-27-2. The discharge depth is 20 m as presented in Appendix 8G

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
EC-28-1	Preamble: Milne Port will have a wastewater treatment system discharging to Milne Inlet. Similar to Steensby Inlet, wastewater discharges should also be modeled for Milne Inlet to predict the fate of sewage wastewater discharges in the receiving environment. Request: Environment Canada requests that wastewater discharges to Milne Inlet be modeled to determine the fate of the effluent and its potential impaCTA	Such modelling is not necessary in order to make effective and adequate impact predictions. Baffinland stands behind the level of assessment provided and the resulting predictions of effects.
EC-29-1	Marine water quality summary statistics for metals and ions are missing for Milne Inlet and Steensby Inlet. In addition to the boxplots provided in Figures 8-3.5 and 8-3.6, it would be useful to have all metals and ion data summarized in tabular format for near and offshore sample sites as was provided for sediment samples in Tables 8-3.4 and 8-3.6. Request: Please provide the summary statistics for metals and ions in Milne and Steensby Inlets for nearshore and offshore sites.	Summary statistics of the metal and major ion data are provided as Attachment 18 for surface and bottom samples collected during the open-water and ice-cover seasons (i.e., to match the data provided in the boxplots in Figures 8-3.5 and 8-3.6). Samples have not been separated into nearshore and offshore regions, as suggested (i.e., per Tables 8-3.4 and 8-3.6), because: 1) the program was not designed for such a comparison; 2) sediment samples were not collected at the water quality sites; therefore, comparing water quality data to a sediment quality designation is not necessarily a valid one; and 3) all water quality sites could theoretically be considered as offshore as they were all deeper than 19 m and the offshore sediment sites were those greater than 3 m.
EC-30-1	Preamble: Page 8 of the Plan indicates salt-mixing stations that produce brine for use in exploratory drilling will be located at various locations near exploratory sites. Brine is problematic in the terrestrial environment but no brine spill management plans are included in the draft EIS. Request: Environment Canada requests that the proponent provide brine spill management plans to ensure that impacts are minimized should a spill occur.	The use of CaCl solution for drilling activities is described in the EPP Operational Standard #2.5, # 2.20 and #3.4.
EC-31-1	In Table 4.4, the proponent proposes the use of a 35% calcium chloride solution for dust suppression on roads from July to October at Milne Port, on the tote road, at the mine site, Steensby Port and during railway construction. Request: Environment Canada requests that the proponent provide a discussion of alternatives to calcium chloride for dust suppression.	The EPP will be updated to include brine management procedures.
EC-32-1	Page 36 of the Surface Water and Aquatic Ecosystems Management Plan indicates wastewater from the railway construction camps will be transported to either the mine site WWTP or Steensby WWTP for treatment, this confliCTA with the facilities that are described for the Mid-rail Camp in the Project Description (see Volume 3, p. 61). Request: Environment Canada requests that the proponent clarify the discrepancy between the two statements and update the plan as appropriate.	A description of the Mid-Rail camp sewage treatment plant operation will be provided in the FEIS. The plant is not functional at this stage.
EC-33-1	Preamble: Page 36 of the Plan indicates the refuge stations at km 33 and 68 along the Milne Tote Road will be equipped with a fuel storage area for four fuel drums (no berms or liners). Request: Environment Canada requests clarification of how fuel will be managed at the refuge stations.	The fuel drums are placed on drip trays that enable capture of spillage.
EC-34-1	Page 38 of the Plan indicates surface water north of Katiktok Lake ultimately discharges into Milne Inlet via Phillips Creek and surface water south of Katiktok Lake eventually flows into Mary River via Camp, Sheardown and Mary River Lakes. However it is difficult to locate Katiktok Lake on the map Request: Please label Katiktok lake on Figure 4.6.	Figure 4.2 shows the location of Katiktok Lake. We will add the location of Katiktok Lake to Figure 4.6 in the next update to the plan, as we recognize it is a key landmark with respect to the tote road.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
EC-35-1	According to Sections 5.6, 5.7 and 5.8 of the Plan, the proponent plans to discharge drill water to the receiving environment using mitigation measures discussed in Section 3. However it is unclear which of the mitigation measures discussed in Section 3 will be applied to the drill water. Request: Please specify which specific measures might be implemented.	The EPP outlines the specific procedures followed for discharge of drill water. Section 3 presents the range of mitigation measures that can be used. The specific mitigation measures utilised as site specific.
EC-36-1	In Section 5.12 (p. 42) the proponent indicates that there will be a hydroelectric site somewhere along the railway corridor. However, with the exception of Section 1.5 (Potential for Future Development) of Volume 3, this project component was not discussed in the project description. Further, this section of the Plan refers the reader to Figure 3.2-4 of Appendix 10H for location of the hydroelectric site. However, the hydroelectric site is not labeled on Figure 10H. Requests:1) Please clarify if the "proposed hydroelectric facility" will be constructed at a site along the rail corridor.	The hydroelectric project was not discussed further in the project description because it does not form part of the current project proposal. This is stated clearly in Section 1.5: *A potential hydroelectric development site has been identified at Separation Lake which could supply up to 32 MW, enough to potentially supply power to Steensby Port and the Mine Site. If developed, the diesel generators would be retained for backup power. Should Baffinland plan to mine other deposits in the area and/or increase the production rate or mine life, or if feasibility studies determine the hydroelectric project is viable, the Company will submit another package of permit applications to the applicable authorizing agencies for screening by NIRB, in anticipation that another environmental assessment will likely be required.* And in Section 2.4.4: *While these options [hydro and wind] do not form part of the Project, Baffinland continues to evaluate these energy options for potential longer-term implementation. Separate approvals will be sought if either hydro-electricity or wind were to be developed.*
EC-36-2	2) If the facility is part of the project please add it to Figure 10H and describe the facility and the site.	Refer to EC-36-1
EC-36-3	3) If the hydroelectric facility is not a part of the project references to it should be removed from the draft EIS.	Refer to EC-36-1
EC-37-1	Section 10.2.4 indicates that sewage discharges to Mary River will be tested annually using D. magna and Rainbow trout acute toxicity tests. The section further indicates that the tests will be conducted during the open-water season but the timing is not specified. Similar sampling should occur for sewage discharges from Steensby, Milne Inlets and Mid-rail Camp using appropriate species and these locations should also be captured in the Plan. Requests: 1) Please indicate when these tests will be carried out.	The wastewater management plan is updated regularly. The next update will be for the FEIS.
EC-37-2	2) Please amend the plan to include testing at Steensby and Milne Inlets and at the Mid-rail Camp.	The wastewater management plan is updated regularly. The next update will be for the FEIS.
EC-38-1	Page 5 of this Plan makes reference to Appendices A.1, A.2 and A.3. These appendices are missing from the electronic submission. Request: Please provide appendices A.1, A.2 and A.3	The will be provided.
EC-39-1	Preamble: Page 14 of the Plan indicates incinerators (0.5-tonne capacity) may be located at the construction camps along the railway corridor. These incinerators were not mentioned anywhere in the project description. Further, the Plan also indicates incineration of some plastics is unavoidable. Request: Please provide more detail regarding the construction camp incinerators and amend the project description to include them.	An incinerator will be installed at each construction camp. The Waste Management Plan describes the waste sorting procedures and provides details on the incinerator performance. Detailed EPP procedures will be provided as these facilities are put in operation.
EC-40-1	The Plan indicates ash from incinerators will only be disposed of at the project landfill sites after receipt of TCLP analysis that meets acceptable standards but no standards are provided. Request: Please provide these standards and the reference on which these standards are based.	Refer to the Soil Remediation Guidelines for Nunavut.
EC-41-1	The Plan indicates periodic surface water monitoring will ensure any leachate from landfills is detected. However "periodic" is not defined. Request: Please indicate how frequently sampling will occur at monitoring sites for drainage from landfills.	Sampling can only be effectuated during the runoff and summer period.
EC-42-1	The Plan indicates there will be chemical waste stored at onsite laboratory facilities and offices. Request: Please provide an inventory of the chemicals that will be stored at these sites.	This information will be provided in the FEIS. However, quantities of hazardous chemicals and hazardous waste generated from the laboratory a will be minimal.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
EC-43-1	The Plan indicates that routine inspections and sampling will be done to assess the soil and water conditions of onsite landfarms used to treat hydrocarbon-contaminated material. Further the plan states "soil that has reached sufficiently reduced hydrocarbon concentrations as per applicable guidelines will be disposed of appropriately, or used elsewhere". Request: How frequent will this monitoring occur and what guidelines, including reference, will be used to assess the acceptability of soil for disposal or use outside the landfarm?	Monitoring will occur as required during the summer months. Refer to the Nunavut Soil Remediation Guidelines.
EC-44-1	The quality of model predictions is dependant on the quality of the input data used in the model. The selection of model options and the configuration of model domains and grids can also affect the quality of predictions. To provide confidence in the air quality model predictions provided in the draft EIS, all input data and selected model options and configurations must be reviewed. Request: Environment Canada requests that the proponent provide all input and control files used in the CALPUFF model to generate the air quality predictions presented in the draft EIS. All files should be in a format that can be used directly into CALPUFF. Please include all output files in the raw CALPUFF format.	Baffinland will provide this data to Environment Canada prior to the technical meetings. The ASCII input files will be provided. The raw binary files will not be provided because they are voluminous (too large for DVDs), and the actual formats of the binary files are operating-system dependent (record delimiters) and processor dependent (byte order). This will includev all CALMET input data files so that EC can generate binary met files for use by CALPUFF. All CALMET & CALPUFF input Runstream files will be provided so that all simulations can be repeated. In addition, all CALSUM & POSTUTIL input files will also be provided as well as CASLPOST runstream files.
EC-45-1	1) Please provide detailed information regarding the calculation of air emissions used in the air quality assessment for each source type. Include all assumptions, emission factors, load factors, types of fuels and any other information used in the emission calculations.	The air emissions inventory used in the modelling is presented in Appendix 5C-4.
EC-45-2	2) Please provide information on the composition of the mine truck fleet and the emission Tier standards that the trucks are capable of achieving.	The mine truck fleet will be defined in the Feasibility Study, the truck engines will meet the latest Tier standard in effect at the time of purchase.
EC-45-3	3) Please provide emission estimates for ships transporting ore and supplies. Include the type of fuel expected to be used by the ships.	The design of the ore carriers is not complete yet. All engine emission levels will comply with the latest IMO guidelines when the vessels are ordered.
EC-46-1	In Volume 5, Section 2.6 of the draft EIS, model results are provided for pollutants that are predicted to exceed ambient air quality standards. To complete a full view of the potential impacts to air quality, all model predictions need to be provided. Potential acid input loading thresholds were presented in Table 5-2.8, however no model predictions were provided in Volume 5 of the draft EIS. The concept of Potential Development Areas (PDA) is introduced in Volume 5 but not defined or justified. It would appear that the PDA are to be interpreted as a "fence line" for each of the project locations. The ships used to transport the ore can be significant sources air emissions. It does not appear that the draft EIS has considered potential air quality impacts from the shipping emissions along the coastline. Requests: 1) Please provide a table with maximum predicted ambient concentrations for all of the pollutants modelled with applicable time averaging corresponding to the ambient air quality standards listed in Table 5-2.5. Include the total area of exceedance of relevant ambient air quality standards for each pollutant.	This information will be provided prior to the technical meetings. All model predictions will be provided. Predicted acid loadings will be provided. A table with predicted maximum concentrations compared to the relevant air quality standard will be provided. The PDA's are described in the assessment methodology in Volume 2 to represent the maximum footprint or area of disturbance. It is not the fenceline. The air quality assessment identifies a local study area that was applied as the fenceline.
EC-46-2	2) Please provide spatial plots of the predicted ambient concentrations for each pollutant for each of the project locations.	This information will be provided separately from this IR response, prior to the technical meetings.
EC-46-3	3) Please provide the predicted acid input for each of the project locations including maximum values and the area of exceedances. Please also indicate the sensitivity levels of local soils and lakes.	See response to EC-46-1. There were no exceedances of criteria shown in table 5.2.8 and for this reason the sensitivity levels of local soils and lakes were not measured.
EC-46-4	Please define and justify the concept and use of Potential Development Areas.	Volume 2, Section 3.2.1 defines and rationalizes PDAs. They are conservative delineations of the project footprints.
EC-46-5	5) Please provide an analysis of the potential for ship emissions from the transport of ore and supplies to impact air quality along the coastline.	This information will be provided separately from this IR response, prior to the technical meetings. The Emissions inventory for Steensby port is provided. The only measureable impact of emissions from shipping is at port at Steensby. Emissions from the vessels while underway should be so dispersed as to be insignificant, especially since these will be latest generation of marine engines.

Table 1

Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
EC-47-1	1) Please provide additional information regarding the air quality monitoring plan. Please provide the type of monitoring planned for each parameter and the umber and location of the monitoring sites.	Please refer to App 10D-11 Terrestrial Habitat Management & Monitoring Plan. Sec 6.2 expalins that AQ monitoring will be carried out at the 3 sites. In addition, sensitive areas will be indentified along the rail line i.e wildlife corridors and during construction a baseline can be established with monitoring strarting with production. The details of site location and "Section 6 of the Air Quality Management Plan (Appendix 10D-1) is under review/revision. An update of this plan will be made and monitoring parameters will be established prior to production.
EC-47-2	2) Please provide the objectives of the proposed passive monitoring of SO2, NO2 and O3.	Passive monitoring of SO2, NO2 and O3 is not required.
EC-48-1	1) EC requests that the proponent develop an incineration management plan that is consistent with the advice provided in the Technical Document for Batch Waste Incineration.	The incineration operation is part of the waste management plan (Appendix 10D-4). Detailed operating procedures will be developed for the Incinerator operation and provided in the FEIS.
EC-48-2	2) EC requests that the proponent provide a list alternative nonincineration methods for the disposal of sewage sludge. If the Proponent decides to incinerate sewage sludge, a letter from the incinerator manufacturer stating that this equipment is suitable for burning this type of waste, should be submitted to the board.	Dewatered sludged will be incinerated. Vendor performance guarantees will be provided in the FEIS and Type A Water License application.
GN-01	Volume 1, Section 6.1 Residual effects Assessment – NSA Boundaries Section 6.1 uses the term NSA, but does not define the acronym or provide a map indicating the spatial boundaries for it. The Glossary defines the NSA as the Nunavut Settlement Area, although it is not evident where the NSA is located relative to the Mary River Project. A map showing the full extent of the NSA should be provided. Knowledge of the location and extent of the NSA relative to the Project is essential to determine and assess the potential effects of the Project on it.	Figure 3-1.1 Project Location Map in Volume 3 (and in Appendix 1A of Volume 1) shows the Nunavut Settlement Area in relation to the Project
GN-02	Volume 1, Section 6.4.1 Identification of Valued Components Section 6.4.1 states that "the VSECs and VECs for the Project are presented in Tables 1-13.1 and 1-13.2". However, there are no such tables in Volume 1. Volume 1 should be revised to include these two tables. A comprehensive list of VSECs and VECs is necessary to understand the relationships between VSECs/VECs from the various disciplines, as well as to determine the potential for impacts shared between them.	Incorrect citation - these tables should refer to Tables 1-12.1 and 1-12.2 in Section 12 instead. These tables are also presented as Tables 1 and 2 in the Executive Summary.
GN-03	Volume 3, Section 2.1.6 Appendix 10D-6 - Borrow Pit and Quarry Management Plan Aggregate Sources Sections 2.1.6 indicates that a number of aggregate pits and quarries will be required for construction, and refers the reader to Appendix 10D-6 with regards to their management and closure. However, Appendix 10D-6 does not indicate whether re-vegetation is to be included as part of the reclamation of these facilities, or when reclamation will be undertaken relative to the timing of the overall Project. Please provide the details of aggregate pits and quarries revegetation and closure plans, and their scheduling. Assuming that the need for aggregates will be limited primarily to the Construction Phase, rehabilitation of the exhausted and/or abandoned pits and quarries during Operations may be possible. This would reduce the length of time that these areas remain un-vegetated, and provide an opportunity to apply lessons learned from pit/quarry rehabilitation to the eventual closure of the mine.	Baffinland is committed to the concept of progressive rehabilitation. Section 3 of Appendix 10D-6 presents the mitigation measures and overall planning process for the development of borrow pits and quarries. Closure is an integral part of this planning process. Closure will focus on recontouring, ensuring proper drainage and stabilizing the sites once extraction of aggregate is complete from a specific site. Most quarries and borrow pit exploited for the construction period will be reclaimed during the construction period. Some quarries may be retained for an on-going supply of aggregate throughout the life of the Project. Re-vegetation of the site in Arctic climate has not been effective or successful. A detailed schedule of quarry opening and closure will be developped at the onset of the construction phase since the development of quarries is dependent on the construction work plan/schedule.

Table 1

Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
GN-04	Volume 3, Section 2.1.13 Ongoing Geotechnical Programs and Environmental Studies Section 2.1.13 indicates that environmental studies will continue during the Construction Phase, and will revolve around the proposed project infrastructure and new drill locations, moving from a focus on documenting baseline conditions to an emphasis on monitoring. It is unclear who will be undertaking these studies and what the scope of the monitoring activities will be. A detailed description of the monitoring program is required, as well as the role that it will play in a comprehensive Adaptive Management Plan. Please provide the requested information. The collection of baseline data is typically undertaken as part of the environmental assessment process, and usually undertaken by an external consultant. Construction monitoring may be undertaken internally and, if so, requires the appropriate staffing and/or qualified department to do so. As one of the purposes of environmental monitoring is to inform adaptive management (e.g., what construction management changes need to be made in the event of undesirable effects during construction), it needs to be clear what mechanisms the proponent will have in place to monitor and address negative effects during construction.	The Environmental Management System and associated Environmental Management Plans are presented in Volume 10. Each Environmental Management Plan presents a number of mitigation measures, monitoring, reporting requirements and adaptive management strategies. As stated, these management plans will evolve to meet the needs of the Project. The scope of the environmental monitoring will increase with Project activity and the number of construction sites developped. Appropriate staffing will be in place to carry out these functions. The mecanisms for on-going evaluation of mitigation techniques and adaptive management is presented in the management plans.
GN-05	Volume 3, Section 2.4.8 Appendix 10D-8 - Road Management Plan Site access roads/dust emissions Section 2.4.8 indicates that roads will be sprayed with dust suppressants to reduce fugitive emissions and refers the reader to Appendix 10D-8. Section 3.2.1 of the Road Management Plan identifies the use of water or other dust suppressants, but does not indicate what these "other dust suppressants" might be. Volume 5.0 (Atmospheric Environment) suggests the use of calcium chloride as a dust suppressant. Clarification is requested as to what other dust suppressants have been considered, and what conclusions were made regarding potential impacts on vegetation. Being as dust suppression would be undertaken in the summer, and during the short growing season, it is important to understand what potential impaCTA, if any, dust suppressants other than water might have on vegetation along roadsides.	The other dust suppressant under consideration is a non toxic polymer such as EK-35 used mainly on airstrips.
GN-06	Volume 3, Section 2.7, p. 73 The airstrip at Steensby Inlet Port and the Mine Site will be equipped with appropriate lighting, compliant with Transport Canada standards. There is little information regarding the nature of these lighting systems and how and for how long these systems would be used. There is also no discussion of the potential impact of the lighting systems on wildlife in the area. • Please provide an assessment of the potential impacts from lighting on wildlife, with references to relevant scientific literature and/or case studies. • Please clarify if the Milne Inlet airstrip will also have similar lighting systems; and if so, please assess the potential impacts on wildlife. The proponent's assessment regarding how wildlife will react to bright lighting associated with airstrips in previously undisturbed regions such as the north Baffin is required for a comprehensive assessment.	This was not scoped in as an issue. We will address this with a literature review and contact with northern mines currently monitoring wildlife behaviour.

Table 1

Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
GN-07	Vol. 3, Section 3.5.3, p. 101 It is calculated that approximately 9-10 kilometres of railway will be occupied by trains at all times, and that any three kilometre stretch will be occupied by trains every four hours. The DEIS does not include an assessment of how the frequency of train movements will affect caribou and caribou movements in the area. Please provide an assessment of how high frequency train movements may impact caribou and other wildlife, including potential effects of noise, vibration, and visual stimuli. Please provide an assessment of the likely effectiveness of the proposed mitigation measures (i.e., over/underpasses), including a discussion regarding how the frequency of trains may affect caribou and other wildlife usage of over/underpasses to cross the railway tracks. The frequency of trains across the railway will cause noise, visual, and other effects that may impact caribou and other wildlife in the region. There is limited understanding of how this component of the Project will impact caribou and other wildlife in the north Baffin. In addition, the use of over/underpasses as mitigation for caribou movement is not well understood in a high-traffic volume environment.	A discussion of how the frequency of trains will affect wildlife use was addressed in Volume 6, Section 5.1. The potential effect of vibration on caribou was not addressed because no relevant information or studies could be found.
GN-08	Vol. 3, Section 3.5.3.4 The Project Description references snow fences that may be installed along portions of the railway that are susceptible to blowing and drifting snow. Please provide further information regarding: • The potential locations for snow fences, • The expected maximum length of fencing, • The potential impact of fencing on wildlife movements throughout the region, including caribou. • A discuss regarding snow fencing may impact wildlife usage of over/underpasses. The location and length of snow fencing could cause an impact to wildlife movement throughout the region. The potential effects of this project component must be further described in the DEIS.	Snow fencing is an adaptive mitigation measure that will be applied once operating; it is not possible to identify locations. It is expected, however, that fence lengths would be in the order of metres or tens of metres long to address specific snow drifting problems. Therefore, it is not expected that snow fencing, if applied, will create a major barrier for wildlife. Environmental Mitigation and Monitoring Plans incorporate adaptive strategies to ensure effectiveness of the mitigation measures implemented. Over the life of the Project, initial mitigations measures are often adapted/improved or abandonned/replaced with other measures as a result of on-going monitoring of their effectiveness.
GN-09	Volume 3, Section 4.2 Appendix 10G - Preliminary Mine Closure and Reclamation Plan Progressive Rehabilitation Section 4.2 indicates that research studies will be undertaken during operations to examine the re-vegetation of disturbed areas using local vegetation trials and that the findings from the vegetation trials may be incorporated into updates of the Mine Closure and Reclamation Plan. It is not clear whether the proponent will be actively planting disturbed sites, or whether re-vegetation will be through natural dispersion. Please clarify. In addition to the findings of re-vegetation from the site, the Mine Closure Plan should include a thorough literature review of re-vegetation studies and experiences in Arctic environments. Please provide additional details as outlined regarding the closure plans and specific activities, as well as scheduling. A more robust knowledge base will aid in the development of an effective reclamation strategy, thereby reducing the length of time that disturbed lands remain un-vegetated. All possible sources of information should be considered in the development of the Mine Closure and Reclamation Plan.	With the objective of continuous improvement, Baffinland will review rehabilitation studies/experiments carried out in Arctic environment and Baffinland is committed to the use of best management practices as they apply to reclamation and closure activities. Due to the very slow nature of arctic vegetation growth (mosses and lichens), Baffinland is unaware of successful revetatation strategies for the arctic environment.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
GN-10	Volume 4, Pg. 141 "All identified archaeological sites with potentially direct effects are proposed to have been mitigated and/or staked and flagged in advance of construction" Please provide proposed detailed mitigation plans and timelines associated with the mitigation in reference to construction timelines and provide details relating to the construction activities which will take place in the vicinity of the archaeological sites (bulldoze , graters, explosives). The statement as-is does not provide enough detail to ensure that the archaeology will be properly mitigated well enough in advance of Baffinlands' construction plans, nor does it provide enough information to asses if the proposed mitigation is sufficient, considering specific effects of different construction techniques. While table 4-9.2 and associated text might have been aimed at addressing this issue, there is not enough detail in the table or associated text to draw appropriate conclusions.	This is information that Baffinland plans to submit to CLEY as part of a detailed mitigation plan, as part of a permit application. Baffinland believes the information presented in the DEIS is appropriate level for an environmental review, and provides a sufficient overview of the archaeology present, and the various types of approved mitigation methods that are expected to be applied at each of the sites that will require mitigation to allow for mine development.
GN-11	Volume 4, Pg. 142 "Snow ploughing and dust suppression equipment will not leave the road right of way except to deliver snow to storage areas or to create snow berms to prevent snowdrifts on the road. Snow will not be blown over a distance greater than 30 m and dust suppression spraying will not extend beyond the road right of way. The Roads Management Plan (Appendix 10D-8) will include procedures for snow storage areas or snow berms to avoid any identified archaeological sites." Appendix 10D-8 - Road Management Plan The road management plan does not indicate where the snow storage areas or snow berms will be located. Please provide this information so that CLEY can be confident that the archaeological sites within the affected areas have been properly mitigated. The above stated activities pose a threat to archaeological sites; CLEY needs to determine if proper mitigation is being planned.	Along the roads, snow will be pushed over the side of the roads. At Milne Port, Mine Site or Steensby Port, dedicated areas will be established within the PDA to accept snow. All archaeological sites within the PDA will be mitigated prior to construction.
GN-12	Volume 4 Section 9.0 - Cultural Resources Figure 4-9.1 shows the areas surveyed and identified archaeological sites from all these activities, at a 1:1,000,000 scale. This figure and its legend do not indicate areas surveyed. Please provide a map indicating all areas that were surveyed. CLEY requires details relating to the areas surveyed to establish if the work has been adequately conducted –preferably a spread sheet of the track log off the hand held GPS unit; however, Figure 4-9.1 with the addition of the areas surveyed as a Geo PDF would suffice.	Attachment 10 presents site plans showing the areas surveyed by a permit archaeologist to date.
GN-13	Appendix 4D - Cultural Resources Baseline Summary Report Pg. 11 Page 11 of Appendix 4D states that photos were reviewed by a qualified archaeologist for the presence of archaeological or land use features. Please identify how many of these sites were verified on the ground by an archaeologist and whether site forms were submitted for those sites. Official designation of archaeological sites is important to ensure the ability of the GN to protect them and to adequately evaluate the mitigation proposal.	This comment is in reference to the coastal airphoto review that was completed by the project archaeologist, using the oblique high-resolution photographs that were taken from a helicopter to carry out coastal habitat mapping of the entire Milne Inlet and Steensby Inlet coastlines. These sites were not verified on the ground, and site forms were not completed. This work was carried out to provide a regional context to the detailed site surveys carried out at project development areas, when it was recognized that archaeological and modern camp sites were visible in the photographs. We believe there is an opportunity for an archaeologist to visit these sites to verify on the ground, but Baffinland does not intend to do this as it is ouside the PDA. Baffinland has committed to carrying out the necessary mitigation in the PDA, so that legal and social obligations around archaeology are complied with.
GN-14	Appendix 4D - Cultural Resources Baseline Summary Report, Pg. 12 Archaeological Investigation And Mitigation Methods Please provide more details on the investigation and mitigation methods used within the project areas. A site by site description is desirable but not necessary. These "methods" are almost directly out of a published Government of Nunavut document and do not provide any insight as to specific methods applied by the proponent	We believe it is appropriate that Baffinland refer to the survey and mitigation methods accepted and promoted by the Government of Nunavut. If accepted mitigation measures are identied, it is not clear to us why it is necessary to describe them in detail. The DEIS is not a detailed mitigation plan. More details on investigative and mitigation methods can be provided to CLEY in the archaeology permitting process, if this is necessary.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
GN-15	Appendix 4D - Cultural Resources Baseline Summary Report Pgs. 25- 26 "A system of uninterrupted navigational markers was found stretching from Sites OcFs-3 and OcFs-4 on the east shore of 10 km Lake towards the west shore and Ikpikitturjuaq Bay." It is unclear if a site form has been submitted for this site. Please clarify Official designation of archaeological sites is important to ensure the ability of the GN to protect them. Owing to the restrictions relating to the scale at which archaeological sites can be mapped in documents available to the public CLEY uses site form data to map site location in reference to mining footprint	CLEY can refer to the 2008 archaeological permit report submitted by Sylvie LeBlanc.
GN-16	Appendix 4D - Cultural Resources Baseline Summary Report Pg. 32 It is stated that certain areas will be "posted as off limits". Please provide details as to what this means and how this would be enforced. The limited detail does not allow CLEY to assess if this is adequate mitigation.	There are a number of archaeological sites in an area near to the port site where no infrastructure is proposed, and there is no reason for site personnel to be in this area. Rather than unnecessarily mitigate these sites, and rather than flag and bring attention to the specific locations, the company will enforce a no-go zone and anyone found within this area will be subject to disciplinary measures. A fence may be necessary to demark the beginning of this no-go area. The sites for which this is proposed are presented in Table 8.2 of Appendix 4D. Having the detailed site maps, CLEY can identify these better on a map. We are open to discussing these plans further with CLEY.
GN-17	Volume 5, Section 1.1.1 – 1.1.8 Atmospheric Environment – Climate Please identify the degree of accuracy for measurements taken, and also identify how wind-blown snowfall data for Environment Canada is collected. The report mentions how difficult it is to measure and that models are often used to calculate wind-blown snowfall. • Please provide Baffinland's definition of "Ecozone", and how this term is used in the DEIS. Further, to assist with understanding the importance of Ecozones, please differentiate between the Northern Arctic and the Arctic Cordillera Ecozones. • Please provide a table or graph that outlines all collected data (temperature, precipitation, evaporation, wind speed, snow depth and solar radiation) for the various monitoring station sites. • Please clarify whether averages for conditions measured are for the life of each station where data was collected. Information requested would provide a greater confidence in the baseline climate data, and help reviewers thoroughly understand the assessment and conclusions	Snowfall information will follow in a separate submission prior to the technical meetings. #1 Ecozone--"Canada has defined a hierarchical classification of ecosystems. At a simple level there are 20 ecozones, fifteen terrestrial and five marine. An ecozone is an area of the earth's surface that represents a large ecological zone and has characteristic landforms and climate. Each ecozone is distinguished from others by its unique mosaic of plants, wildlife, climate, landforms, and human activities. "The Northern Arctic ecozone encompasses most of Nunavut and a portion of both the Northwest Territories and northern Quebec. Physically, the western portion consists mostly of lowland plains covered with glacial moraine. East of a longitudinal line which runs between Prince of Wales and Somerset islands, the terrain tends to be uplands consisting of plateaux and rocky hills. The climate is very dry and cold. The annual precipitation ranges from 100 mm to 200 mm. Mean daily January temperatures ranges from -30ºC to -35ºC in the long winters and the daily July temperatures are between 5ºC and 10ºC in the short summers. Herb and lichen dominated communities constitute the main vegetation cover. Mammals of the Northern Arctic Ecozone include Peary and barren-ground caribou, muskox, wolf, arctic fox, polar bear, arctic hare, and brown and collared lemmings. Some representative birds include red-throated loon, brant, oldsquaw, gyrfalcon, willow and rock ptarmigan, and snowy owl. In the marine environment, typical species include walrus, bearded, harp and harbour seals, beluga and narwhal." "The Arctic Cordillera contains the only major mountainous environment other than the Rocky Mountain system. It occupies eastern Baffin and Devon islands and most of Ellesmere and Bylot islands. The highest parts are strikingly crowned by ice caps and multiple glaciers. The climate is very cold and arid. Mean daily January temperatures range from -25.5ºC in the south to -35ºC in the north and mean daily July temperatures are about 5ºC. Precipitation amounts to 200 mm to 300 mm generally with higher totals on exposed eastern slopes and at lower latitudes. Vegetation at upper elevations is largely absent due to the permanent ice and snow. The Arctic Cordillera Ecozone is largely devoid of terrestrial mammals, although polar bears are common in coastal areas. Representative birds in the warmer coastal margins include northern fulmar, ringed plover, hoary redpoll and snow bunting. The marine environment
GN-18	Volume 5, Section 1.2 Atmospheric Environment – Climate It is unclear if the approach to this section is to discuss the effects of climate on the project or if it is to discuss the effects of the project on the climate. Please clarify. There needs to be an explanation in the methodology on how results from modelling are going to be compared to the Project and how climate variables (e.g. temperature, precipitation etc.) could affect the Project. GCM's were used to show predictions of climate change to the area in and around the Project and results reported but there was no reference to how these changes, whether it be an increase or decrease, will affect the Project with the exception of changes to sea ice and changes to sea levels.	Sec 1.2 describes how the Global Climate Change models that were referenced will influence climate in the project area and extreme events. The effects of climate on the Project are discussed in Volume 9, Section 2. Baffinland recognises the concern raised by this information request. The potential effects of temperature changes on the active permafrost layer will be taken into account during the detailed design of the rail embankment, permanent water crossings and the waste rock dumps.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
GN-19	Volume 5, Section 1.3 Atmospheric Environment – Climate Given that Nunavut's greenhouse gas (GHG) emissions total is expected to increase by 64% – 123% due to the Project, a greenhouse gas emissions management plan is warranted. • Describe the project design measures that will be aimed at the reduction of greenhouse gas emissions • Describe additional mitigation and follow-up measures that would be undertaken as part of an overall GHG emissions management plan. Despite emissions from the project being considered very small on a national level, the emissions from the project are are predicted to more than double overall territorial emissions. A project-specific management plan needs to be developed to address this increase in emissions.	Refer to Appendix 10D-1, Section 3.0 for measures aimed at GHG emission reduction. The Air Quality and Noise Abatement Management Plan addresses all air quality related issues associated with the project.
GN-20	Volume 5, Section 3.1 Please provide the rationale for limiting baseline studies to the three main project areas (Mary River Mine Site, Milne Inlet, Steensby Inlet) and for the exclusion of communities within the RSA. Specifically, increased air flights departing and arriving at employee-source communities will lead to increased noise levels. Please provide an assessment of the potential affeCTA from increased noise due to air traffic in these communities. Noise effects will not only be felt within the project development area, but will also be felt in communities experiencing increased air transport. Despite existing anthropogenic sources of noise within communities, the potential for any increases as a result of the project and its activities should be identified and quantified with an analysis of the resulting effects.	The baseline studies covered the entire RSA. There are already regular commercial jet flights into the 5 key communities, shift personnel transport flights will porobably be one in 2 weeks and will be using turbo propellor aircraft which are quieter than jets. The manpower rotation is expected to be 2 weeks at site and 2 weeks at home. On average, each point-of-hire community within the RSA will have in the order of one flight per week. This activity will have a limited impact on the 5 key communities.
GN-21	Volume 5, Section 3.2 Please provide the rationale for the use of the Alberta Energy Resources Conservation Board (ERCB) Directive 038 guidelines. Justify their applicability to a treeless environment. In addition, identify which past and current development projeCTA in Nunavut were used as examples for the analysis, and how the projeCTA were used in the effects analysis. The most significant difference between most of Nunavut and other habitats in Canada is the absence of trees and forest community complexes. In the absence of forest assemblages the transmission of sound across landscapes can increase significantly. The extreme cold found in the North Baffin may also contribute to excessive noise transmission due to the decreased air density. The research conducted by the Alberta Energy Resources Conservation Board may be more appropriate for an area with a differing ecosystem than is found in the North Baffin. Current and past projeCTA provide matter-of-fact information and data on the types and quantities of noise emissions experienced at the project and surrounding areas. This information provides the opportunity for analysis for realistic and pragmatic noise modeling of the potential impacts on Nunavummiut and wildlife.	The ERCB Directive 038 is a noise directive which was referenced in the Meadowbank, Doris North and High Lake projects. The reference for Mary River is reasonable since these sites are all in the permanent permafrost zone and above the tree line.
GN-22	Volume 6 Please provide an assessment of the potential for the bioaccumulation and biomagnifications of metals in the terrestrial and aquatic environments. DoE is concerned that a comprehensive review of foodwebs and the effects of contaminants on those foodwebs has not sufficiently been carried out. Contaminants will affect water quality and the rate of bioaccumulation and biomagnifications of metals in the terrestrial and aquatic environments, which may have potential impacts on wildlife and wildlife habitat.	As noted in Section 4.5.10, monitoring of metals in fish tissues may also be conducted as part of the aquatic effects monitoring program, and in consideration of requirements of the Metal Mining Effluent Regulations (MMER).

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
GN-23	Volume 6 Please identify the long term effects of the disruption of vegetation coverage in the PDA on permafrost and subsequently on project infrastructure. The loss of vegetation can cause ground subsidence by altering the albedo, absorption, and local hydrology in permafrost regions (Linell, 1973; Nelson and Outcalt, 1982). Ground subsidence can potentially damage project infrastructure. An analysis of the effects caused by vegetation loss would allow for a more thorough review and would provide greater confidence in conclusions drawn.	Detailed design and engineering of project infrastructure within the development areas will take into consideration that infrastructure footprints will be cleared of vegetation and that project development areas may be prone to subsidence. Project infrastructure and buildings will be engineered to cope with ground conditions typical of permafrost regions and local hydrology. It should also be noted that more than half of the RSA is classified by ELC as either sparesely vegetated, barren or occupied by water or ice (Table 6-3.4, Volume 6).
GN-24	Volume 6, Section 3.0 Appendix 6D - Ecological Land Classification ELC Mapping Section 3.0 indicates that the proponent developed an ELC system for assessing vegetation in the RSA, and illustrates vegetation communities in the RSA on Figure 6-3.1. Appendix 6D describes the methodology used to develop the ELC system. Although the information in Appendix 6D is very detailed, it fails to provide a definitive list of the ELC Units developed through the process or a corresponding map. As such, it is unclear how the information from Appendix 6D (or from Appendix 6C – Baseline Vegetation Report, Section 4.1 or its Appendix E1 – Vegetation Classification System) was used to develop the map and vegetation classifications presented in Figure 6-3.1. Appendix 6D should be revised to include a summary of the results of the ELC modelling process, including a definitive list of the "final" ELC units to be used in the assessment and the corresponding map. A description of how the ELC model was verified with IQ is requested. It is important that the information provided in Appendix 6D be clearly linked to Section 3.0 in a transparent manner. Accurate ELC and vegetation mapping are critical components to the vegetation assessment, as they "standardize" vegetation communities across the RSA. Verification using IQ may also add value and make the model more relevant to local conditions.	See Attachment 3
GN-25	Volume 6, Section 3.2, Pg. 53 Please identify the specific tasks that will be carried out to ensure the "physical and chemical stability" of the revegetation plan. The Department of Environment requires an analysis of the disturbance to tundra ecosystems to ensure the suitability and effectiveness of the revegetation plan.	There is no revegetation plan for closure of the facilities. However, numerous actions are taken during the planning stage, exploitation and closure to ensure physical and chemical stability of the sites. Refer to EPP Operational Standards (Appendix 10B). Refer to response provided for item GN-9.
GN-26	Volume 6, Section 3.2.1.2 Vegetation Health – Dust (TSP) thresholds Section 3.2.1.2 states that there are no known dust deposition thresholds specific to effects on vegetation and, as a result, references thresholds on the magnitude of effects on vegetation health developed for the High Lake Project in western Nunavut. The High Lake Project thresholds were Low (1.0–4.6 g/m2/a), Moderate (4.6–50 g/m2/a) and High (50–200 g/m2/a). However, these thresholds were revised to Low (0–5.0 g/m2/a), Moderate (5.0–60 g/m2/a) and High (≥ 60 g/m2/a) in order to align TSP deposition thresholds with the categories used for the Mary River Project's air quality monitoring. No justification is provided as to why the TSP deposition thresholds need to be in line with the Air Quality monitoring, and clarification is requested to justify the deviation from the High Lake Project TSP deposition thresholds. Deviation from established TSP deposition thresholds may result in underestimating the potential impact of dust deposition on vegetation. Scientifically-supported thresholds must be applied in order to conduct an accurate assessment of potential effects.	A discussion of Baffinland's reasoning for using the dust (TSP) thresholds is provided in Volume 6, Section 3.2.1.2. It makes logical sense to align the TSP deposition thresholds with the reported categories in the air quality volume, otherwise further model extrapolations would have to be made to simply match values that were used for another EIS. Baffinland did not consider the threshold values used in the High Lake assessment a "standard," and we used them as a reference. The values used in the assessment are very close, the difference possibly being biologically not significant.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
GN-27	Volume 6, Sections 3.2.1.3 & 3.2.2.3 Culturally Valued Vegetation Section 3.2.1.3 identifies blueberry, crowberry, and mountain sorrel as valued plant species in the RSA, but states that the distribution of crowberry and mountain sorrel (and likely the 15 other valued species mentioned in Section 3.2 – Culturally Valued Vegetation, and described in Section 4.5 of the Vegetation Baseline Report) could not be modeled. Clarification is requested as to why these species could not be modeled and why other means of determining their distribution (e.g., the vegetation sampling plots and IQ) were not implemented. There is also no discussion of the location of priority areas for these plant species by local communities. Figure 6-3.5 only indicates where blueberry habitat may be located, but not the locations of important harvesting areas. As such it is difficult to determine whether the habitat that will be affected (as described in Section 3.2.2.3) is significant. A more thorough description of areas that are of importance for culturally valued vegetation is required. Considering only blueberry from a suite of 18 identified species of value may bias the assessment of Culturally Valued Vegetation, and may result in underestimating the potential impact of the Project on plant species that are important to local traditional livelihoods.	Blueberry plants were selected as a key indicator for vegetation due to their relative abundance throughout the RSA and their use by Inuit people. The ability to model the distribution of blueberries was due to their relative abundance. Mountain sorrel and crowberry on the other hand could not be modelled due there relatively low occurance (based on >800 sampled vegetation plots) in the RSA. Crowberries were only found in one plot location in the RSA and mountain sorrel could not be modelled due to scarse occurance. Additional efforts to model crowberries and mountain sorrel would not have added value to the assessment since these two species were not chosen as key indicators for assessing potential impacts from measured parameters in the assessment. It should be noted that none of the plant communities will be significantly or disproportionately affected by the Project. Less than 1% of the area occupied by each plant community within the RSA will be removed in the PDA. Considering that blueberries are more abundant than crowberries or mountain sorrel, even if the entire PDA's are cleared, the reduction of blueberry cover will be minor and indistinguishable from the baseline condition at the scale of the RSA. Based on this very conservative estimate, the proponent does not believe that the assessment on blueberries has biased the assessment of other culturally valued vegetation.
GN-28	Volume 6, Section 3.2.2.1 Vegetation Abundance and Diversity – Natural re-vegetation Section 3.2.2.1 indicates that disturbed terrestrial habitat will not be reseeded during construction, operation or closure, and that natural re-vegetation of the terrestrial habitat will be allowed to occur. This appears to contradict Section 4.4 of the Vegetation Baseline Report, which recommends the use of local/regional plant stocks and seed sources for any re-vegetation being done on the Project. Section 3.2.2.1 also states that natural re-vegetation (in concert with cleaning soils from equipment brought to the site) will reduce the likelihood of invasive plant species getting established within the RSA due to Project development activities. Clarification is requested on two matters: 1. Why was natural re-vegetation selected as the preferred method of restoring disturbed sites? What alternatives to natural re-vegetation were considered and how were they evaluated to determine the preferred alternative? 2. There is no clear link between this form of "passive" re-vegetation and reducing the likelihood of invasive species becoming established. More information is required to support the proponent's claim that their approach will result in the satisfactory control of invasive plant species. It could be argued that more active forms of restoration (e.g., ecological restoration supported by invasive species management) would provide greater benefit in the control of invasive and exotic species. Section 3.2 indicates that the effects to vegetation will be long-term (page 53). Relying solely upon natural re-vegetation may result large areas of habitat being sterile and/or unusable by people and wildlife beyond the life of the Project. As part of the review of the final EIS, it will important to understand whether all reasonable alternatives have been considered.	With the objective of continuous improvement, Baffinland will review rehabilitation studies/experiments carried out in Arctic environment and Baffinland is committed to the use of best management practices as they apply to reclamation and closure activities. If and when effective revegetation techniques are developed for Arctic conditions, Baffinland will consider incorporating such techniques in its closure plan. Refer to response provide for GN-9.
GN-29	Volume 6, Section 3.2.2.1 Vegetation Abundance and Diversity – effects on linkage functions Section 3.2.2.1 summarizes the predicted loss of terrestrial habitat and vegetation community types in Tables 6-3.3 and 6-3.4, respectively. Although the data provided in these tables are useful in determining the amount of each community type that will be affected, the section falls short in illustrating the overall effect on vegetation communities and the linkages between them. This could be improved through the inclusion of a map showing the location of vegetation communities that will be affected, which could be similar to other maps provided in Section 3 (i.e., Figures 6-3.2, 6-3.3 and 6-3.4). Please provide such a map. Understanding the location of disturbances to vegetation communities and the linkages between them will form a critical part of assessing the cumulative effects on vegetation and associated ecological functions of the Project on a regional basis.	Appendix 6D, Figure 3.8 is a map of plant communities/habitat types in the RSA and Volume 6, Section 3.2.2.1, Table 6-3.4 summarizes areas of various plant communities/habitat types in the RSA. Instead of reproducing the baseline map in Volume 6, reference is made to the baseline report (Appendix 6D – Ecological Land Classification).

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
GN-30	Volume 6, Section 3.2.2.2 Vegetation Health – Metals in Dust Section 3.2.2.2 states that "additional metals that could be introduced to soils from dust deposition do have the potential to affect plant vegetation over time". Two of these, arsenic and manganese, are predicted to be an order of magnitude higher than screening levels (high magnitude). It is predicted that the effects from metal toxicity, if any, will occur primarily to the more sensitive vegetation classes. However, there is no indication to what the possible effects may be on vegetation, the potential risk to herbivores and/or humans who may consume them, or the length of time that metals would remain in the food chain. Additional analysis is requested with respect to the possible effects of arsenic and manganese on vegetation, the potential risk profile to herbivores and/or humans who may consume them, No reference is made to Appendix 6G – Evaluation of Exposure Potential from Ore Dusting Events in Selected VECs: Caribou and Blueberry. Clarification is required that the proposed mitigations and monitoring presented in Section 3.2.2.2 are sufficient to address potential effect on vegetation and the wildlife and people it supports. [Note: Section 3.2.2.2 references Appendix 6F with regards to the vegetation baseline study. This is a typographical error; the vegetation baseline study is contained in Appendix 6C] Bioaccumulation and biomagnifications of metals and other contaminants may pose a risk to the health of people and wildlife who consume contaminated vegetation. A clearer understanding of the risks posed through metals introduced to the food chain through dust deposition is required.	Reference to Appendix 6G should have been made more clear in the assessments to vegetation and caribou. The proponent notes that the vegetation baseline in contained in Appendix C and not Appendix F. Appendix B of Appendix 6G describes the bioaccumulatio/biomagnification potential of arsenic and manganese among other metals and the proponent feels that an adequate literature review was completed to assess the potential for the metals assessed to bioaccumulate based on existing literature. An assessment of the health risks to caribou and humans posed by metals for dust emissions is also presented in the report. Assessments of the potential risk of metals in soil from atmospheric dust deposition assume that all predicted metals deposited on soils will persist in the surface layers with no loss of metals from runoff and therefore will be available for uptake to receptors in the food chain. It should be noted that the proposed mitigations and monitoring presented in section 3.2.2.2 are believed to be sufficient to address potential effects on vegetation and the wildlife and people it supports. Supporting mitigation and monitoring of vegetation is provided in Volume 10, Appendix 10D-11 - Terrestrial Environmental Management and Monitoring Plan.
GN-31	Volume 6, Section 3.2.2.2 Vegetation Health – Cumulative effects of airborne emissions Section 3.2.2.2 states that "the most noticeable effects on vegetation may occur in areas where the thresholds are exceeded for all three air quality parameters (i.e., annual TSP deposition, annual NO2 emission concentrations, and annual deposition of nitrogen). This occurs in a 128 ha area at the Mine Site, all encompassed within the PDA". There is no description of what these noticeable effects of the airborne emissions may be. It may also be unrealistic to assume that these effects would be contained within the PDA, as the effects of each of the individual parameters also occur beyond the PDA (as illustrated in Figures 6-3.2, 6-3.3 and 6-3.4). It is also not clear how these effects may be magnified through climate change (e.g., melting of permafrost, higher air temperatures, more intense storm events, etc.). Clarification is required on the nature and risk of potential cumulative effects of airborne emissions on vegetation and wildlife that may consume it, including effects from climate change, particularly in areas outside of the PDA. The potential for combined effects of TSP, NO2 and nitrogen (and how their deposition may be affected through climate change) may pose a risk to the health of people and wildlife who consume contaminated vegetation.	It is understood that effects to plant vegetation may occur outside of the the project development area (PDA). These effects could be seen as visible signs on the exterior of plant leaves or could be identified as a change in vegetation abundance or diversity through future monitoring. Changes in metal concentrations in vegetation tissue will be detected from monitoring results. With respect to climate change, reference areas will serve to monitor changes to vegetation that are not related to project effects. Monitoring plans will be designed to identify potential phytotoxic symptoms.
GN-32	Volume 6, Pg. 54 Appendix 6C Please provide clarification as to how baseline amounts of metals in soil and plant tissue were identified and accepted given a minimal number of samples. In some species only one or two samples were taken to determine the baseline metal loading. Furthermore, there is no discussion about the rate of accumulation due to the growth rate of the species. Species that were sampled heavily tended to have slow growth rates and extensive longevity.	Metals in soil and plant tissue was chemically analyzed and identified by a registered and approved laboratory (ALS Environmental Laboratories). It is believed that metal concentrations identified in the vegetation and soil samples are representative of baseline conditions in the RSA. Future monitoring in reference locations will compliment baseline results. With respect to metal accumulation in plants, section 3.2 provides an account for known factors affecting rates of bioavailability and metal uptake in plants. Generally, uptake and accumulation of metals in plants is governed by the species in question and site specific condtions (namely pH, soil chemistry and the species of the metal in question). Due to highly limited growth rates and metabolic processes in arctic plants compared to locations with longer growing seasons, it is expected that metal uptake will occur much more slowly and for shorter periods of the year. Vegetation monitoring during construction, operation and closure will validate predictions in the assessment and indicate whether adaptive mitigation is warranted.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
GN-33	Volume 6 Appendix 6D - Ecological Land Classification ELC Modeling and verification Appendix 6D provides a very technical description of the process used to develop the ELC model. However, it is not clear as to whether the model was verified in the field for accuracy after it was developed, or whether any corrections had to be made as a result. Clarification is requested with regards to any field verification activities that were undertaken, including percentage of area and communities checked, as well as any revisions that may have been made to the model/ELC mapping as a result. A description of how the ELC model was verified with IQ is requested. Relying on ELC mapping that was developed solely through a modeling exercise is inadvisable as predictive models can often vary substantial from on-the-ground conditions. Changes in vegetation communities in the arctic can be very subtle and modeling result require extensive field-checks and revisions before the models can be considered reliable. Verification using IQ may also add value and make the model more relevant to local conditions.	See Attachment 3
GN-34	Volume 6 Appendix 6F - Terrestrial Wildlife Baseline Report Appendix D-11 - Terrestrial Management and Monitoring Plan Please provide an in depth discussion about how activities may increase the abundance of species due to habitat exploitation and what specific mitigation measures (if any) are being proposed along with an assessment of their effectiveness based on scientific literature and/or case studies. In order to reduce the likelihood of human interactions which may result in emergency kills or the transmission of disease to humans (e.g. rabies), the proponent must be aware that species like foxes, falcons, wolves, and polar bears may adapt and/or exploit the conditions produced by their activities. Several examples of habitat and behavioural changes include: foxes denning in waste rock piles, falcons nesting in new quarries (e.g., Meadowbank), and wolves chewing the wiring of data loggers and telecommunications.	Waste management and project design are expected to minimize the likelihood of wildlife being attracted to and using project facilities. However, we accept that it is difficult to predict wildlife behaviour when new habitat becomes available. We have included monitoring for unanticipated impacts to wildlife in the monitoring plan (see Volume 10, Appendix D-11, Section 7.0). If any unanticipated and detectable responses occur, the plan identifies actions and groups that will be involved in the adaptive management process.
GN-35	Volume 6 - Section 2.1 & 2.3 Please provide further information for the permafrost condition across the regional study area, including, at a minimum: a) how each study site was chosen; b) locations of thermistor cables; c) data obtained at each site; and d) information regarding the active layer of permafrost. The DEIS states that the active layer is 1- 2 meters deep. However, it does not provide any references to the methods used to come to this determination. The information requested would also provide greater confidence in the baseline data and conclusions drawn from that data	Geotechnical site investigation reports are included as Attachment 2. Geotechnical programs are ongoing in 2011 and 2012 will continue to delineate sensitive landforms at a finer scale.
GN-36	Volume 6 - Section 2.1 & 2.3 - Please provide a larger-scale surficial geology map of the mine site, Milne Inlet and Steensby Inlet including waste management areas, oil and fuel tank farms, stockpiles and water sources. These figures will allow for a more detailed review (e.g., assessment of the susceptibility of soils to potential spills).	Site plans for Milne Port, the Mine Site and Steensby Port showing surficial geology are provided as Figures 1, 2 and 6-2.3 in Attachment 11.
GN-37	Volume 6 - Section 2.1.4.2 - Please specify the details of the additional testing plan for potential acid rock drainage and metal leaching and provide details as to how the results will be used. - Although additional testing has been identified, there is no indication of how the project design will be affected. In addition, there is no indication of any potential adverse effects that may result based on the additional testing.	Attachment 15 (AMEC, Additional Humidity Cell Testing Program Baffinland Mary River Project, March 11, 2011) outlines the additional testing plan for PAG rock. It is expected that this additional testing will reinforce results from the test work performed to date. Baffinland does not expect metals to leach from the waste rock. The Waste Rock Management Plan (Appendix 10D-5) outlines how the PAG rock will be managed and disposed off in the waste rock stockpile. The runoff from the waste rock pile will be channel to a sedimentation basin and the quality of the runoff will be monitored prior to release to the receiving environment. Should the runoff exceed MMER guidelines in terms of quality, two treatment approaches are identified in Appendix 10D-5 for treatment of runoff prior to discharge to the receiving environment. Baffinland is confident that the runoff of the waste rock pile will have no adverse effects on the receiving environment. The attached AMEC memo is part of the response.

Table 1

Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
GN-38	Volume 6, Section 3.2, Pg. 58 - Section 3.2.1.3 - Sections 3.2 and 3.2.1.3 provide a discussion and analysis of culturally valued plants. Please provide an analysis at a similar level of detail for vegetation that is an important food source for wildlife. DoE is interested in the potential impact of vegetation cover loss, as well as contamination as it relates to wildlife and also consumption by humans.	Please refer to Appendix 6G of Volume 6 for an assessment on the potential effects on blueberries and caribou and for humans eating both of these food sources. Blueberries were determined to be the key indicator species representing cultural valued plants within the RSA. Caribou were identified as the key indicator representing potential impacts to terrestrial wildlife.
GN-39	Volume 6, Section 3.4.3, Pg. 80 - Please provide an analysis (at a similar level of detail as for vegetation) of the potential impact to human health via consumption of culturally valued species that may be exposed to high levels of contaminants; such as nitrogen or heavy metals. impacts to human health are a concern and part of our interest in the impact on vegetation directly, as well as the impact on wildlife.	Please refer to Appendix 6G of Volume 6 for assessment of potential impacts from metals in soil to blueberries and caribou and to humans who would be potentially eating these two food sources. Bioaccumulation of nitrogen in blueberries and caribou was not assessed.
GN-40	Volume 6, Section 5.0 - The DEIS has only assessed potential Project effects on caribou. Section 5.0 discusses that other species, including wolves, foxes, hares, ermine, and other small mammals, occur in the area and are of importance to local peoples. Yet the potential Project effects on these species are not presented in the DEIS. Please include an impact assessment on these species at an appropriate level of detail, or, a full explanation and rationale as to why these species were not considered in the effects assessment. Wolves, foxes, and other small mammal species have the potential to be affected by Project activities. The current DEIS does not include an assessment of the potential impaCTA, and does not include an adequate explanation as to why this assessment was excluded.	Terrestrial wildlife occur at low densities throughout the RSA. During baseline data collection biologist detected few species during surveys. Assessing the project impacts on animals that occur at such low densities would not inform the potential effect of the project. Consequently, the DEIS focus on a key indicator species – caribou – which is the most culturally valued species and is important local ecosystem. See Volume 6, Section 5.1.
GN-41	Volume 6, Section 5.0, Pg. 124 & Section 5.2, Pg. 130 - It is noted that there are no estimates or value ranges provided on the density or population numbers of resident caribou that may range into the RSA. Aerial inventories were conducted between 2006 and 2008 (see appendix 6F) and possibly later by the GN. Seasonal estimates of herd size in the RSA are also lacking. Please include all available information in the DEIS and ensure that it is analyzed with respect to likely effects. It is difficult to properly evaluate the predicted effects and the potential for disruption on caribou unless the DEIS provides some estimates of how many animals are potentially living in the RSA and moving thru during the spring and fall.	No caribou are currently known to migrate through the RSA during spring and fall. Caribou in the RSA are essentially sedentary animals, behaving more like boreal woodland caribou. No current population estimates of north Baffin caribou exist. Late-winter aerial surveys are the most appropriate for surveying the numbers of caribou because detection is higher on snow cover. Assuming the data is directly comparable and that observers were able to observe all caribou within 0.5 km of the aircraft, there could be 200–307 caribou in the RSA. This corresponds to a density of roughly 10–20 caribou per 1,000 km^2. Our confidence in this absolute density estimate is very low, but we are confident on the relative paucity of caribou in the RSA. There are no available data from aerial surveys by the GN.
GN-42	Volume 6, Section 5.2, Pg. 129 - The DEIS is lacking information about the temporal distribution of harvested caribou and techniques used by hunters to locate caribou (ORV based searches, information from other people travelling on land, etc.). Please provide more data in this regard. Assessing the current level of habituation to off-road vehicles may help to better estimate and/or understand responses to future human activity along the Mile Inlet Tote road.	Caribou harvest is predominantly a winter activity because of easier access across the landscape using snowmobiles. Hunters in the area require the use of ORVs to access harvest areas. The project is not anticipated to result in a change from baseline harvest method conditions. As described in Volume 6, caribou generally show greater responses to humans travelling on foot or by dog teams.
GN-43	Volume 6, Section 5.2, Pg. 130 - It is noted in the DEIS that the average daily moving distance of 4 km per day during all seasons was based on collar location data from December to August. This period does not include the rutting period in which daily movements by caribou are among the highest. This period of collar location data is also inconsistent with Appendix 6f, section 4.2, page 69. Please provide further information on the rutting period, as well as clarification of the inconsistency. This information is necessary to conduct a robust impact assessment. Some sections of the proposed rail alignment may be a barrier or a filter to daily movements by caribou.	The description of the collar data, December to August, is an error in the DEIS. The collar data cover April to December. The collar data presented in the DEIS covers the fall rut. The extensive collaring program that Baffinland contributed funds to deployed the 28 collars in April 2009. As noted in Appendix 6F, Section 4.2 the GNDoE provided data from 28 caribou collars for the period April-December 2009, and data from 4 caribou collars for the period April 2008 – March 2009. The collar data January 2008 – March 2009 was too limited to use for the habitat modeling.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
GN-44	Volume 6, Section 5.2.1, Pg. 131 - The resource selection probability function analysis was based upon location data collected between April and December 2009 on 32 GPS radio-collared females. However, no information was provided regarding the movement of marked females during calving season. Movement data during calving should be provided over a short period of time (7-10 days), where daily movements were the lowest recorded. This data will this help to identify if characteristics of calving habitats differ from those during the growing season. Please provide the data and the analysis. • No information was provided regarding site fidelity for calving. Please provide this information if available, or describe the proposed monitoring plan to gather such data. Because female and calves are more sensitive to disturbances than males (Volume 6, section 5.2, page 129), a greater potential effect of the project on the selection process of habitats by females and calves may affect indirectly the demographics of this resident population. This information is necessary to adequately determine potential Project impaCTA, as well as the effectiveness of mitigation.	Collar data did not indicate calving season habitat preferences that are different from the remainder of the growing season; therefore, calving and growing season data was grouped. The results of the habitat selection model indicate that caribou select for slope of approximately 15˚, habitats closer to water and areas where there is more vegetation during calving. We expect that habitat preference is similar during population highs and lows.
GN-45	Volume 6, Section 5.2.1, Pg. 133 - As trains on the railway are not likely to stop if caribou are on the tracks, mortality risks for caribou will be presumably higher than on the tote road where vehicles may have the ability to avoid contact with caribou. Therefore, consequences on the caribou population demographics might be as significant as if not greater than those caused indirectly on habitats through dust deposition generated from trucking on the tote road. It is not clear whether this has been considered into establishing the zone of influence (ZOI) and the probability of observing caribou within given distances from the railway? Please clarify. Potential effects on habitat effectiveness may be different if values of probability changes in the resource selection probability function (RSPF) analysis.	Demographic effects of the project are not part of the estimated probability of observing caribou in an area. The RSPF used geographic and biotic spatial data to identify baseline caribou habitat selection. The ZOI was developed to predict the reduced effectiveness of habitat within the RSA using RSPF results. Potential mortality of caribou along the road and railway were not used to develop the habitat selection multiplier (see Volume 6, Section 5.2.1, Table 6-5.1). The predicted demographic effect of the project on caribou is expected to be limited, so including mortality would not change the results of the prediction.
GN-46	Volume 6, Section 5.2.1, Pg. 133 - What is the information basis or rationale behind using four classes of distances for the railway compared to five for the Milne Inlet Tote Road and the Mine site? Note that the class "> 14.0 km" is missing in Table 6-5.1 (page 134) for the Steensby Port, Milne Port and Railway. Clarity is required for these issues. Potential effects on habitat effectiveness may be different if values of probability changes in the resource selection probability function analysis	The primary reason for using the different ZOIs was a published article on the ZOI of the Ekati™ and Diavik projeCTA on caribou distribution. The authors suspect that the mechanism driving the ZOI is dust. More dust is generated on roads compared with rail because of the greater number of trips along the road and vehicles travelling along a gravel road will generate more dust than trains travelling along a track. See Volume 6, Section 5.2.1, Pg. 133. Table 6-5.1 describes all effects at all project infrastructure to be zero beyond 14 km (see last row of the table).
GN-47	Volume 6, Section 5.2.1, Pg. 136 - It is assumed in the DEIS that caribou will easily pass under bridges and over tunnels associated with the railway. Please provide supporting evidence that caribou will use these crossing corridors. The value of bridges as caribou passages needs to be reassessed because caribou might not be as willing as other species such as deer or moose to move in between piles or head walls of bridges. How will the effectiveness of these mitigation measures be monitored? Against what specific baseline data for crossing 'structures' in a non-fragmented environment will the monitoring data be compared? Please provide clarification. North Baffin Island is a non-fragmented habitat, and roads/linear features are not familiar to caribou. Past experience has shown that caribou may react in different ways to linear features – they may be attracted to the roads, or they may be repelled. Potential barrier effects of the railway and the tote road on movements may be different if caribou are not using bridges. This information is necessary to adequately determine potential Project impaCTA, as well as the effectiveness of mitigation.	Caribou are expected to be able to cross the railway and pass under bridges if desired. The presence of infrastructure is not expected to be the primary reason for caribou avoidance behaviour, it is the human activity associated with the infrastructure. The railway will require 24 bridges which will make up a small portion of the total railway length. Tunnels along the railway are long, so caribou and other animals probably will not be aware that they are above tunnels should they be travelling in those locations. Furthermore, the tunnels only occur through the very steep hills around Cockburn Lake, not a location that contains much caribou habitat. The road and railway embankments are similar to many other geographic features in the area (e.g., eskers, moraines, boulder fields), so in most areas will not provide unique landscape features that the caribou will select. When the caribou population returns to historic population highs and caribou migrations start to occur, the railway and roadway are not expected to deter caribou movement, though caribou may be less likely to occur within the ZOI of these infrastructures.
GN-48	Volume 6, Section 5.2.2, Pg.147 - Seasonal traffic limitation on the tote road might be put in place if caribou mortality were to increase as a direct result of the project. More information is needed on the criteria and their thresholds that would be applied, the monitoring that would be in place and the decision-making process that will or will not lead to the application of this mitigation measure. Recovery of the resident population may be impeded by vehicle collisions and mortalities given the low numbers in the RSA. This information is necessary to adequately determine potential Project impaCTA, as well as the effectiveness of mitigation.	There has been no evidence of current or past (trails) observations of caribou in the area, or evidence of crossings. Past experience of trucking ore to Milne Inlet during the bulk sampling program suggests that an effect on caribou mortality is very unlikely at the current densities. Thresholds and mitigations will be identified through discussions with local stakeholders should caribou densities increase in the RSA. During operations, all observed animals will be reported through existing communication (e.g., truck-to-truck radio). KM post warnings of animal sightings with advisory to slow down and watch for crossing animals.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
GN-49	Volume 6, Section 5.2.2, Pg. 147 & Section 5.2.3, Pg. 150 - Seasonal shut downs of the trains will be possible if large numbers of caribou are encountered along the rail route. Please provide more information regarding the decision-making process that will lead to a shut down. Please list the criteria, how the criteria data will be collected/measures and managed, and the decision tree process (including responsible persons) to make these decisions. Recovery of the resident or migratory population may be impeded by train collisions and mortalities given the low numbers in the RSA. This information is necessary to adequately determine potential Project impaCTA, as well as the effectiveness of mitigation.	Sightings along the railway will be reported to the EHS Department by the locomotive engineer. In turn, the EHS Department (or some other entity as established by the terms of the IIBA) will assess the importance of the herd movement and the lieklyhood of interference with the railway operation. The EHS Superintendent (or IIBA entity)will report to the Mine Site Manager who will make the ultimate decision to stop the railway operation.
GN-50	Appendix 6C - Baseline Vegetation Report; Appendix 6G - Evaluation of Exposure Potential from Ore Dusting - Please provide justification as to how a single consultation with one community was able to produce an effective baseline for Inuit Qaujimajatuqangit regarding plants. In addition, from this single consultation blueberries were identified as the only culturally important plant species included as a proxy/indicator. The DEIS should explain why other species were not included and why further consultations were not conducted to expand upon the number of important species. Focusing on a single species negates the ability to protect the eco-systemic integrity of Baffin Island for the purpose of traditional land uses.	Attempts to consult communities other than Pond Inlet regarding culturally valued plants were made. Due to the proximity of Pond Inlet to project activities, it is believed that the 18 culturally valued plants identified represent those culturally valued plant species that are most relevant to the assessment due to their presence in the RSA. Methodology outlined in Volume 2, Section 3, provided the framework for the selection of blueberries as a key indicator assessing potential impacts to vegetation. It should be noted that vegetation abundance and density and vegetation health as a whole are also assessed in Volume 6.
GN-51	Appendix 6D - Ecological Land Classification - Please provide further details of the Ecological Land Classification (ELC) analysis. In particular, identify how data deficiencies were addressed and how they affected the analysis. Taking into account the identified data deficiencies, justify the usefulness of the ELC as a baseline for habitat studies. It was noted that the confidence interval has been decreased in the statistical analysis and there is no mention of problems with the contour layer used to produce the Digital Elevation Model (DEM). Furthermore, there are problems with the remote sensing due to incomplete images. The requested information will provide a greater confidence in the baseline data and methods used to analyze that data.	See Attachment 3
GN-52	Volume 6-Appendix 10D-11 – Terrestrial Environment Management & Monitoring Plan- Please provide monitoring and management protocols for the avoidance of the introduction of alien species (i.e. inseCTA, mammals, etc.), their detection during construction and operations and contingency measures, should they be detected. These management protocols should not be limited to plants. The introduction of alien species is not limited to plants. While the Department of Environment agrees that revegetation using southern or commercial species may not be appropriate; there are additional species that can be introduced through multiple pathways (e.g., shipping containers, personal items like bags, shoes, camera cases, etc). A proactive measure would be for the proponent to develop a protocol for monitoring for alien species and limiting their impact when they are discovered.	Most alien plant or animal species accidentally introduced with cargo shipment will not survived in the harsh climatic conditions of the Project. Baffinland considers that the risk is low.
GN-53	Volume 7, Sections 2.3.1.1 & 2.3.5 - Please identify whether consideration has been given to the seasonal reservoir filling patterns, evaporation, etc., and how it has affected the project design. In addition, please identify whether a total quantitative water balance has been conducted for individual watersheds in the Local Study Area (LSA) and Regional Study Area (RSA). The information requested will allow for a more detailed analysis of the DEIS and provide greater confidence in effects identified within the DEIS.	All hydrological estimates consider the seasonality of precipitation and meltwater inputs to the watercourses in the Project Area. The majority of annual precipitation and meltwater typically occurs during the nival freshet in late June through July, with runoff decreasing through the late summer before freezing up again at the onset of winter, typically sometime in October. These considerations are incorporated in the quantitative water balances that were developed for the Milne Port, Mine Site and Steensby Port LSAs (Attachment 1). For Milne and Steensby Ports, the quantitative water balances have not been developed for the closure phase as all affected drainage patterns will be restored to the pre-development natural drainage patterns.

Table 1

Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
GN-54	Volume 7, Section 4.3.1, Pg. 241 The DEIS provides baseline data on invertebrates in the project area but no impact predictions or statements are provided for invertebrates. The DEIS's assessment of aquatic impacts focuses exclusively on potential interactions between the project and Arctic char and more importantly, the DEIS identifies Char as the only key indicator for aquatic biota and habitat. Please explain why benthic invertebrates are not included as key indicators for project effects on aquatic biota and habitat, and explain why no impact statement is provided for benthic invertebrates. In addition, please describe the nature and magnitude of potential impacts to benthic invertebrates (e.g. using metrics such as invertebrate species diversity, relative abundance) resulting from the project, and outline measures to mitigate these effects.	As noted in Section 4.3, p. 241, lower trophic level biota – including benthic invertebrates – were extensively considered and discussed in the DEIS. As indicated on p. 241, potential effects of the Project on lower trophic level biota and aquatic habitat were assessed and are described within Key Issue #2: effects on Arctic char habitat in the DEIS (Section 4.5). See for example, Section 4.5.3.7 (p. 256) in which potential effects of the Project on benthic invertebrates and other lower trophic level biota are described for the Milne Port Study Area. Mitigation of Project-related effects on water and/or sediment quality and aquatic habitat also provides mitigation for aquatic biota, including benthic invertebrates. Mitigation is described in Section 4.5.2 and in Tables 7-4.12 to 7-4.16.
GN-55	Volume 7, Section 4.5.10, Pg. 297 - Please provide a detailed plan and timeline for development and completion of the Aquatic effects Monitoring Plan (AEMP). For example: • What provision will be made for the GN and other regulatory bodies to review and comment on the draft iterations of the AEMP to ensure that it is designed appropriately to meet its goals, especially the need to monitor for compliance with regulatory requirements and to verify the accuracy of impact predictions and mitigation measures? • What measures will be implemented to engage community residents and to incorporate Inuit Qaujimanituqangit and local observations in designing and conducting the monitoring program?	The AEMP will be developed and submitted for approval prior to the operations phase of the Project. Similarly, the Environmental effects Monitoring Program will be completed in a manner which is consistent with the MMER Regulation under the Fisheries Act.
GN-56	Volume 8, Table 8-5.18 Measurable Parameters and Threshold Values for Polar Bears, Pg. 242 - The measurable parameter is natural mortality per annum. Please clarify if this is the natural mortality per annum calculated for breeding females, males, total population, etc? The rationale for the selection of the measureable parameter should also be provided. - Cubs of the year (COYs) exhibit survival rates that are lower than sub-adults, but yearlings appear to survive at the same rate as adults in many populations. Sub-adult survival is lower than prime adult survival. It may be of greater significance if calculated for breeding females.	The measureable parameter is based on the population of polar bears in the RSA including all individuals (regardless of sex or age). The threshold used considers any mortality above those that occur naturally. Mortality was selected as a measureable parameter given the potential interaction between polar bears and humans associated with the Mary River Project and because polar bear mortality attributable to Project activities can be readily quantified.
GN-57	Volume 8, Section 1.3 & Section 5.11.2.2 - The area of noise disturbance effects on polar bears is referenced but not clearly defined. Please clarify and provide a rationale for the area selected based on relevant scientific literature and/or case studies. - Polar bears are known to have a variable response to noise disturbance. It is important to clearly define the area of noise disturbance effects on polar bears in order that an accurate assessment of the potential effects from Project-related noise disturbance on polar bears can be conducted.	As noted by the reviewer and in Section 5.11.2.2 of the DEIS, polar bears exhibit variable responses to noise as well as the presence of vessels and construction camps. To the best of our knowledge, there are no definitive scientific or case studies that provide clear answers on how far away polar bears respond to activities such as shipping or what sound levels elicit disturbance responses. In addition, polar bears may not respond to noise per se but rather to the human activities associated with the noise; hence, a modelling analysis of estimated noise effects is not realistic. The area of disturbance presented in the DEIS was based on field observations of disturbance effects from various activities (port site, aircraft, and shipping). We have used the best available information in assessing disturbance effects on polar bears.
GN-58	Volume 8. Section 5.11.2.2, Pg. 248 Disturbance, Ice Breaking, Aircraft Overflights The DEIS states "It is possible that polar bears will den in pack ice, although IQ and scientific information indicates that most bears den on land…some polar bears left their dens when helicopters flew or hovered overhead." While identification and avoidance is the best practice, not all dens can be identified. Please describe the management procedure and mitigation plan if denning polar bears are encountered. Survival of cubs prematurely forced out of their dens is poor. Loss of a portion of the present productivity of polar bears denning in Foxe Basin could undermine recruitment in the Foxe Basin population.	If polar bear dens are encountered along helicopter flight paths, the flight path will be altered to avoid the den site. As discussed in Volume 8, Section 5.11.2.2, terrestrial dens sites are not expected to be affected by Project shipping. Also, if polar bear maternity dens are identified in the pack ice along the shipping route, the GN DoE will be contacted and the area will be avoided to the extent possible.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
GN-59	Volume 8. Section 5.11.2.3, Pg. 250 Residual effects Section 5.11.3.3 Mortality (p. 250): The DEIS states that no mortality is expected; it is predicted that residual effects on polar bears would be negligible, and that with mitigation measures in place, polar bear mortality is considered unlikely. However, experience with similar projeCTA/ activities have shown that it is likely that polar bear mortalities will occur in instances of "defense of life and property" (DLP). DLP data in the DEIS is from 1970-2000. Please provide more current data on DLP mortality of polar bears and available data from other mine sites in Nunavut and/or NWT. With three permanent camps for the duration of the mine (21 yrs), and two temporary camps of duration ranging from 18 months (Milne Inlet tote road) to four years (railway construction), it is hard to imagine that there will be no DLP polar bear mortalities. Highest polar bear densities were reported in September and October, when they were very visible along shorelines in the Project area. DLP mortalities are reported to have occurred throughout the year with most bears killed from August through November when polar bears are on shore.	The Government of Nunavut was contacted for information about defense of life and property (DLP) kills of polar bears since 2000 (Sarah Medill 2011 , pers. comm.). During 1 July 2000- 30 June 2010, 1.7% of the DLP kills were at industry sites (including military and DEW line sites), the remainder were near communities and hunting camps. This further supports the trend noted in the DEIS (Volume 8, Section 5.11.2.3) that DLP kills at industry sites in Nunavut are declining relative to the total DLP kills in Nunavut. The EIS notes that "With mitigation measures in place, polar bear mortality is considered unlikely. In the event of polar bear mortality as a result of the Project, it is anticipated that the mortality will be deducted from the harvest quota and that appropriate compensation will be provided to hunters. This ensures that polar bear mortality per year does not exceed allowable quotas for sustaining populations." Medill, Sarah. 2011. Personal Communication. Wildlife Deterrent Specialist, Government of Nunavut, Igloolik, Nunavt. Phone 869-934-2075. E-mail smedill@gov.nu.ca.
GN-60	Volume 8. Section 5.11.2.3, Pg. 250 Residual effects The DEIS states that in the event of polar bear mortality as a result of the Project, it is anticipated that the mortality will be deducted from the harvest quota and that appropriate compensation will be provided to hunters. This ensures that polar bear mortality per year does not exceed allowable quotas for sustaining populations. When a female with accompanying cubs, yearlings, or two-year olds is killed in a "defence of life or property" event, how will total allowable harvest (TAH) be determined for young? This issue requires clarification, along with a sample calculation of how compensation would be calculated. Depending upon proximity to a community, a loss of a female accompanied by young may have a greater impact on TAH quotas for Foxe Basin communities such as Hall Beach and Igloolik.	Baffinland will follow appropriate guidance from the regulator when establishing an agreement on compensation for polar bear hunters.
GN-61	Appendix 8A-2 Section 1.3, Pg. 3. "A comprehensive review of available scientific information specific to marine mammal species occurring in the Project RSA or along either proposed shipping routes for the Project that might lie outside the RSA. This includes published scientific literature, grey literature, and information from ongoing research programs." The DEIS has not addressed information about the late summer distribution of polar bears from Foxe Basin polar bear research, 2007-2012 (Interim Wildlife Report No. 16, 2008). Please include this information in the assessment and reconsider the characterization of effects and the significance assessment Information from Government of Nunavut, Department of the Environment (DoE) will aid in assessing polar bear distribution in Foxe Basin during the late summer ice-free season, and potential impact of year-round shipping through Foxe Basin into Steensby Inlet and Steensby Port.	Several GN DoE reports (see citations below) related to the polar bear research conducted from 2007 to 2010 were reviewed. The preliminary findings presented in these reports do not change the significance assessment for polar bears. The reports summarize much of the aerial survey and satellite tracking polar bear data collected during those four years. Final reports and published papers on the results of the work are not yet available, but are expected to be finalized in mid 2011 to 2012. The findings of the preliminary reports confirm information presented in the EIS. During the ice-covered season polar bears are located mostly in areas of pack ice throughout portions of Foxe Basin and Hudson Strait in the RSA. During the brief ice-free period (Sept-Oct) they are found primarily onshore within 5 km of the shoreline and on large islands. Aerial surveys conducted for the Mary River Project confirm that polar bears concentrate on large islands and coastal areas during late summer. The interim reports demonstrate that polar bears have large home ranges, including areas outside of the RSA. It was demonstrated that polar bears tend to move the most in the late fall and early winter, less so in the winter, and even less so during the open-water season. Peacock, E., A. Orlando, V. Sahanatien, S. Stapleton, A. Derocher, and D. Garshelis. 2008. Foxe Basin Polar Bear Project 2007-2012, Interim Report - 2008. Rep. by Department of Environment, Government of Nunavut, Igloolik, Nunavut. 54 p. Peacock, E., V. Sahanatien, S. Stapleton, A. Derocher, and D. Garshelis. 2009. Foxe Basin Polar Bear Project 2009 Interim Report. Rep. by Department of Environment, Government of Nunavut, Igloolik, Nunavut. 58 p. Sahanatien, V. and A.E. Derocher. 2010. Foxe Basin Polar Bear Study - Polar Bear Movements, Habitat Selection, Population Delineation & Inuit Qaujimajatuqangnit. Interim rep. by Department of Environment, Government of Nunavut, Igloolik, Nunavut. 19 p. Stapleton, S., D. Garshelis, and S. Atkinson. 2010. Aerial Survey Population Monitoring of Polar Bears in Foxe Basin. Interim rep. by Department of Environment, Government of Nunavut, Igloolik, Nunavut. 4 p. + appendix.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
GN-62	Appendix 8A-2 Section 1.3, Pg. 3. "A comprehensive review of available scientific information specific to marine mammal species occurring in the Project RSA or along either proposed shipping routes for the Project that might lie outside the RSA. This includes published scientific literature, grey literature, and information from ongoing research programs." The DEIS has not addressed population inventory and sea-ice habitat selection information for Foxe Basin polar bears (GN DoE Status Report No. 38, 2007). Please include this information in the assessment and reconsider the characterization of effects and the significance assessment. Inclusion of this information will aid in developing a more accurate understanding and assessment of polar bear population in Foxe Basin and importance of sea-ice habitat to freeze-up and winter core areas in Foxe Basin, and potential conflict 'hotspots' with shipping corridor through Foxe Basin.	Please see the response to GN IR#-61. The GN report results do not provide population estimates. The assessment approach for polar bears used densities calculated from multi-season surveys so the relative selection of the various ice types by polar bears is inclusive in the effects analyses. The GN reports state that a final report and multi-scale analysis of sea ice selection is forthcoming (late 2011-2012).
GN-63	Appendix 8A-2 Section 1.3, Pg. 3. "A comprehensive review of available scientific information specific to marine mammal species occurring in the Project RSA or along either proposed shipping routes for the Project that might lie outside the RSA. This includes published scientific literature, grey literature, and information from ongoing research programs." The DEIS has not addressed movements and seasonal habitat selection of polar bears in Foxe Basin during freeze-up (Nov-Dec) and winter (Jan-March)(GN DoE Interim reports 2008, 2009, 2010). Please include this information in the assessment and reconsider the characterization of effects and the significance assessment. Inclusion of this information will aid in developing a more accurate understanding and assessment of movements and distribution of polar bears during freeze-up (Nov-Dec) and winter (Jan-March). The DEIS is currently lacking this information, which will help increase the understanding of potential impact of year-round shipping through Foxe Basin during these periods.	As noted in Response to GN IR #61, the GN DoE interim reports were reviewed. We examined available information on polar bear distribution and movements during freeze-up and winter with the purpose of identifying concentration areas of bears along the southern shipping route. It was not possible to identify concentration areas based on the information in the interim reports. Concentration areas are based (at least in part) on the "residency" time along an individual polar bear track, which require speed of movement to ascertain; this is only feasible if you have date-time tagged tracking data. The GN reports state that a final report is forthcoming (late 2011-2012). If this final report identifies concentration areas for polar bears, this information will be taken into consideration for the purposes of developing the final Monitoring and Mitigation Plan for the Mary River Project.
GN-64	Appendix 8A-2, Section 4.1.2, Pg. 84. Marine Mammal Surveys Appendix 8A-2, Section 4.1.2, p. 84. States "marine mammal surveys which targeted cetaceans and to a lesser extent polar bears, walrus, and seals, were conducted primarily during the open-water season." The level of effort spent conducting baseline research for polar bears along the shorelines and large islands during the open water season is considered inadequate. Please provide information regarding proposed follow-up study and monitoring for polar bears during open-water season along shorelines. Volume 8, p. 139 states that polar bears were most frequently observed in September and October along the shorelines of Steensby Inlet and Foxe Basin including Koch, Rowley, and Bray islands. Further information/follow-up study is necessary to ensure that impact assessment predictions are accurate. The potential for human-polar bear interactions is highest in coastal areas. Historical data shows that DLP mortalities are likely to occur throughout the year, but are generally more common during open water season when polar bears are on shore.	Section 5.11.2.3 in Volume 8 of the DEIS outlines the mitigation measures for minimizing the probability of DLP mortalities. In the unlikely event of a DLP polar bear kill (see response to GN IR #59) appropriate reporting protocols and an established compensation plan will be followed. It is unclear how having additional data on polar bear distribution and abundance along shorelines and islands will minimize the likelihood of human and polar bear interactions. The important point to consider is that appropriate mitigation measures are in place and implemented.
GN-65	Appendix 8A-2. Section 4.3.2.10, Pg. 137 Foxe Basin and Hudson Strait The DEIS does not include information from GN DoE's Foxe Basin polar bear 2009 and 2010 aerial survey of the late summer distribution of polar bears. Please include this information to identify late summer core areas in Foxe Basin, and assist in understanding the potential conflict 'hotspots' with Project activities. Inclusion of this information will assist with the overall understanding of polar bear distribution and the potential impact of shipping activities through northern Foxe Basin.	These aerial survey data were requested from GN project managers in 2010 but the survey data were not provided in a useable format. Please see the responses to GN IR#-61 and GN IR#62.

Table 1

Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
GN-66	Volume 9, Section 3.8.5.3, Pg. 88 Impact on Marine Mammals The DEIS discusses the potential for polar bear mortality due to consumption of oil-contaminated prey, direct ingestion due to cleaning oil from their fur, or suffer from adverse effect thermal insulation. It is not clear if the loss of polar bears from oil contamination will be deducted from the TAH, and if appropriate compensation will be provided to hunters. The manner in which such mortality will be monitored and reported remains unclear. Please clarify. Polar bear mortality from any project-related activity should be handled in the same fashion, and compensation provided to hunters.	We concur that polar bear mortalities that can be attributed to the Project, whether from defence kills or from an accidental event such as a spill will be deducted from the total allowable harvest and compensation provided to hunters. Oil contamination is not anticipated as ships will operate as per Appendix 10D-10.
GN-67	Volume 10, Section 4.3 Vegetation clearing and management – Operational Standards and Procedures Section 4.3 identifies Operational Standards and Procedures contained within the Environmental Protection Plan. Detailed Operational Standards are provided in Appendix 10B. There are no Operational Standards or Procedures related to vegetation clearing or management. As such, it is not possible to fully understand the effectiveness of the Environmental Protection Plan with regards to managing vegetation resources. It is requested that a Vegetation Clearing and Management Operational Standard, inclusive of the appropriate procedures, be developed and included as part of the Environmental Protection Plan. The Vegetation Clearing and Management Operational Standard and procedures should be supportive of the General Mitigations for reducing effects of the Project on vegetation, as described in Section 3.1.1 of the Terrestrial Environment Management and Monitoring Plan SD-EMMP-011 (Appendix 10D-11). It should also provide specific activities in support of the monitoring requirements described in Section 6.1 of the Terrestrial Environment Management and Monitoring Plan, as well as any additional activities developed as a result of the IR process. The proponent has a number of activities throughout the DEIS that relate to vegetation managing, including vegetation clearing and control of invasive species. It is therefore necessary to understand how these activities will be undertaken in the context of the Project's management approach and daily operating procedures.	Many of the EPP Operational Standards address site preparation prior to development and activities required to minimize disturbance. Most of the sites under consideration for the Project are denuded of vegetation (exposed rocky surfaces for quarries or exposed granular materials). Vegetation on these site is limited to sparse lichens or non existent. For most sites with the PDA, clearing of vegetation wil be limited.
GN-68	Appendix 10B, Section 2.10 Polar bear encounters Please provide greater detail regarding the polar bear safety and awareness training that will be provided to employees and confirm that the execution and implementation of this training using local expertise and IQ. Workers should be educated about the risks and safety measures related to encounters with polar bears. Bear safety and training awareness will reduce the risk to human life by wildlife, reduce destruction of property by wildlife, and reduce the number of defence kills. The use of local expertise and IQ is anticipated to add value to safety and awareness training programs.	Safety concerns as it relates to polar bears encounters is an integral part of the site induction program for all new employees. In addition, acceptable response by employees should such encounters occur are routinely discussed at weekly/monthly health and safety meetings. EPP Operational Procedure dealing with polar bear encounters is presented in Appendix 10B - EPP#2.10.
GN-69	Appendix 10B, Section 2.12, Caribou Protection Measure It is unclear who is going to take the decision and responsibility to cease drilling, road construction or project activities if caribou are showing signs of being disturbed. It is also unclear who will assess the behavioural state for caribou approaching the activity location. Please clarify and provide further information to address these unanswered questions and uncertainties. The responsibility and the authority capable of making and taking this decision should be clearly stated given the importance and implications of stopping construction and operation activities even for a short period of time.	All employees will be required to report wildlife sightings to the EHS Department. In turn, the EHS Department (or some other entity as established by the terms of the IIBA) will assess the importance of the herd movement and the lieklyhood of interference with the railway operation. The EHS Superintendent (or IIBA entity)will report to the Mine Site Manager who will make the ultimate decision to stop the railway operation.

Table 1

Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
GN-70	Appendix 10B, Section 2.8, Aircraft Flights There is no mention of aerial surveys or use of GPS-collared females to locate potential or existing calving sites during construction and operation in volume 10 EHS Management, Appendix 10D-11 Terrestrial environment management and monitoring plan, SD-EMMP-011. Anecdotal reporting will mainly provide useful information along the mine site, the tote road and the railway. Please describe how project biologists will locate caribou calving sites so they can be avoided by aircraft pilots. If helicopter surveys are to be used, please describe the flight ceiling restrictions, their seasonality, how they will be established geographically, and how these will be managed and enforced. Female and calves are very sensitive to aircraft disturbance and it may affect recruitment. This information is necessary to adequately determine potential Project impaCTA, as well as the effectiveness of mitigation.	No caribou calving sites have been identified within the various Project PDAs where the disturbances will occur. Baffinland wishes to avoid harassement of animals and as such no additional aerial surveys or collaring of caribou are proposed. Baffinland's Wildlife Management Plan (Appendix 10D-11) will focus on employee reported observations along the Project corridors and PDAs.
GN-71	EPP, Appendix 10B, Section 2.19 Road Traffic Management Should any movements either by a single caribou or a female-calf pair be sighted in the vicinity of the road be reported to the Environmental Superintendent instead of “Any substantial movement”? A definition of “substantial movement”, or a specific procedure for people to follow is required. Please clarify and provide further information. Given the low numbers of caribou likely to range in the RSA, any sighting of movements should be reported and documented.	Employees are required to report all wildlife sightings to the EHS Department. The EHS Superintendent,or his designate (or a designated identity as agreed to under the terms of the IIBA) will guide decision making as it relates to caribo migration and encounters with project activities.
GN-72	Environmental Protection Plan, Appendix 10B, Section 2.23 Wildlife Log Instruction Please update the wildlife log procedure to include the kilometre post (KMP) data as a supplement to the GPS location for wildlife observations along the tote road and the railway, as applicable. This is valuable data for the location of the observation in the absence of GPS equipment by the observer. Accurate data is necessary for adaptive management.	This suggestion will be implemented.
GN-73	Appendix 10D-6 - Borrow Pit and Quarry Management Plan Please explain why there is no mention of archaeology in this management plan. A modified Borrow Pit and Quarry Management Plan is required that considers archaeological issues. The current management plan seems inadequate without the consideration of archaeological issues. While archaeology is considered a VSEC it often must be considered as a VEC due to its physical attributes. Archaeological issues require attention for all aspects of the project which involve physical disturbance to the landscape.	A screening for archaeological resources of the potential quarry or borrow sites will be done prior to development. The Borrow Pit and Quarry Management Plan (Appendix 10D-6) will be amended to reflect this requirement.
GN-74	Volume 10, Section 5.3, Pg. 16, Table 5.5 Please provide a description of how speed limits to mitigate impacts to caribou will be enforced and the measures that will be used by Baffinland Iron Mines Corporation to communicate to vehicle operators about new posted limits at given sections of the tote road due to caribou presence in the vicinity. Incentives to slow driving speed in order to reduce animal-vehicle collisions have not been very successful in many roadways of North America.	It is the reponsibility of all site supervisors and management personnel to enforce road traffic policies, including speed limits. Employees are required to obey Company policies. Disciplinary actions may be required for offenders. Wildlife encounters must be reported to the EHS Department.
GN-75	Volume 10 Appendix 10C1 – Emergency & Spill Response Plan, Section 4.1.6 Please provide a spill response plan that will be implemented by the shipping company. It is stated that any spill on water during shipping will be the responsibility of the shipping company. This plan has not been included in the DEIS and thus a complete review of impacts as a result of any and all spills, including those during shipping, cannot adequately be carried out.	SOPEP are proprietary to ship owners and cannot be provided by Baffinland. It is a legal requirirement for all ship navigating in Canadian Waters to have a Transport Canada approved SOPEP.

Table 1

Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
GN-76	Appendix 4A Socio-Economic Baseline Report Table 6 Movement of People Within and Into the LSA (Five-Year Mobility Status), 2006; Table 7 Net Migration In and Out of the Baffin Region, by Origin & Destination Although some baseline data is presented no qualitative analysis of project impacts are discussed. In addition, information presented should be augmented to include the Kitikmeot Region and the Kivalliq Region in order to more appropriately address potential cumulative effects within Nunavut as acknowledged on pg. 21. Provide an appropriate territory-wide assessment of population demographics as employment opportunities exist for all of Nunavummiut. Movement of people within and into the LSA during project construction and operation will have impacts territory wide and will not be limited to Iqaluit, North Baffin and South Baffin Island as identified in Table 6 Movement of People Within and Into the LSA (Five-Year Mobility Status),2006 and Table 7 Net Migration In and Out of the Baffin Region, by Origin & Destination.	See Attachment 8 for a detailed response.
GN-77	Volume 2, Section 2, Table 2-2.1, pg. 17 List the Responsible Agencies for the Territorial ACTA and Regulations. The list is incomplete and does not include territorial departments or agencies.	We acknowledge the listing of agencies responsible who administer territorial leglislation is not included. We don't believe this information is necessary to carry out a review of the DEIS.
GN-78	Volume 3, Section 1, Table 3-1.1, pg 3; Volume 3, Section 5, and Table 3-5.1, pg 123 There is a discrepancy between the total workforce for the operations phase between Table 3-1.1 and Table 3-5.1. Adding up the numbers in Table 3-5.1 results in a total of 1257, not 1057 as identified in the table. It appears to the reviewer that the total numbers in Table 3-5.1 have been miscalculated, and as a result do not match Table 3-1.1. • Provide clarification on the total number of employees during the operations phase, including which employees are full time and part time. • Provide a similar breakdown of employee estimates for the construction phase. • Confirm on which employment numbers the economic analysis (Appendix 4B) was based. • Re-calculate the economic analysis if based on the incorrect employment numbers. • Redo the cumulative effects evaluation, if based on incorrect employment numbers. To provide consistency and to clarify the discrepancy of 200 onsite employees	Correct, there are transcription errors in Table 3-5.1. A revised Table 3-5.1 is presented as Attachment 14. The table has been revised also to reflect the removal of the road haulage option from the Project. The economic impact model was prepared using the employment numbers drawn from the 2008 definitive feasibility study (18 Mt/a railway project only). We noted that employment earnings are a minor contribution to the Project's economic impact; the royalties accrued to NTI, payments to the QIA and taxes by the territorial government comprises most of the Project's economic contribution. Since the road haulage option is no longer being pursued by Baffinland, the revised employment numbers in Table 3-5.1 match the employment numbers applied in the economic impact model (i.e., the 18 Mt/a railway operation only).

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
GN-79	Volume 4, Section 2.3.2, pg. 15-17 and Pg. 109 The discussion of the potential for in-migration/out-migration as a result of the Project was not actually evaluated in the DEIS. Rather scenarios were presented as to types of migration that could take place, in order to define at what point the demographic change might be negative. The analysis merely confirmed the issues the communities raised as possibilities. The key issues are the indirect effect of migration; namely, "brain drain", loss of key community members such as hunters and trappers, social cohesion changes, housing availability). The DEIS requires a thorough analysis of in-migration/out-migration. This requires: • an analysis on the possibility of brain and skills drain and changes in social cohesion • an analysis of the impact to community infrastructure and services, and for housing stock in all communities where in-migration is anticipated (i.e., five RSA communities and Iqaluit) • Describe the monitoring program that would be implemented by the proponent with respect to in and out migration and its associated effects. The EIS Guidelines require the consideration of the Potential for Project-induced demographic changes in population, migration, redistribution and the effects of those changes, including interactions between local residents and non-residents; (8.2.1.2). It is unclear whether the Proponent completed an evaluation of the effects of changes as a result of demographic changes caused by the project. Rather, it would appear that this issue will be monitored for in the event that it might happen. Some preliminary evaluation of the potential effect needs to be understood in order to know what to monitor.	A description of theoretical migration interactions between the Project and North Baffin communities is presented in Section 2.2 and 2.3. The assessment, or "evaluation," of these effects is presented in Section 2.3.3 of Volume 4. With regard to in-migration, the analysis indicates this will be of low magnitude and not a significant effect. Since significant levels of in-migration is not anticipated, it is unlikely that there will be significant associated effects on local infrastructure, services, or housing. With regard to out-migration from North Baffin, the Project will enable some who would have moved away to stay, and some who would have stayed to move. The Section 2.3.3 analysis again leads to a determination that the effect will not be significant, so there is no need to analyze effects that are not expected to take place. Monitoring related to migration is addressed in Section 2.3.5---this includes company-generated change-of-residency data as well as occasional interviews of local residents/key people to identify perceptions related to migration issues. The details of this monitoring program need to be developed in partnership with the other stakeholders who will be involved in monitoring.
GN-80	Volume 4, Section 2, and Section 4.3.2 Volume 10, Appendix 10F-3, Section 6.5 The size of the project and potential workforce can accommodate a large number of northern residents who may be interested in employment at the Mary River Project. The DEIS states that Baffinland will seek to provide employment to Nunavummiut outside the point of hire communities (vol. 4, pg. 45). Further, the DEIS identified in the Human Resources Management Plan (App. 10F-3, pg. 13, 14) that if a significant number of people from other communities are employed at the project, additional points of hire may be created. Please provide clarification on the following two points: • How many people will have to be hired from a community before it becomes a point of hire? • What support/compensation will Baffinland provide employees to travel to points of hire? While mitigation measures, such as the inclusion of Iqaluit and Ottawa as a point of hire, may reduce the potential for southerners to reside in North Baffin points-of-hire communities, the size of the project and potential workforce may attract people from across the RSA and the north, which may lead to an influx of residents into the current northern points-of-hire communities.	Transportations costs will be paid for by Baffinland for workers from the five designated North Baffin communities. The mode of transportation for workers from these communities will be dependent on the numbers. Baffinland has indicated that it intends to use charter flights from points of hire but if the number of staff is lower than appropraite for charter, then we could use scheduled commercial flights. A decision on covering costs of travel from non points of hire will be made as the project advances.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
GN-81	Volume 4, Section 3 Appendix 10F-3, Section 6 and 8 The DEIS acknowledges there are challenges to providing access to training and to facilities within the LSA (Vol. 3, section 3.2, pg. 27). Proposed mitigation measures include training onsite, offsite training programs, MOU with QIA/QC/Kakivak Association, MOU with GN and NAC, education and training funds, etc. However, residents of the LSA may need to leave home to access training facilities, qualified journeymen for apprenticeships, or educational programs. Further, employees may have to take time away from their current jobs to gain increased qualifications for career advancement. Please address the following concerns: • Provide an assessment of the infrastructure needs for adequate training facilities, and locations of any facilities that currently exist which can be utilized for project training. • Provide an assessment of the potential movement out of the LSA by residents seeking training for employment with the Project. • Include in the assessment other services that may be offered at the training centers (e.g., daycare facilities for parents of young children) to support training. The ability for local residents to gain appropriate training in order to qualify for high-level positions of employment with the Project depend in part on the ability to access such training. A thorough description of the proposed training program and the potential associated impacts of accessing such training need to be detailed in the DEIS.	Training programs will be developed through partnerships with funders and training providers. Baffinland has entered into partnerships with the appropriate agencies in order to support training related to the Project. These are described in Appendix 10F-3. A general description of training capacity is provided in Section 5.4.2. The specific training resources that will be required will depend on the specific training programs that are funded and implemented. This will be determined through the partnerships described in the DEIS (Appendix 10F-3). Once these programs are identified, the best way to deliver the training can be determined through these partnerships. The detailed assessment of training facilities, the training sector, and the challenges experienced by individuals in seeking training is considered to be outside the scope of a project-specific EIS.
GN-82	Volume 4, Section 7, pg. 114 There does not appear to be an assessment of the potential impact to Iqaluit or other points of hire communities of the additional air traffic and airport use in communities. In addition, there does not appear to be consideration of weather or other emergencies/mechanical issues unexpectedly grounding flights carrying employees. • Provide an assessment to consider potential impacts of increased air traffic through the point of hire communities. • Provide an assessment to account for the possibility of unexpected grounded flights in communities. • Identify mitigation measures to address the possibility of unexpected grounded flights. An influx of several employees into a community or a few hundred into Iqaluit may not easily be accommodated, putting pressures on accommodations, food services, and grocery stores. This may particularly be enhanced in the case of a weather delay, where cargo cannot come into communities for resupply.	The number of regular flights into and out of the point-of-hire communities will be low based on the total flights into the mine sites as described in Table 3.1-1 of Volume 3. There are no impacts anticipated from these flights. With regard to unexpected grounded flights, the following considerations are noted. First, the local North Baffin flights are less than an hour in duration. A flight that could not expect to successfully land at the destination point-of-hire community would be cancelled, with the workers remaining at camp. In-coming flights to the Project have built-in alternates since there are landing facilities at both Steensby and Mary River. Baffinland recognizes that the communities do not have accommodations for a plane-load of unexpected guests, as do the commercial airlines. With regard to the regular jet service to the mine, a flight that was unable to land at the mine site would return to Iqaluit and then back to Ottawa. Residents from Iqaluit likley would get off there before the flight continued south.
GN-83	Volume 8, Appendix 8A It would be helpful to review more detailed site layout plans for Milne and Steensby ports and harbour facilities. In particular: • Provide information on whether large covered ore storage facilities (similar to the Nanisivik/Polaris facilities) will be included to prevent any ore stockpiles from freezing and to mitigate dust migration. • Provide information on how stockpiles will be managed at the ports to avoid manufacturing of dust and dust migration. • Provide information on rail car management to prevent dust migrations issues. • Consider monitoring activities in the monitoring program to determine the need for covering rail cars to prevent dust migration. Based on organizational experience, the above mitigation measures can be used to prevent dust migration.	Stockpiles will not be covered, and the air quality modelling and impact assessment was based on this. Operating experience from other Caniadian iron ore mining operations (Labrador) confirm that dusting is not a problem and that cover for stockpiles and rail cars is not necessary. Air quality monitoring during operations will validate effects predictions or identify the need for additional mitigation measures.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
GN-84	Volume 4 : Section 7.2, Pg. 110 Section 7.4.2, Pg. 114 Section 12.4.3, Pg. 183, Table 4-12.1 Much of the analysis provided in Volume 4 is not substantiated. Referring to Table 4-12.1, Section 12.0, Page 183: • Provide the rationale for the noted effects of "Income support" and "Social housing expenditures" in Table 4-12.1. Please clarify the assumed effects. • "Essential community infrastructure and services" (Table 4-12.1) contradiCTA statements made in Section 7.2 Page 110 and Section 7.4.2 Page 114. In the GN's experience this "neutral" effect is inaccurate. Please clarify how the conclusion of having a "neutral" effect was reached. These conclusions need to be fully substantiated • "Emergency medical travel" (Table 4-12.1) contradiCTA statements made in Section 7.4.2 Page 114. Please clarify how the conclusion of having a "neutral" effect was reached. These conclusions need to be fully substantiated. Inconsistencies in document. Lack of substantiation for conclusions reached. Contradictions to GN's experience.	Increased employment of Nunavut residents is anticipated, as presented in Section 4.0, leads to increased numbers of people earning income and, thereby, a reduction in levels of social assistance (Income Support) and in social housing expenditures paid by government. The presentation of Project effects on demand for expenditures community infrastructure and services hinges on a distinction between "essential" versus "discretionary" community infrastructure and services. The reviewer correctly identifies that the explanation could benefit from further detail. The point made here is that at a conceptual level there is a category of basic infrastructure, such as drinking water, water delivery, power generation, sewage removal and so forth, is relatively insentitive to population wealth. The Project is not expected to either substantially increase or decrease the demand for these essential services. This is the basis for assignment of a "neutral" effect in Table 4-12.1. The demand for a second class of infrastructure, addressed in Section 7.4.2, will increase with increased community wealth---this refers to the need for improved intersection design and signage as personal vehicle numbers increase and so forth. For this reason, demand for this "discretionary community infrastructure and services" is expected, at the conceptual level presented in Table 4-12.1, will increase. The rationale for assigning a "neutral" effect for emergency medical travel is that this expenditure area will experience competing factors--- beneficial effects on human health and well-being (as presented in Section 6.0) should reduce expenditures for emergency medical travel. The potential for incidents requiring emergency medical evacuation (as presented in Section 7.4.2) could lead to an off-setting demand for expenditures in this area. For this reason, the effect is assigned to a "neutral" category.
GN-85	Volume 4, Section 5.0, Pgs. 65 - 73 Section 5.0 is only a literature review of Nunavut's existing economic environment. No real analysis or consideration is given to the project's effect on the territory's economy. The DEIS must provide best estimates of the effects the project may have on Nunavut's Real Gross Domestic Product, rate of GDP growth, Consumer Price Index, import/export and trade balance of goods, personal savings rate, and business investment. These types of analyses should be provided for Nunavut's economy as a whole and for Nunavut's major economic sectors (for example, the major sectors in the North American Industry Classification System). This information provides a complete representation of how the project is contributing to Nunavut's economy, and will enhance the local and regional economic analysis. The "Impact Statement" (5.5 Page 73) merely states "VSEC are assessed … to be positive". What are the reasons, data, analyses or considerations? The proponent should carry out a thorough analysis and include the results of that analysis. The Government of Nunavut requires quantitative "best" estimates of the economic effects of the project on its economy as a whole, including the various economic sectors, in order to understand the project's benefits versus costs.	A portion of the GN's request is addressed in the Economic Impact Report prepared by Professor Eric Howe, Appendix 4B, and cited as Howe, 2010. The GN's request for quantitative analysis of the effects of the project on the GN economy is beyond the scope of the EIS guidelines, and is not required to support the conclusions of the EIS that the Project will have a substantial positive effect on the territorial economy.
GN-86	Volume 4, Section 5.1.2, Pg. 68 Statements made in Section 5.1.2 appear to be incorrect. Based on the GN's interpretation of available data, Nunavut did not experience the creation of 10,100 jobs in 2008. Further, the Conference Board of Canada does not expect that 11,800 jobs will be created by 2020. The following table shows the CBoC's estimated level of employment (number of jobs) existing in the territory: Nunavut experienced a decrease of 400 jobs in 2008, not an increase of 10,100. The estimated level of employment in 2020 is only 13,000, an increase of 2,600 from 2010. Please revise the EIS reflect accurate data. The DEIS does not provide an accurate interpretation of data.	The Conference Board forecast is based on the publication that is cited in Section 5.1.2, and included in the Section 15 References. This is available online at: http://www.nunavuteconomicforum.ca/public/files/library/REPORTSO/Northern%20Outlook%20January%202010.pdf. The reviewer's attention is directed to "Table 1: Key Economic Indicators: Nunavut" found on page 7 of that document. This is the basis for the employment numbers that are cited as the Conference Board of Canada's forecast for Nunavut. This citation is accurate. The source of the data suggested by the reviewer as the "correct data" is, unfortunately, not cited---it may be older or more recent than that cited. The reviewer's interpretation that Section 5.1.2 states that Nunavut experienced the creation of 10,100 new jobs is unfounded based on the text. The conclusion of this section is that based on the forecasts, "under baseline conditions, the Nunavut economy is expected to add 1,800 jobs..." over the forecast period. While these numbers are interesting, it is noted they are simply forecasts.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
GN-87	Volume 4 Dollar figures used throughout the DEIS are inconsistently represented, switching from 1997 to 2002. In order to provide an accurate economic analysis with Real Dollars, the proponent should use a consistent base year. The economic analysis requires revision to reflect a consisted base year. The Government of Nunavut requires a quantitative analysis of the economic effects of the project on its economy as a whole in order to understand the project's benefits versus costs using a consistent base year. The GN notes that Statistics Canada currently chains Canadian dollars to the year 2002.	The economic impact model completed for the EIS is sufficient to support the assessment and conclusions. The use of 1997 dollars arises from application of the Arctic Impact Model (AIM), as described in Howe (2010)-Appendix 4B. The AIM is regularly updated, with the most recent update being completed in 2010. The 2010 version of AIM uses 2002 dollars. However, this was done following completion of the modelling runs used in the impact analysis prepared for the Mary River EIS. The benefits of presenting model conclusions in updated constant dollar figures (2002 versus 1997) is not considered to justify the cost involved with re-running the model.
GN-88	Volume 4, Section 12.3.1, Pg. 182 Section 12.3.1 is vague and does not provide a rationale for the level of tax revenues expected to flow to the GN from the project. The proponent should show an analysis and a more detailed breakdown of these tax revenues. Please provide more information on how these figures were estimated and a breakdown of where these taxes are flowing. The GN's estimation of tax revenues received from this project are inconsistent with EIS figures. Figures stated without rationale. Inconsistencies with organizational expectations	Section 12.3.1 presents the level of tax revenues that are predicted to accrue to the territorial government during the construction and operations phases of the project. Clear reference is made to the source of these estimates---Howe (2010). The detail of these estimates are laid out in the Howe (2010) Economic Impact Report which is referenced in the Section 12.3.1 text. The reviewer is referred to Appendix 4B for the details that are sought. Inconsistency with the reviewer's expectations cannot be addressed since details of these expectations have not been shared.
GN-89	Volume 4, Section 12.4.3 A complete economic analysis requires the consideration of effects on expenditures as well as revenues. The DEIS does not provide a complete understanding of the types nor levels of expenditures the GN may incur from the project. Please provide the estimated levels of expenditures that the GN may incur due to the project. Please provide data and identify how this data was derived. Data is missing from analysis. GN expectations on expenditures do not align with those expressed in the DEIS	A conceptual model for the effects of the Project on territorial expenditures was developed and presented in Section 12.4.3. A high-level estimate of the project's impact on government revenue and expenditure is provided in the Howe Economic Impact Report (Appendix 4B). To provide more detailed quantitative estimates for these categories would require the Proponent to gain access to a detailed level of internal government data. It would also require assumptions related to government policy and political decisions related to discretionary spending decisions. Not only is it felt that this request goes beyond the scope of what is a reasonable expectation for this EIS, it is also felt that the outcome would be highly dependent on assumption and estimation as to be unuseful in advancing the ability to undertake a complete assessment of the Project.
GN-90	Volume 2, Section 2, Table 2-2.1 Volume 4 Appendix 10F-3 Please describe how the proponent will comply with the requirements of the Nunavut Official Languages Act in their training and orientation programs, work safety requirements, and operations? It was not evident in the DEIS how the Act will be complied with. The Nunavut Official Languages Act recognizes Inuktitut, Inuinnaqtun, English, and French as the official languages of Nunavut. In addition, the Inuit Language Protection Act provides clarification on the requirements of availability and accessibility of the Inuit Language. The DEIS does not provide adequate information as to how these requirements will be met or how the ACTA will be complied with.	Nunavut's Official Languages Act requires that, "At a future date to be determined by Cabinet, the private sector will have to provide services and communicate with the public in the Inuit language." (quoted from the Office of the Languages Commissioner of Nunavut: http://langcom.nu.ca/faq). Baffinland's policy related to the use of Inuktitut in the workplace is addressed in Section 3.3 of Appendix 10F-3. This policy is believed to be inline with the requirements that may be implemented for the private sector under the Act at some future date.
GN-91-1	Details on construction phase training: will training be offered in advance of construction commencement, what efforts will be done to overcome the additional challenges of construction (faster pace, etc.)	The Company has been running training programs over the past 4 years and will increase training efforts through 2011 although the Project is still in the feasibility stage and a firm construction schedule has not been finalised.
GN-91-2	When will the HR Plan and Inuit HR Strategy be available to the public? Will there be consultation with stakeholders (such as the Department of Education)?	There is on-going discussion with stakeholders. The final details of the HR Plan and Inuit strategy will not be made public until the IIBA agreement is finalized.
GN-91-3	What are conditions for opening training to non-employees (Vol 4 s.3.4.3)? What are the plans for training for non-employees, particularly during project growth, to train community members in the LSA to become eligible for employment?	Refer to the HR Management Plan (Appendix 10F-3). Baffinland is committed to work with the QIA and other instutions to support efforts on education and training. Training initiative may include training programs at the high school or post secondary level. In certain cases training wil be made available to those who are considered as potential future employees.
GN-91-4	Details on cross-cultural training, orientation and other mandatory general training components (duration, delivery agent/qualifications, assessment, etc).	Refer to Appendix 10F-3. Fulls details of these training programs will be developed as the Project evolves to the construction phase.
GN-91-5	The HRMP identifies (s.6.4.2) that prior learning recognition 'might' be offered. Under what conditions, for what purposes (if limited), and using what methodology?	The HR Management Plan (Appendix 10F-3) outlines the policies that will be adopted by Baffinland. The detailed implementation plan will be finalized as construction activities get underway.
GN-91-6	What is the size or the expected scope and reach of the education and training fund (in dollar terms or in terms of participants). Is the fund for employees, for community training, or both?	This will be determined to a large extent by the IIBA Executive Committee which will not be established until the IIBA is finalized.
GN-91-7	Under what conditions will the employer pay for post-secondary training for employees?	These programs will be developped at a later stage, once the Project Certificate is granted.

Table 1

Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
GN-91-8	What detail can be provided on plans to promote education amongst the K-12 population? Specifically, what will be done to expose youth under the age of 18 to the mine operation in a tangible and realistic way? While the broad statements provided are very encouraging, in many cases there is very little detail to determine the timing and scope of some initiatives and it is difficult to ascertain the true value of the proposal without this detail.	These programs will be developped at a later stage, once the Project Certificate is granted.
GN-92	Volume 10, Appendix 10F-3, Section 13 The data outlined in s.13 of 10F-3 is identified to be provided only to the IIBA Executive Committee. This information will be needed for general monitoring and interaction with partners. Will this information be made publicly available through annual reporting? Access to the information on staffing, education and training in the detail outlined in s.13 (for Inuit and for all staff) will be important for partners such as the Department of Education and the public to assess the project from a training and employment perspective.	The decision to make such information public will be the responsibility of the IIBA Executive Committee of which, three members are QIA appointed individuals and three members are appointed by Baffinland. Although it is reasonable to expect that such information will be made public, Baffinland cannot undermine the decisions of this IIBA Executive Committee before its inception.
GN-93	Volume 4, Section 3.5 What leads Baffinland to conclude that the incidence of care-giving affecting school attendance will be low? This is an important consideration for mitigation of negative impacts on community education. To assume that the impact is low is potentially harmful to the community and to Baffinland's long-term recruitment of educated staff if it is inaccurate	This potential interaction was identified based on community research during which the issue was raised as a baseline issue, not related to Project employment (see Appendix 4A Section 5.2.1.2 reference to youth being asked to stay home or skip school in order to look after someone). It follows from these comments that remote employment could lead to instances of similar situations if the following conditions were met: the individual hired has care-giving responsibilities AND the individual who picks up these responsibilities is attending school AND the additional care responsibilities leads to a decline in performance at school.
GN-94	Appendix 1B-2, Section 8.2; Volume 3, Section 6.1.5, pg 126 Appendix 4A, page 6 It was noted that Appendix 1B-2, Sec 8.2 and Volume 3, section 6.1.5 identify 70% of the population in Nunavut is under the age of 25. However, Appendix 4A, page 6 identifies 58% of the population is under 25 in 2006. • Please clarify whether the 70% figure is for a different reporting year. • If one of the figures is incorrect, please clarify which one, and revise the DEIS to reflect the correct information.	The discrepency is acknowledged. The 2006 Census data indicates that 58% of North Baffin residents are under the age of 25 years.
GN-95	Volume 4, section 6, pg. 98 and 100 Appendix 10F-3 It is unclear how the company will provide family assistance and substance abuse programs to family members of employees. • Please clarify if the company will provide support for substance abuse to family members of employees and provide detailed information on how the company will provide this support. The information provided is vague.	The reviewer's comment is correct. The details of what services may be required and how they may best be delivered have not been spelled out. Appendix 10F-3 outlines a structure for providing services directly by the company to employees through Councelling and Support Services (3.5); Pre-employment Preparation (8.11.1); and the Employee Assistance Program (9.3). These do not explicitly include family members. However, the Ilagiiktunut Nunalinnullu Pivalliajutisait Kiinaujat (11.1) provides resources that may be used for a wide range of purposes based on identified priorities, including "social support programs for individuals and families." Clearly, the provision of social services in the community will involve partnerships with others who share in a desire to improve the wel-lbeing of individuals and families so they can live healthy and productive lives. Appendix 10F-3 establishes a framework for this partnership that includes Baffinland and QIA. Discussions on how to extend this partnership to the non-profit sector and to government will be required.
GN-96-1	Describe how the provision of country food at the site will affect the availability of country food in communities (i.e community freezers, country food that is donated to elders etc.)?	Country food provided at the site must be through a Health Canada licensed facility. Baffinland will therefore purchase the country food through established suppliers, preferably located in Nunavut.
GN-96-2	Will the company provide country food only to Inuit employees or to all employees?	Country food will be focused on Inuit, however, under certain circumstances it may be made availabel to all.
GN-96-3	Describe how country food will be provided to employees The high number of employees at the mine site may impact the availability of country food for Nunavummiut, including those not working at the Project	Country food provided at the site must be through a Health Canada licensed facility. Baffinland will therefore purchase the country food through established suppliers, preferably located in Nunavut.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
GN-97	Volume 1, Table 2 Volume 4, Section 6 The DEIS states that there will be a significant positive effect on the well-being of children and that the most important determinants of a child's well-being are based on 3 determinants (increased household income, better nutrient and food security and care-giving, parenting and parenting skills). These three determinates were significantly based on a study done in Australia (Vol 4, sect 6, page 83). • Please provide any additional information that Baffinland considered when determining other important factors that are specific to Nunavut. The DEIS also notes a number of assumptions when referencing the well-being of children. For instance, the project will 1) have a significant beneficial effect on household income and 2) it assumes that this income will then contribute to putting food on the table. The DEIS also recognizes challenges, such as the potential increased effects of crowded housing conditions. Mitigation of these adverse effects is identified to be through contributions to the Ilagiiktunut Nunalinnullu Pivalliajutisait Kiinaujat fund. The objectives of the fund does not speak directly to the potential adverse effects as issues such as increased over crowding in housing as well as the health impacts that this would have on children (for example, increase TB, and lower respiratory infeCTA in children). • Please provide further information on mitigation measures for these specific effects • Provide information on if and how Baffinland intends to work with stakeholders (such as the Department of HSS) whose mandate includes overseeing correlating factors that are associated with effects of such issues as overcrowding in houses. The Department of Health and Social Services would be responsible for the increased health factors that arise from overcrowded housing. While it is appreciated that Baffinland will contribute to a fund under the care of QIA, this fund has no specific mandate to address issues such as overcrowding	The impetus to seek understanding of how the Project may affect children arose from interviews with workers and family members involved at Mary River during the project definition phase. This is presented in Appendix 4B, Section 6.8.3.1 to 6.8.3.3, and Section 6.8.4. The information contained in these sections, therefore, arises from Nunavut in relation to the Mary River project, the Jericho project and to the Nanisivik/Strathcona project (refer to Appendix 4B, Section 6.8.4). While this research provides some insight into challenges that parents may face, it does not provide insight into the relative importance of the factors most important to the well-being of children. To focus the assessment on determinants of children's well-being, an effort was made to identify these determinants. In the absence of findings of published literature based on research carried out in Nunavut, the Western Australian Aboriginal Children's Health Survey study was used. The DEIS notes that crowded housing may lead to higher levels of stress and conflict in households than in households where housing conditions are not crowded. It does not suggest that the Project will contribute to "increased over crowding in housing" as suggested by the reviewer's comment. Therefore, there is no need for the Project to mitigate health effects such as TB or lower respiratory infections in children.
HC-01	Location and Characterization of Receptors A discussion identifying human receptors is necessary for an assessment of potential human health effects due to impacts of the Project, and HC advises including the following in the EIS: • Describe and characterize all potential human receptors, using maps to delineate their locations and the distances of communities, residences, temporary/seasonal residences, etc., to project sites and related infrastructure. If any potential receptors are excluded from the assessment, provide a rationale. If applicable, discuss the number of workers expected to be residing onsite or in workers' camp(s), and identify the distance between the camp(s) and the worksites. HC advises that an assessment of potential effects on human health to off-duty workers residing onsite or nearby be considered.	The land use report (Appendix 4C) provides a detailed description of land use. There are no human receptors that regularly occupy the areas around the Project sites. The number of workers on-site is provided in Table 3-1.1 (Volume 3). There will be no "off-duty" workers; workers are working or sleeping while at site, and are transported home to their communities during their off-rotation.
HC-02	Air Quality It appears that human receptors are not identified in the Air Quality Assessment. HC suggests the receptors are located and characterized as discussed in the section above. This information is important in describing risk to human health. The Draft EIS does not appear to contain a rationale for excluding possible air quality contaminants that were not considered in this assessment. For example, Petroleum Hydrocarbons (PHCs) and diesel particulate matter (PM) were not included in this assessment, however project activities such as the use of diesel burning vehicles are associated with emissions of PHCs and diesel PM. Values for "Federal Air Quality Objectives" and National Ambient Air Quality Objectives (NAAQOs) are presented in multiple locations throughout the Draft EIS (e.g. Vol. 5, Table 5-2.5 "Ambient Air Quality Criteria, Standards and Objectives" p.33; p117; Appendix D-1 p.2, etc), and appear to list outdated categories and associated values for Air Quality parameters. The current interim NAAQOs are available on EC's website2. HC advises the use of the most current objectives and standards as applicable. Please clarify the reference on page 117, Vol. 5 (and elsewhere) cited as "Environment Canada. 2010b. National Ambient Air Quality Objectives".	The LSA is uninhabitated and no human settlements are foreseen in the near or distant future. Placing a focus on human health receptors is therefore not required. The focus of the air quality monitoring plan is therefore on air quality parameters susceptible to affect wildlife habitat. Please refer to Appendix 6G for the risk assessment related to exposure. PHC and PM emissions were not included in this assessment because vehicle engines will have the latest emission technology at the time of purchase.

Table 1

Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
HC-03	Particulate matter (PM) varies in size. Particles of size 10 micrometers (µm) or less in diameter, called PM10, and particles less than 2.5 µm (PM2.5) are considered to be non-threshold substances, meaning that health effects may occur at any level of exposure. Canada Wide Standards (CWS) for PM recognize that any increase in exposure will result in an incremental population risk. HC advises this fact be considered in a comparison of predicted project related changes in ambient air quality to applicable air quality benchmarks relevant to human health (Canada-wide Standards, National Ambient Air Quality Objectives, territorial regulations, etc.), and a discussion of the potential effects on human health. HC notes the principles of "Keeping Clean Areas Clean" and "Continuous Improvement" are an important part of the CWS. In addition, HC notes that air quality criteria and standards should not be considered as thresholds below which health effects do not occur. Please note that HC does not verify air quality modelling results and assumes that correct and accepted and/or validated methods were used. HC relies on the expertise of Environment Canada for the review of air quality modelling results and the provision of related advice. If errors and/or gaps in the modelling are noted by Environment Canada, it is suggested that revisions be made to address them as indicated by Environment Canada. If the revised results differ from the originally submitted results, it is advised that the report be resubmitted to HC for review.	The project considered the current H&S requirements of Federal and provincial agencies. This is out of scope.
HC-04	Contamination of Country Foods The assessment of risk to human health due to the possible contamination of country foods appears to be limited in the Draft EIS and appendices. The discussion of possible contamination of country foods appears limited to the deposition of iron ore dust as a source of metals and only include a preliminary assessment of blueberries and caribou as country foods consumed that may be contaminated (Appendix 6G of the Draft EIS). However, the EIS identifies several other possible sources of contaminants (marine spills of fuel and other substances, transportation emissions i.e. trucks and trains, and waste rock handling) that are advisable to include in assessment of country food contamination as they may be operable pathways for contamination of country foods. Also these activities may be sources of contaminant types not discussed in Appendix 6G. The Draft EIS also states that "other berries (i.e. crowberries) and a number of marine mammals (i.e. ringed-seal, walrus, beluga whale, narwhal, polar bears) are also consumed"; but these country foods were not included in the discussion of contamination of country foods and risks to human health. It is also likely that fish from Mary River and surrounding lakes are consumed by populations in the area, and Volume 7 of the Draft EIS, p. 233 identifies that there are some exceedances of mercury values for Arctic char. Please note that the 2010 Government of Canada document "Risk Management Strategy for Mercury"3 provides up-to-date information and discussion on mercury, including values, recommendations and guidelines.	The assessment completed on blueberries is predicted to be representative of crowberries and other edible berries within the RSA. Appendix 10D-10 outlines management plans for shipping and marine mammals including preventative measures to be employed that will prevent contaminants from shipping activities. Furthermore, it is unlikely that marine mammals will spend significant amounts of their life within areas potentially impacted by project contaminants. Therefore it is unlikely that potential project contaminants will have a measurable impact on the meats of marine mammals and polar bears. Thank you for making reference to the Government of Canada's "Risk Management Strategy for Mercury". This document may be useful in relation to the baseline levels of mercury that were determined for freshwater arctic char in the RSA.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
HC-05	Contamination of Country Foods Also, Appendix 6G does not provide an quantitative assessment of the risks to human health, nor does it seem to be included elsewhere in the Draft EIS. In order for HC to provide advice about the human health risks associated with contamination of country foods, HC suggests adding a section in the EIS that includes: • A discussion of whether country foods are consumed, or are expected to be consumed, in the potentially affected area (considering First Nations and Inuit people, local residents, hunters, fishers and trappers). Whenever possible, identify what country foods are consumed, which parts of the country foods are consumed if applicable (e.g. whether organs are consumed as well as the meat), and their consumption frequency using surveys of potentially affected people. • An inventory of all potential contaminants (including naturally-occurring contaminants such as methylmercury) and a determination of whether possible transport pathways of these contaminants into country foods will result from project activities. A contaminant with a pathway relevant to food sources is considered a contaminant of potential concern (COPC). • A further level of assessment (e.g. HHRA) if there is potential for contamination of country foods as a result of the project activities. An HHRA would consider adequate baseline data and/or modelling of COPCs in country foods prior to any project activities, a predicted impact of project activities on the concentration of contaminants in country foods, a risk characterization of the possible impacts from project activities, and possible risk management strategies, if appropriate. • A detailed justification, if it is decided that an assessment of the potential for contamination of country foods is not needed, or if certain COPCs are being excluded	These points but are beyond the scope of this DEIS as per the NIRB guidelines. However, country food served at the camps will be obtained through Health Canada approved suppliers.
HC-06	Drinking and Recreational Water Quality HC has developed a detailed guidance document containing advice for drinking and recreational water quality related to human health and environmental assessments (enclosed for your convenience). The checklist (refer to Appendix A), may be useful to verify that the main components of a water quality assessment are completed. HC advises the following be considered in an assessment of water quality: • identifying all sources of drinking water (surface and groundwater), as well as water used for recreational purposes, within the area of influence of the project. • an indication of baseline levels of naturally-occurring contaminants (e.g. arsenic, metals) in order to assess impacts on drinking water. The level of naturally-occurring contaminants may already be elevated, and may be further influenced by project activities. HC advises an examination of the potential impacts on the quality of drinking water sources (physical and chemical parameters) during all phases of the project, as well as the potential for cumulative effects on the quality of these water sources. If any changes to water quality are predicted, HC suggests that the potential effects on drinking water quality and human health be discussed. The Draft EIS references "Health Canada. 2004. Drinking Water Quality Guidelines" (Volume 7, p. 301). It is unclear exactly what document the Draft EIS is citing, however HC advises consulting the current Guidelines for Canadian Drinking Water Quality - Summary Table4 that were most recently updated in December 2010.	Baffinland thanks HC for the document "Guidance for Evaluating Human Health impacts in Environmental Assessment: Drinking and Recreational Water Quality, DRAFT, January 2011. In response to the specific information requests Baffinland provides the following: • All of the known drinking water sources (surface and groundwater) in the Project Area are project-related (Phillips Creek, km32 Lake, Katiktok Lake, Camp Lake, Ravn Camp Lake, Cockburn Lake, 3km Lake, and 10km Lake). No other drinking water sources were identified through the Stakeholder Engagement Program. • Outside of the navigational uses described in Section 5 of Volume 9, no additional recreational water use in the freshwater environment was identified through the Stakeholder Engagement Program. • Baseline levels of naturally occurring contaminants are summarized in Appendix 7B – Water and Sediment Quality Baseline Report. • The protection of drinking water quality has been addressed by comparing baseline and predicted water quality against the CCME guidelines for the Protection of Aquatic Life (PAL), as they are more stringent than the Canadian Drinking Water Quality Guidelines for the identified Key Indicators. • For each of the Key Indicators that were used in the environmental assessment, a comparison between the threshold and the guideline values in Table 4 was completed. For all Key Indicators the threshold that were used were more stringent than the guidelines identified in Table 4. Table 7-3.8 (attached) has been updated to reflect the up to date threshold values provided in Guidelines for Canadian Drinking Water Quality (Health Canada, 2010).
INAC-001	As per Section 2.6 of NIRB's Guidelines, INAC requires the Proponent to identify all significant gaps of knowledge as well as the steps taken to address these gaps.	These are identified throughout the DEIS. As an example, in Volume 8 it is acknowledged that there is a limited body of knowledge around whale response to the proposed level of shipping, and therefore a monitoring program is proposed to address this gap.
INAC-002	INAC requests the Proponent to provide specific references in the concordance table, including page or section references, as appropriate.	Baffinland referred to specific sections, figures, tables or appendices. Where NIRB guidelines were vague or all encompassing, Baffinland responded accordingly. If there are specific examples INAC has questions about, let us know.
INAC-003	INAC requests the Proponent to describe its record (or otherwise lack of record) related to past experience, compliance, etc. as per Section 5.1 of NIRB's Guidelines.	This is addressed in Volume 1, Section 1.2 (page 4 regarding exploration and bulk sampling programs)

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
INAC-004	As per Section 5.1 of NIRB's Guidelines, INAC requests the Proponent identify and describe any obligations or requirements that it must meet to post a bond or other form of financial security to ensure payment of compensation and to ensure proper mitigation and remediation can be carried out in the event of accidents that directly or indirectly result in major damage by the Project to the environment, as well as to cover the cost of planned or premature closure, whether temporary or permanent.	This is addressed in Volume 1, Section 1.2 (page 4, regarding its current financial assurancy requirements and future anticipated requirements).
INAC-005	As per Section 5.1 of NIRB's Guidelines, INAC requests the Proponent to identify the safeguards that it will be putting in place to compensate for any lack of experience in similar environments.	This is addressed in Volume 1, Section 1.2. On Page 4, Baffinland summarizes the experience it gained to date on its exploration and bulk sampling activities. On page 5 it is indicated that Baffinland has identified a shipping partner, consultants and engineers with considerable experience in arctic shipping or mining to supplement its own team.
INAC-006	INAC requests that the Proponent provide clarification on why the concordance table indicates that sustainable development issues are not applicable to the DEIS.	We assume this is in reference to concordance indicating "N/A" to section 2.4 of the guidelines, which read: *The EIS Guidelines are based upon three factors that the NIRB considers directly associated with sustainable development. These factors are….* We read the above statement to indicate that NIRB considered these factors in developing the guidelines, and this was not a concordance requirement. Volume 10 of the DEIS addresses the application of sustainability.
INAC-007	As per Section 5.2 of the NIRB Guidelines, INAC requests that Proponent's discussion on the regulatory regime include a discussion on mine closure. This should include a discussion of how the design has been developed to meet the regulatory requirements.	Volume 2, Section 2 describes the regulatory regime applicable to the Project, including closure, and the specifics of the regulatory regime applicable to mine closure is described in greater detail in Section 1 of the Mine Closure Plan (Appendix 10G). The regulatory process is well established for mine closure and Baffinland will adhere to this process. It requires the Proponent to regularly update and submit its closure plan for review. The Closure Plan presented in Appendix 10G presents the progressive rehabilitation approach Baffinland intends to adopt. The Closure Plan will be updated throughout the life of the Project.
INAC-008	INAC requests that the Proponent provide rationale for the temporal boundary only extending five years post-closure. Also required, are the mechanisms and/or measures which will be used to determine that the post-closure phase has been completed.	Five years was the identified length of the monitoring period in the post-closure phase. Section 6 of the Mine Closure Plan (Appendix 10G) describes the process by which it will be determined if the post-closure phase is completed. In summary, if the closure plan objectives have been met regarding physical and chemical stability, and if the water board deems closure activities adequate. This will be completed with a 5-year inspection and report.
INAC-009	INAC requests that the Proponent provide additional information on land tenure, including summary information on land tenure by component as well as back-up detail.	Proposed lease boundaries on Inuit Owned Land (IOL) at the mine site are shown on Figure 2-2.2. It is expected that the land tenure requirements at the Milne and Steensby Ports will coincide with the PDAs shown on Figures 3-2.1 and 3-2.9. Quarry boundaries along hte tote road are shown on Figure 3-2.2. While not shown on the figure, the future road right-of-way for a lease or easement is expected to be same as the current IOL lease, 75 m either side of the road centreline. Proposed lease boundaries related to railway quarries are shown on Figures 3-2.4 through 3-2.8. Construction and operation phase lease boundaries for the railway are shown on the plan and profile drawings in Appendix 3C. We believe the information presented is appropriate for environmental review, and expect to provide more detailed mapping and coordinates during the permitting phase when these land tenure instruments are being negotiated.
INAC-010	INAC requests that the proponent cross-reference those sections of the DEIS which are relevant to the draft water license application and any supporting documentation.	A completed concordance with the Nunavut Water Board supplementary information guideline (SIG), which formed Appendix C of the NIRB EIS guidelines, is included in Appendix 1C-3. Additional (mostly, more detailed) information required for the water licence application will be submitted with the FEIS.
INAC-011	INAC requests the Proponent provide a clear indication of the extent of traditional land use and harvesting in the interaction matrix presented in Vol. 2, App. 2C or provide alternative reference citation in Table 1C-1.1-Concordance of EIS Guidelines.	We are not sure which concordance item INAC is referring to. It is possible that a concordance item was incorrectly referenced. Traditional land use and harvesting is described in Appendix 4C (land use baseline report) and in Volume 4, Section 10. Traditional land use and harvesting were validated through a series of public consultation meetings in the communities adjacent to the Project area. The information presented in Volume 4C is the most comprehensive information available to date.
INAC-012	INAC requests that the Proponent provide a discussion of scientific uncertainty, including uncertainty regarding baseline data, modeling and impact predictions, including how this uncertainty is to be addressed, for example, by follow-up and monitoring activities.	Uncertainty in baseline, modelling and impact predictions is addressed in each impact assessment. For example, in the air quality impact assessment (Volume 5, Section 2) the certainty around the assessment is noted in Table 5-2.16, and the uncertainty around modelling is described in Section 2.6.6 Prediction Confidence.
INAC-013	INAC requests that the Proponent clarify all associated monitoring and/or mitigation plans to be implemented in each phase to eliminate or minimize adverse effects that might occur at various project stages for each Project element.	Volume 10 presents Baffinland's Environmental Management System. The specific environmental management plan attached as appendices to Volume 10 are the management that are already implemented or will be implemented as the activities of the Project ramp up. It is acknowledge that at some future date, additional activity specific management plans may be required. The EHS Management System is a dynamic framework and incorporates the principle of adaptive strategies. Refer to Appendix 10A.
INAC-014	The Proponent should provide clarification on whether the road haul option is considered an alternative or is part of the Project description and ensure that full results of required assessments are presented for any option that the Proponent considers as still possible .	The road haul option was evaluated as part of the Project in the EIS. The project description is based on both the 3 Mt/a road operation and the 18 Mt/a railway operation underway concurrently, and the impact assessments are accordingly based on both operations underway.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
INAC-015	INAC requests that the Proponent clarify or provide correct references for the sections 6.4.4.3 and 6.4.4.4 in Volume 3 of the DEIS as stated in Table 1C-1.3: Concordance of Addendum to EIS Guidelines.	These references should have been Sections 6.5.4.4 and 6.5.4.5 in Volume 3, where the 3 Mt/a trucking operation and 18 Mt/a railway operation are discussed as alternatives.
INAC-016	INAC requests that the Proponent provide alternative closure and reclamation options as part of the alternatives assessment presented in the DEIS.	It would be helpful to know what other alternatives INAC views are potentially viable options worth evaluating that were not considered in the DEIS. Refer to INAC-7 - the regulatory process for mine closure is well defined.
INAC-017	INAC requests that the Proponent examine and assess different alternatives related and “on-going geotechnical exploration” components of the Project.	We believe this is a narrow interpretation of the first line of Section 6.1 of the guidelines, which could be interpreted require an exhaustive treatise of every possible alternative to each project component. The remainder of Section 6.1 outlines the project elements that NIRB required to be assessed, and these alternatives were therefore assessed in the EIS. Further, geotechnical investigations are a necessary component of the project.
INAC-018	INAC requests the Proponent explicitly evaluate the alternative of a rail line connecting the mine site to a seaport at Milne Inlet.	Railway viability is inextricably linked to port viability. This is why port location was assessed first within the alternatives section. Early engineering studies did consider a railway to Milne Port, and the railway itself was expected to be viable, although there were technical challenges to arriving into the port area itself and ground conditions (ice rich soils) were not ideal. However, the cost of a railway requires a large tonnage that can only be supported by year-round shipping (see Sections 6.5.3 and 6.5.3.6 of Volume 3), which was deemed not viable at Milne Port. A proponent only evaluates what is economically or technically viable.
INAC-019	INAC requests the Proponent evaluate the alternative of year round shipping, with periodic suspensions during critical life periods of relevant marine wildlife species.	This is discussed throughout Section 6.5.3 and sub-sections. Road haulage and seasonal shipping during open water via Milne Inlet was determined to be viable, as well as year-round shipping supported by a railway via Steensby Inlet.
INAC-020	INAC requests that the Proponent evaluate other reasonable Project development scenarios, including better addressing exploitation of other local deposits and justifying the 3 and 18 Mt/year split between road versus rail haul.	Only Deposit No. 1 has been sufficiently delineated to qualify as a ore reserves that can support a bankable feasibility study, and to develop a detailed mine plan. Other deposits, while showing promise, remain mostly in the "mineral resources" category. Therefore, sufficient exploration has only been carried out on Deposit No. 1 to support a mine plan. Rationalization of the 3 Mt/a road operation against the 18 Mt/a railway operation is provided in Volume 3, Sections 6.5.4.3 through 6.5.4.6.
INAC-021	INAC requests that the Proponent justify the validity of the use of the summation of un- weighted rankings to select the preferred alternatives.	The alternatives assessment methodology involved assigning a "0" to unacceptable performance criteria, which results in an unacceptable (or not viable) rating overall. Beyond that, it was not necessary to add complexity to the assessment methodology by weighting criteria, as the methodology sufficiently and intuitively identifies preferred, acceptable and unacceptable alternatives.
INAC-022	INAC requests the proponent provide conceptual designs for the mine site for alternate development and future development scenarios.	Conceptual designs have not been developed for alternate and future development scenarios, nor are they deemed necessary to evaluate the project.
INAC-023	INAC requests the Proponent provide a rationale for limiting the cumulative impact analysis to five years post closure.	These are the temporal boundaries identified for the Project.
INAC-024	INAC requests the Proponent identify the associated cumulative effect of the alternatives considered as per Section 6.1 of the Guidelines.	It was not necessary to explore the cumulative effects of each alternative to support the selection of preferred alternatives. Cumulative effects were considered, if applicable, in the rating of the performance criteria, "effects to the natural environment".
INAC-025	INAC requests that the Proponent clarify how the Cumulative Effect Assessment Framework illustrated in DEIS Vol. 9, Figure 9-1.1 was applied in this Project.	The process followed is primarily the mainstem of the process flowchart, including the identification of projeCTA, valued componnents, determining overlap, defining the role of adaptive management, defining the methodology, interaction assessment, effects assessment, and summary of cumulative effects.
INAC-026	INAC requests that the proponent include the project components of the road haulage option in the cumulative effects assessment.	The road haulage option is included in the effects assessment.
INAC-027	INAC requests that the proponent provide Project Environmental Design Guidelines at a greater level of detail (e.g., specific numerical criteria instead of merely providing reference citations).	General environmental design guidelines are presented in Volume 10, section 3. Detail design criteria will be developed by the Engineering contractor at the onset of the detailed design stage. Some of these design criteria will be presented in support of the Type Water License application to be submitted with the FEIS.
INAC-028	INAC requests that the Proponent provide additional detail on the Environmental Protection Plan (EPP) that will be prepared for construction and operations, including a detailed annotated Table of Contents outlining the structure of the EPP and indicating, as required, major construction and operational activities, permit requirements, and associated mitigation measures and contingency planning. This includes a list of operational standards.	The EPP is currently being updated and the updated EPP will be presented in the FEIS. This update of the EPP will cover activities taking place during the initial construction period. Additional Operational Procedures will be added or abandonned as necessary, through the contruction and exploitation phases of the Project. Baffinland's intent is to publish the EPP as a field guide that can readily be used by contractors.
INAC-029	INAC requests that the Proponent address monitoring and mitigation in the event PAG material is left exposed in the borrow pit and/or quarries after construction materials have been extracted.	Refer to Appendix 10D-6 - Borrow Pit and Quarry Management Plan.
INAC-030	INAC requests the Proponent provide an Emergency and Spill Response Plan for construction and operations phases which addresses both marine and land-based spills of all types and activities as well as hazardous materials and chemicals, including MSDS for hazardous materials.	The Emergency and Spill Response Plan (Appendix 10C-1) is a dynamic (living document) document that is updated regularly throughout the phases of the Project. It is reviewed and update annually, or in some instances, after a major spill event. The current Emergency and Spill Response Plan satisfies the needs of the current site activities. The Emergency and Spill Response Plan will be updated at the onset of the construction period. The updated plan will be submitted with the FEIS.
INAC-031	INAC requests the Proponent provide an Oil Pollution Prevention/Emergency Plan for Milne Port for the construction and operations phases.	A draft version of the Steensby Port OPEP (Appendix 10C-2) and the Milne Port OPEP (Appendix 10C-3) are included in the DEIS. These documents must be updated annually and approved by Transport Canada. Updated OPEPs will be submitted to Transport Canada as soon as a fuel delivery strategy is finalized for the first year of construction. Baffinland expects to submit these updated OPEPs with the FEIS.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
INAC-032	INAC request that the proponent provide a more detailed description of the roles and responsibilities of the shipping company and the Baffinland Spill Response Team, including during a major spill incident.	This information is provided in the updated OPEPs.
INAC-033	INAC requests the proponent provide a description of the equipment that would be maintained at various Project locations in response to an emergency due to a spill.	This information is provided in the updated OPEPs.
INAC-034	INAC requests the Proponent provide Annexes 1 to 10 cited in Appendix 10C-3 of Volume 10.	The Milne Inlet OPEP completed with Annexes 1 to 10, is provided as Attachment 7.
INAC-035	INAC requests the Proponent provide Annexes 1 to 10 cited in Appendix 10C-2 of Volume 10.	The Milne Inlet OPEP completed with Annexes 1 to 10, is provided as Attachment 7.
INAC-036	INAC requests that the Proponent update their current Wastewater Management Plan to address the proposed operations and closure phases of the Project.	The Management Plans are "living documents" which are revised periodically in order to incorporate lessons learned from monitoring information (adaptive management strategies are incorporated within the plans).
INAC-037	INAC requests that the Proponent identify the criteria, mechanisms and/or measures which will be used to determine that the post-closure objectives have been met and monitoring is no longer required.	The Closure Plan (Appendix 10G) presents the principles that will be followed for closure. Baffinland is committed comply will applicable regulations and to the implementation of best available management practices. Both the regulatory requirements and the management practices will evolve over the life of the Project. Prior to Closure, Baffinland will submit detailed Closure Plan to the regulatory authorities.
INAC-038	INAC requests the Proponent to provide stability analyses of the waste rock and pit wall slopes.	The pit slope stability report is provided as Attachment 14.
INAC-039	INAC requests that the Proponent completes thermal modelling of the Project infrastructure including the waste rock pile to confirm the integrity of designs.	The concept of aggregation of permafrost into the waste rock pile (or any materials placed over the ground) over time is well understood and does not require modelling. Additionally, a conservative assumption with respect to increased active layer thickness over time has been applied. Finally, thermal modelling was deemed to provide little value due to potential inaccuracies in the model. Accordingly, Baffinland disagrees that thermal modelling is necesary to support stockpile designs.
INAC-040	INAC requests the Proponent provide additional information on its planned medical facilities, equipment, supplies, staffing and procedures, including medivac.	The H&S Management Plan (Appendix 10E) provides an outline. The information requested by INAC is dependent on manpower levels. Additional details will be provided in the FEIS.
INAC-041	INAC requests that the Proponent provide more information on the closure and reclamation plan. This includes clearly identifying issues, including potential acid rock drainage and metal leaching, reclamation methods and the rationale for their selection, long term treatment requirements, restoration, time frames, schedules, long term monitoring and maintenance, consultation and the updating mechanism.	The Closure Plan (Appendix 10G) presents the principles that will be followed for closure. Baffinland is committed comply will applicable regulations and to the implementation of best available management practices. Both the regulatory requirements and the management practices will evolve over the life of the Project. Prior to Closure, Baffinland will submit detailed Closure Plan to the regulatory authorities.
INAC-042	INAC requests that the Proponent provide the closure water balance as well as background report(s) used to estimate the expected duration required for the pit to fill with water.	The closure phase water balance for the mine site is presented as Attachment 1. The memo evaluating the time for the open pit to fill with water is provided as Attachment 9.
INAC-043	INAC requests that the Proponent provide the water quality modeling for the open pit and the runoff from the waste rock dump for post closure as well as information on the proposed treatment.	See Appendix 6C-1 for water quality modeling that inlcudes estimates for end of mine life. Refer to Appendix 10D-5 for the waste rock management plan. The closure plan for the Project will be updated throughout the life of the Project and will take into account actual results of monitoring data for runoff water quality from waste rock and the mine pit.
INAC-044	INAC requests that the Proponent provide an assessment of how project design will be affected by changes due to hydrological and marine ice flow regimes associated with potential climate change.	Refer to Volume 9, section 2.
INAC-045	INAC requests that the Proponent provide a description of how the precautionary principle has been addressed in project planning and management.	Refer to Volume 10, Section 1.2
INAC-046	INAC requests the Proponent clarify the camp man-power loading and scheduling needs. The Pre-construction schedule for early start construction activities may be not be reasonable, with a late delivery of construction materials/supplies in the autumn (open water season) of the first year of construction.	According to the current schedule, pre-construction activities will be initiated prior to the first sealift of the year in early August 2012, utilizing the equipment and fuel already at site. It is expected that current camp capacities will need to be respected, and it may be necessary to decrease or cease exploration activities temporarily to accommodate the pre-construction workforce.
INAC-047	INAC requests that the Proponent provide further detail on the hydro testing of large fuel storage tanks.	This is standard practice to test steel fuel tanks. Tanks are filled with water, one by one, and monitored for any leaks. The expectation is that a single water withdrawal will be necessary, and water moved between tanks to test each. Seawater will be used at port locations with the water returning to the ocean following testing, and Camp Lake will be utilized at the mine site with the water slowly decanted to Sheardown Lake.
INAC-048	INAC requests that the Proponent provide more detailed description of the borrow pit locations (map, ownership, principle geographic features etc, ground ice conditions and occurrence of massive ice.), plan of required construction materials (including quantities) and footprint of proposed borrow pits including complete geotechnical, hydrogeological and geochemical assessments.	The information available to date is presented in Appendix 10D-6. The geochemical report for potential quarry sites is presented in Appendix 6B2 and Appendix 6B-3. More detailed information on material charateristics, quantities, quarry development plan and closure will be provided on a timely basis prior to the development of each borrow or quarry site.
INAC-049	INAC requests that the Proponent provide additional geotechnical information with respect to the proposed open pit design.	The pit slope stability report is provided as Attachment 14.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
INAC-050	INAC requests that the proponent verify design drawings (even if only conceptual) reflect the appropriate specifications to allow for secondary containment capacity of 110% of the largest fuel tank.	Yes, the conceptual tank farm drawings in the appendices of Volume 3 are based on secondary containment capcity of 110%, in accordance with legal requirements. More detailed engineering drawings including sections and details will be provided with the FEIS.
INAC-051	INAC requests that the proponent provide details and appropriate design drawings that verify the secondary containment and ice protection measures to be employed at the Steensby Island Fuel Storage area.	More detailed engineering drawings including sections and details will be provided with the FEIS.
INAC-052	INAC requests that the Proponent provide spatial documentation correlating soils, landforms and vegetation information outlined in their sections of the document.	Geotechnical site investigation reports are included as Attachment 2. Geotechnical programs are ongoing in 2011 and 2012 will continue to delineate sensitive landforms at a finer scale.
INAC-053	INAC requests that the Proponent provide information by how much, over what period of time and what physical modification may be required if the Project is extended. This can be done in general terms since it is realized that these will not be defined until a much later date.	The current project being assessed is a 21-year mine involving mining of Deposit No. 1 only. To contemplate what modifications to infrastructure may be required for extensions to the mine life is beyond the scope of this assessment.
INAC-054	INAC requests that the Proponent provide a detailed description of the main components of the Milne port site, in order to conform to the NIRB Guidelines as described in Section 6.5.1 and their corresponding cross-reference to the environmental impact assessment and management sections of the DEIS.	The detailed information INAC is seeking is located in various locations: - OHF plans and bulk fuel storage - OHF plans are included in Appendix 10C-2 and 10C-3. Bulk fuel storage is discussed in Volume 3, Section 2.1.8. - Equipment lists - construction equipment is listed in Section 2.1.5; equipment for the operations phase is mentioned throughout the operation phase project description in Section 3 - HSEC plan - see Volume 10, particularly Appendix 10A (EHS Framework) and Appendix 10E (HSE Plan) - water intake details - see Appendix 3C - annual volumes of waste - see the Waste Management Plan (Appendix 10D-4) We disagree with INAC that insufficient information on the project has been provided.
INAC-055	INAC requests the Proponent provide additional information on the stockpiling of ore for open water season shipping via Milne Port.	Stockpile design and operating conditions at Mary River will be similar to those at operating iron ore mines in Labrador.
INAC-056	INAC requests that the Proponent provide additional rationale for the design of the Milne Port seasonal ore handling facilities and why a permanent long term engineered solution was not considered.	INAC`s concern is that the ore stockpiles may be frozen, that ore may freeze in ships, and whether or not dust control has been provided for at the stockpiles. The material handling equipment has accounted for the cold temperatures - see INAC-55 above. Ore stockpiles will be consumed within 9 months. There is approximately 200 mm of moisture. Issues with frozen stockpiles are not expected. Dust control at stockpiles is provided at material handling transfer points.
INAC-057	INAC requests the Proponent provide additional information and contingency plan on the Milne Port dredge material quality, temporary storage areas, discharge management and final disposal location.	Volume 3, Section 2.2.5 states the following: *Part of the dredged material will be used as fill to build the ore dock. The remainder of the dredged material will either be stored onshore and/or used as fill in the construction of the freight dock. No dredged material will be disposed of offshore.* Information on sediment quality is provided in Appendix 8A-1, Section 3.2.2.2.
INAC-058	INAC requests that the Proponent provide an inventory of the hazardous wastes to be shipped through the Steensby Inlet port facility.	Hazardous waste management is described in detail in Appendix 10D-4, Section 3.6. Types of hazardous wastes to be generated and storage and disposal methods are provided, and designated storage locations are identified.
INAC-059	INAC requests that the Proponent provide further details on road cross drainage, the use of culverts for roadway drainage and the construction window for stream and river crossing.	This IR is vague and difficult to answer; we believe sufficient detail has been provided.
INAC-060	INAC requests that the Proponent provide further details on the allowances that have been made to upgrade/maintain the existing transportation routes until the new permanent roadway/bridges are in place.	It may be necessary to close the Milne Inlet Tote Road temporarily during permanent bridge construction and culvert replacements. Additionally, heavy loads may bypass the sea container crossings during frozen conditions.
INAC-061	INAC requests that the Proponent provide information relating to permitting and land tenure issues associated with all access roads, specifically indication of the Crown and Inuit Owned Lands.	Land ownership in relation to the project overall is shown on Figure 2-2.1 in Volume 2 (also appears as Figure 3-1.2 in Volume 3). Land ownership relative to the tote road is shown on Figure 3-2.2, and land ownership and proposed lease boundaries at the mine site area is shown on Figure 2-2.2 in Volume 2. Baffinland`s planned permitting approach related to land tenure is described regarding both Crown and Inuit Owned Lands in Section 2.2.6 of Volume 2.
INAC-062	INAC requests that the Proponent provide further details on cross drainage, the use of culverts for railway drainage and the construction window for stream and river crossing.	This IR is vague and difficult to answer; we believe sufficient detail has been provided.
INAC-063	INAC requests the Proponent provide further information on long railway tunnel ventilation requirements and power supply.	Ventilation will be provided as required, considering the operation of drills and gensets in the tunnels during their construction. Appropriate safety practices will be implemented.
INAC-064	INAC requests that the Proponent provide a copy of the document entitled "Water treatment options for Baffinland, Mary River Project" (AMEC, 2010B) cited in the DEIS.	A copy of "Water treatment options for Baffinland, Mary River Project" (AMEC, 2010B) is provided as Attachment 16.
INAC-065	INAC requests that the Proponent provide additional information regarding the proposed wastewater treatment scheme that may be necessary including expected performance and cost.	Wastewater treatment plant specifications are appropriate to support water licensing, and will be provided in the water licensing package in the FEIS.
INAC-066	INC requests the Proponent provide a description of the sewage and gray water treatment (including system upsets/ malfunctions) for the operations phase of the Project.	This information will be provided in the FEIS.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
INAC-067	INAc requests the Proponent provide a Waste Management Plan that conforms to the NIRB Guidelines as described in Sections 6.5.13 - Waste Management Facilities; 9.4.7 - Incineration Management Plan; and 9.4.11-Landfill Management Facilities.	Baffinland has provided a comprehensive Waste Management Plan in Appendix 10D-4 which covers all aspects of waste management. This is a practical, functional and effective approach for dealing with and managing waste. Detailed hands-on management instructions and procedures are deveoped for daily operation. Such operating procedures are in place for the existing approved landfill at Mary River and the existing incinerator also located at the Mary River Camp. Similar operating procedures will be developped for all future waste management facilities.
INAC-068	INAC requests the Proponent provide estimates of the types and volumes of non- domestic hazardous and non-hazardous wastes specifically related to all Project phases and sites and re-examine domestic waste generation rates.	A preliminary estimate of various waste streams is provided in Appendix 10D-4, Waste Management Plan. Quantities will be revised as the Project advances to the detailed design phase.
INAC-069	INAC requests the Proponent include the basis for selection of off-site disposal options for some hazardous wastes in comparison to on-site disposal options.	Thers are no hazardous waste treatment facilities in Nunavut. Baffinland is not in the business of treating or disposal of hazardous waste. Baffinland will ship all its hazardous waste to a licensed Canadian operators.
INAC-070	INAC requests the Proponent provide the conceptual design of the proposed landfill facility, including design capacity, landfill operations and existing landfill sites.	The design and operation procedures for the Mary River landfill have already been submitted and approved for operation. The information for the Steensby landfill site will be submitted with the FEIS.
INAC-071	INAC requests the Proponent confirm compliance of the proposed incinerator with air emission limits and the rationale for using emissions provided by a different incinerator supplier than the one selected for the Project for the air emission's inventory.	The Westland Environmental Services CY2000 series unit shown in the Waste Management Plan is what is currently at site. App 5C-4 Air Emissions Inventory quotes EcoWaste Solutions Thermal Oxidiser, so that emissions values could be obtained for input into the air quality dispersion modelling. The incinerator type/model has not been selected, but whatever unit is selected will comply with regulations on emissions.
INAC-072	INAC requests the Proponent provide information regarding the sizing of the incinerator, i.e., its waste handling capacity (e.g., tonnes/day) and waste types that are to be incinerated.	See Appendix 10-D4 Waste Management Plan, Section 3.4. 1 tonne capacity is equivalent of 90 kg/hr unit shown in Attachment 2 of Appendix 10-D4. This section describes what waste materials will be incinerated.
INAC-073	INAC requests the Proponent provide rationale why some hazardous waste incineration capacity was not selected for the Project given the difficulties associated with shipping hazardous materials off-site.	Baffinland's policy is to dispose of its hazardous waste at approved licensed hazardous waste treatment/disposal facilities.
INAC-074	INAC requests the Proponent provide clarification of the waste management procedures/facilities for dealing with bio-medical wastes.	Incineration of biomedical waste requires special training. Depending on the operator available biomedical waste will either be incinerated or packaged and labelled and sent offsite for disposal.
INAC-075	INAC requests the Proponent provide a comprehensive Hazardous Materials Management Plan for the different phases of the Project and different Project sites (ports, mine and road/railway camps).	The Waste Management Plan presented in Appendix 10D-4 outline Baffinland's approach to waste management. Dedicated storage facilities will be constructed for the temporary storage of hazardous wate on site. Baffinland is evaluating the possibility of contracting out the handling and management of hazardous waste to a licensed disposal facility (storage, transportation and final disposal).
INAC-076	INAC requests that the Proponent indicate whether the potential for increased erosion associated with channelization of flows on the alluvial fan has been considered and that appropriate designs and environmental mitigation are available.	Some consideration has been incorporated into the current feasibility-study level design. Sand blankets an rip rap need for stream realignment which covers the channelisation sites the drawing number is A1 –159952-5000-121-5029-01 in Appendix 3D. It is important to know that the alluvial fans that have been identified as needing channelisation are atypical in that they have already been substantially eroded of fine materials and are predominantly boulder fields. This is being looked at more closely during detailed design.
INAC-077	INAC requests that the Proponent provide a Stormwater Management Plan (SWMP) for the Mary River Project addressing all five major Project components (Steensby Port, rail alignment, mine site, road alignment and Milne Port) and associated sub-components. The SWMP can be incorporated into the Surface Water and Aquatic Ecosystems Management Plan.	The surface water management plan is presented in Appendix 10D-2 and it includes the aquatic ecosystems managmeent plan.
INAC-078	INAC requests that the Proponent update their data summaries and determine whether any new data collected since 2008 has the potential to redefine baseline conditions and potentially modify DEIS conclusions.	As indicated in Appendix 7B, summary data from the weekly sampling conducted at the mine site in 2008 was not included in the overall stream water quality summary statistics. Data and summary statistics from the weekly sampling conducted at the mine site in 2008 will be provided. The weekly sampling from 2008 is not expected to result in the modification of the DEIS conclusions, given that the baseline is well-established with three years of seasonal sampling and due to the conservative approach that was applied to the assessment of potential water quality impacts. The weekly sampling data that has been collected will be compiled and provided before the technical meetings.
INAC-079	INAC requests that the Proponent provide a copy of the document entitled "Evaluation of expected water quality from ore and waste rock Baffinland Mary River Project DEIS" (AMEC, 2010A) and a water balance for the ore and waste rock facilities.	Please refer to Appendix 6C-1 which includes the document requested.
INAC-080	INAC requests that the Proponent provide a site water balance for the mine and port sites covering the construction, operations and closure phases of the Project.	Quantitative water balances have been developed for construction, operation and closure phases of the Milne Port, Mine Site and Steensby Port LSAs (Attachment 1).
INAC-081	INAC requests that the Proponent provide a summary related specifically to hydrogeology.	The hydrology of the Project area is presented in Appendix 7A. A brief summary is included in Volume 7, Section 2, Baseline Summary.
INAC-082	INAC requests that the Proponent provide hydrogeology/groundwater reports and data.	See Section 2.1.1.4 of Volume 6 and Figure 6-2.4. Permafrost extends well below the depth of mining, so hydrogeology studies were not required.

Table 1

Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
INAC-083	INAC requests that the Proponent provide a clearer and more specific explanation of waste rock sample selection criteria. Information concerning the size, type and volume of the waste rock should be provided. Provide definitions for ore and waste rock.	The size, type, volume and schedule of production of waste rock is described in Volume 3, Section 3.4.5, and in greater detail in the Waste Rock Management Plan (Appendix 10D-5). Waste rock is rock that does not meet the ore cut-off grade of 64 % iron. The rationale for selection of waste rock samples is provided in the ore and waste rock geochemistry report in Appendix 6B-1.
INAC-084	INAC requests further information on the timing and sequencing of the non-PAG and PAG materials mining.	Production schedules of PAG and non-PAG rock presented in Appendix 10D-5 are based on a preliminary mining plan, which will be further refine/evolve prior to the beginning of the mining operation. The Waste rock management plan presents the concepts for waste rock management that will be implemented. At this stage, this is sufficient for the impact assessment.
INAC-085	INAC requests that the Proponent provide details of additional humidity cell tests carried out and their results. Additional humidity cell tests should also consider simulating the cold conditions.	As part of on-going work to evaluate ML/ARD of future waste materials at the site, additional humidity cells are being initiated to provide a more comprehensive assessment that addresses the kinetic aspects of future drainage quality that cannot be determined by the static tests. These humidity cells are being carefully selected to supplement information obtained from 10 previously operated humidty cells. Details of the 2011 testing program are provided in Attachment 15.
INAC-086	INAC requests that the Proponent conduCTA frequent monitoring of ore stockpile drainage and that geochemical loading calculations be provided.	Monitoring was attempted but there was no flow data to calculate loadings. This can be attempted again in the future.
INAC-087	INAC requests that the Proponent conduct appropriate simulation tests (on-site or in the laboratory) that will support the encapsulation of the PAG rock within the core of the waste rock pile dumps. Also, a summary table should be provided which includes: annual waste rock production by each type and their fate. The protective measures should be provided for both permanent and temporary waste rock dumps during the operation of the mine to prevent ARD and ML.	The production schedule is based on a preliminary mining plan, which will evolve over the life of the Project. Expected quantities of waste rock and their classification (PAG and non-PAG) are presented in Appendix 10D-5 Waste Rock Management Plan (Table 3.1). Only a portion of the waste rock is PAG and the conceptual management of this PAG material is also presented in the Waste Rock Management Plan. The geochemical properties of the ore/waste rock are described in Appendix 6A. Test work on ML/ARD is on-going.
INAC-088	INAC requests that the Proponent undertake more detailed drilling in order to determine the availability and boundary of suitable quarry and borrow pit locations.	The 2011 site investigations will focus on geotechnical drilling and also investigation of quarries to be exploited in the early phase of the construction. Detailed investigation of each quarry site will be carried out prior to development over the four year construction phase. Geochemical information on potential quarry sites is presented in Appendix 6B-2 and 6B-3.
INAC-089	INAC requests that the Proponent conduct ML/ARD tests on saw-cut samples collected along the Railway alignment.	The ARD/ML potential of saw-cut samples will be determined once the exact alignment of the railway is finalized.
INAC-090	INAC requests that the Proponent provide ground temperatures that have been measured in the installed thermistors between 2006 and 2008..	Geotechnical site investigation reports are included as Attachment 2
INAC-091	INAC requests that the proponent refine, if necessary, and provide more detail information on the operation and long term stability of the rock waste pile and provide conceptual design features that will minimize the appearance of slope failure and ARD and ML discharge.	Design features of the waste rock pile that provide operational and long term stability will be provided at a later stage of project design. Water from the waste rock pile will be diverted to ponds designed to discharge water within applicable regulations.
INAC-092	INAc requests that the Proponent provide vegetation unit delineation mapping for the mine site and port sites and furthermore this delineation mapping should incorporate baseline field data. Furthermore, the Proponent is requested to provide a breakdown of the vegetation loss by major unit for each of the five Project sites.	The impact assessment for vegetation assumes that all vegetation within Project Development Areas (PDA's) will be removed. Providing vegetation unit mapping for each of the PDA's would not alter predictions in the assessment.
INAC-093	INAC requests that the Proponent provide further rationale for not carrying out vegetative restoration.	Arctic plant species can take decades to become established. With the objective of continuous improvement, Baffinland will review rehabilitation studies/experiments carried out in Arctic environment and Baffinland is committed to the use of best management practices as they apply to reclamation and closure activities. If and when effective revegetation techniques are developed for Arctic conditions, Baffinland will incorporate such techniques in its closure plan.
INAC-094	INAC recommends that the Proponent describe the method and criteria used in selecting Key Community Concerns.	The key community concerns described in Volume 2, Section 1.6 is a distillation of the public consultation record in Appendix 2A-1. Table 2A-1.2 summarizes the number of times within the public consultation record a given key word was raised.
INAC-095	INAC requests the Proponent provide a statement on how sustainable development objectives, such as preservation of biological diversity, intergenerational equity, and attainment of durable social and economic benefits will be addressed.	Sustainability is the objective of Baffinland. Refer to Volume 10 and all its appendices.
INAC-096	INAC requests the Proponent provide additional information on the longer term strategic implications of the Project, such as the establishment of ports and transportation infrastructure, and potential related strategic benefits, such as strengthening Canadian arctic sovereignty.	Strengthening of Canadian sovereignty in the North is for the Federal Government ot address. In terms of longer term strategic implications/benefits of the Project, this issue is for the Government of Nunavut to determine.
INAC-097	INAC requests the Proponent provide additional information on Project financing including anticipated requirement for reclamation and security.	We are not clear on the applicability this has to the review of the DEIS.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
INAC-098	INAC requests the Proponent provide additional information on how social and economic criteria were considered in the analysis of project alternatives.	Two performance criteria were applied to consider socio-economic dimensions: community acceptance/preference, and the potential to enhance socio-economic benefits. These performance criteria are defined in Volume 3, Section 6.4 and are presented in Table 3-6.1. Not all alternatives had a bearing on socio-economic aspects.
INAC-099	INAC requests the Proponent include a section describing levels of uncertainty and gaps in data for socio-economic components.	Section 1.2 of Appendix 4A provides a discussion of baseline data sources and constraints in the data.
INAC-100	INAC requests that the Proponent include a section describing levels of uncertainty and gaps in data for socio-economic components.	Section 1.2 of Appendix 4A provides a discussion of baseline data sources and constraints in the data.
INAC-101	INAC requests that the Proponent describe how traditional knowledge (TK) or IQ was incorporated into the determination of VSEC's and document uncertainty with respect to VSEC determination.	Each impact assessment has a section called "issues scoping". Within this section is a discussion of how VCs and Key Indicators were identified, including results of IQ studies. Tables 3.2 and 3.3 in Appendix 2B (summary of community-based research) summarize the number of times key words were raised within the IQ and socio-economic meeting/interview databases.
INAC-102	INAC requests that the Proponent provide a more comprehensive account of the influence of public consultation on the development of the Project.	Volume 2, Section 1.6 describes the key outcomes of public consultation, including five examples of how public consultation influenced major decisions on the project. This summarizes the nearly 700 page public consultation record in Appendix 2A. It is not clear to us how we could provide a more comprehensive account.
INAC-103	INAC requests that the Proponent summarize where Traditional Knowledge (TK) is incorporated into the DEIS.	Traditional knowledge is incorporated into each of the baseline reports in the appendices and in the baseline summary sections of the impact assessment. In some instances, Inuit knowledge was considered within the impact assessment, particularly with respect to signficance. Inuit knowledge was incorporated throughout the socio-economic impact assessment (Volume 4), and in regards to Inuit use of plants, birds, caribou, fish and marine mammals (Volumes 6 to 8).
INAC-104	INAC requests that the Proponent review, and provide a high-level discussion of the literature on the socio-economic effects of similar projeCTA and work systems.	Past experience is an important aspect of the baseline data and has been used to augment the impact assessment. The literature was reviewed during this work, and findings from the literature are presented under the topics where they provide particular insight. For example, Section 6.8.4 of Appendix 4A presents findings from Nunavut, other Canadian, and international experience related to challenges and family coping strategies associated with fly-in/fly-out work styles. Section 6.3.2 of Volume 4 draws on the literature to support understanding of how the Project may be expected to affect the well-being of children through effects on parenting. We agree that a substantial synthesis of knowledge related to the fly-in/fly-out style of work that is becoming prominent across Nunavut is merited. However, this essential public knowledge base would be appropriately carried out through public initiatives as it goes beyond the reasonable scope of a project-specific EIS.
INAC-105	INAC requests the Proponent provide additional information and assessment of potential cumulative effects on harvesting of marine wildlife.	It would be helpful to know what INAC feels is inadequate about the CEA in this regard, in its request for additional information and assessment.
INAC-106	INAC requests that the Proponent identify potential gaps in baseline data on the socioeconomic environment, indicate the extent by which such data would be informative in the assessment of potential Project impaCTA, and outline methods used to address gaps in baseline data.	Section 1.2 of Appendix 4A provides a discussion of baseline data sources and constraints in the data.
INAC-107	INAC requests that the Proponent provide information on religious and cultural practices of communities within the RSA, including available data on religious orientation and religious practice.	Cultural practices are addressed in Volume 4, Section 11.3. As indicated in Appendix 10F-3, Section 2.1, it is Baffinland's policy that all employees be able to enjoy a work environment free from all forms of discrimination and harassment. Religious orientation is not considered to be relevant to the assessment of the Project. The issue of accommodation of workers' cultural values and practices is addressed in Appendix 10F-3, Section 6.7.1.
INAC-108	INAC requests that the Proponent provide additional information on potential changes to and effects on demographic composition and stability of point-of-hire communities, including effects of in-migration from other communities within Nunavut and effects due to temporary change in demographic composition within LSA communities.	See Attachment 8 for a detailed response.
INAC-109	INAC requests that the Proponent provide additional information on potential changes to and effects on demographic composition and socio-economic conditions due to temporary and final closure. This analysis should include an assessment of risk of temporary closure (due for example to change in demand/price of iron ore) and a review of literature on effects of temporary and final closure of resource operations upon northern Canadian communities.	The effects of "temporary and final closure" are addressed in Volume 4, Section 5.4. Those who lose their jobs due to shut-down would be subject to the social benefits available for such workers, such as EI. Since the operation is fly-in/fly-out, closures are not expected to lead to the kind of demographic effects that mine town closures, such as that of Nanisivik, tend to have. Further, the labour force for the project is expected to be drawn from several communities. This will further dampen the effects of temporary and final closures on any one community. The value of a synthesis of knowledge and experience related to the effects of temporary and final closures of fly-in/fly-out industrial projeCTA is recognized. However, such a project has a generalized public value and is considered to be outside the scope of a project-specific EIS.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
INAC-110	INAC requests that the Proponent provide additional descriptive information on the educational infrastructure and services of North Baffin communities, including physical infrastructure, method of education delivery, and extent by which students undergo remote education and/or travel outside their communities to complete their high school education.	(See also GN IR 81) Challenges related to education have been identified in studies such as that of Berger (2006) and North Sky Consulting Group (2009) as referenced in Appendix 4A, Section 5.4.2. The detailed assessment of the public education sector called for in this IR is considered to be outside the scope of a project-specific EIS.
INAC-111	INAC requests that the Proponent provide additional descriptive information on the gender roles within the RSA, including division of household labour based on gender, and household decision-making.	The participation of men and women in the wage economy is presented in considerable detail in Appendix 4A, Section 4.3, 4.4 and 4.5. Employment of women in the project is addressed in Volume 4, Section 4.5.2. A structure to support employment of women is addressed within Section 6.7.4 of the Appendix 10F-3 HRMP. It is agreed that research to support insight into gender dimensions of household decision-making would be of general interest in understanding the functioning of Nunavut households. However undertaking research in this area of indirect relevance to the Project is considered to be outside the scope of a project-specific EIS.
INAC-112	INAC requests that the Proponent provide additional information on arrangements for transporting workers from non point-of-hire communities to the Mary River project site.	BIM intends to maintain discretion, within the terms of the IIBA, to provide air pick-up service or to offset transportation costs of workers as it sees fit. This means that it may be the case that workers from communities other than those designated as points of hire will need to get to a point of hire community. Transportation from the point-of-hire community would be paid by Baffinland.
INAC-113	INAC requests that the Proponent provide additional information on anticipated changes in income earnings on patterns of savings, expenditures, and consumption values.	The Project's impact on personal expenditures, savings, etc is modeled in Appendix 4B. In addition, substantial qualitative data on "money goals and money management" is provided in Appendix 4A, Section 7.4. While quantitative insight about how North Baffin and Iqaluit households allocate their income may be of general interest, this would require reinstatement of a Nunavut Household Income and Expenditures Survey. Such a survey is, however, well outside the scope of a project-specific EIS.
INAC-114	INAC requests that the Proponent include additional information on effect of project on local economic development, including renewable resource exploitation and self reliance.	Assessment of the general effects of the Project effect on economic development and self-reliance is presented in Volume 4, Section 5.0. More detailed information about specific effects of the project on jobs, education, business development, tax revenues and so forth are presented in other sections of the EIS. We believe that the information provided is substantial and will support understanding and assessment of the project.
INAC-115	INAC requests that the Proponent include additional information on the relative effects of the project on current and potential future tourist activities in the North Baffin area.	Assessment of the effects of the Project on "tourism" is presented in Volume 4, Section 5.0. We believe that the information provided is sufficient to support understanding and assessment of the project.
INAC-116	INAC requests the Proponent provide additional information on diet and nutritional requirements and preferences of individuals in the RSA.	The Project will have only indirect interactions on diet and nutrition. The requested information may be of general interest in terms of its ability to inform public policy but is clearly outside the scope of a project-specific EIS.
INAC-117	INAC requests the Proponent provide additional information detailing the existing infrastructure and health services available in the RSA, including its capacity to handle any additional Project or Project-related demands.	Issues of "human health" and "safety and security" are addressed in Volume 4, Sections 6.6.5 and 6.6.4, respectively. A significant positive impact on Human Health and Well-being is assessed (Section 6.7). Baffinland's plans to address health and safety are presented in Appendix 10E, "Health and Safety Management Plan." Meaningful data related to the capacity of Nunavut's health sector might be of general interest in understanding Nunavut's ability to provide care to its population. This would require access to internal government data related not only to physical infrastructure but also to staffing levels, work-load, and to community-specific demand. Such an analysis does not fall within the scope of a project-specific EIS.
INAC-118	INAC requests the Proponent include assessment and mitigation of cultural conflict into Volume 4.	As the reviewer correctly points out, the dimensions of this potential issue are presented in Appendix 4A, specifically Section 3.1.5, 3.1.7, and 3.1.8. While "cultural conflict" is not identified to be an assessment issue, the human resources management steps that have been put in place to create a "supportive work environment"---noted in Volume 4, Section 3.3 and described in Appendix 10F-3--- also address this area.
INAC-119	INAC requests that the Proponent provide additional information on community infrastructure and services including, location and capacity of facilities, staffing levels, organizational structures and, where possible, assessment of capacity in comparison to national (or other relevant) standards to address both baseline requirements and additional demand should the Mary River project proceed.	Baseline data related to community infrastructure is presented in Appendix 4A, Section 8.3.2. Project effects on the demand for infrastructure are addressed in Volume 4, Section 7.4.2. The reviewer is correct in suggesting that a meaningful understanding of community infrastructure and services capacity requires insight not only into the physical structures but also into staffing, organizational structures and service levels relative to other regions. Such an analysis would be of general interest to the development of public policy and to support decisions related to the allocation of public investments in community infrastructure and services. Such an analysis does not, however, fall within the scope of a project-specific EIS.
INAC-120	INAC requests the Proponent provide a quantitative estimate of contracting and business opportunities during the construction and operations phases.	This data is not available. However, this is not considered to be a barrier to Project assessment. Preliminary data would be of questionable use for the purposes of business planning. Of greater value is the accommodation for procurement of goods and services from Inuit business, that is described in Appendix 10F-3.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
INAC-121	INAC requests Baffinland provide reference to where the relationship between cultural sites and social lives of local communities in LSA is described in the EIS or include this information.	Section 2.5 of Appendix 4D (Archaeological Baseline Report), and Section 9.2 of Volume 4, summarize this relationship.
INAC-122	INAC requests the Proponent to provide additional information documenting the relative importance of different harvesting areas in the Study areas.	Various harvesting areas in the Study area are of importance to Inuit residents of northern and southern Baffin Island for a number of reasons. Assigning relative importance of harvesting areas is difficult, however the following analysis can be provided: One important marine harvest area for Pond Inlet is at the floe edge at the entrance to Pond Inlet during the period of mainly April through June each year. As noted in the DEIS (Volume 4, Section 10.4.2, pg. 161), ships will not be sailing to Milne Port during this period. Harvesting of narwhal during open water occurs throughout Pond Inlet, Eclipse Sound and Milne Inlet. Koluktoo Bay in Milne Inlet is recognized as an important summer habitat for narwhal, but harvesting does not appear to be concentrated in this location, and it is expected this is due to the large distance from the community. Harvesting close to the community is important only because the cost of harvesting increases with distance from the community. Potential to affect harvesting of these important harvesting areas is discussed in Volume 4, Section 10.4.
INAC-122	INAC requests the Proponent to provide additional information documenting the relative importance of different harvesting areas in the Study areas.	The Mary River Inuit Knowledge Study (MRIKS) identified the area to the west of Rowley and Koch Islands and a key marine harvesting area within Foxe Basin, particularly compared to the area east of Rowley and Koch Islands, along the nominal shipping route. Figure 4-2.10 in the DEIS depiCTA the main harvesting area locations. As shown in Figure 3.33 (Appendix 4C), the majority of marine mammal harvests recorded during the harvest study in the late 1990s occurred relatively close to the community. Again, the ability to harvest near to the community is important. Within Hudson Strait, most marine mammal harvests are concentrated within several kilometres of the coastline (Appendix 4C, Figure 3.34). Caribou harvesting occurs wherever Inuit can find the animals. As the DEIS describes, the abundance and distribution of caribou within its range in the North Baffin changes over the decades in relation to the availability of food, and based on radio collar data the animals appear to be non-migratory. Therefore, nearly everywhere may be important for harvesting depending on the timing. … the caribous go were they want to go; even when there is a mine I think that area will always have caribous. But caribou need to keep moving, after they graze in one area they have to move to another area. And we have heard that the caribous eat take a long time to grow, that's why they go to other areas, when they can't graze anymore. (Pond Inlet resident) The Project will not be removing enough habitat to make a significant impact on harvesting of caribou as noted in Volume 6, Section 5 and Volume 4, Section 10.4.2.
INAC-122	INAC requests the Proponent to provide additional information documenting the relative importance of different harvesting areas in the Study areas.	We note with respect to the perceived "heavy use" of Steensby Inlet, that travel route maps can be misleading as they do not coincide with intensity of use. Figure 4-10.4 depiCTA an interpretation of all identified travel routes during MRIKS, while Figure 3.13 and 3.14 in Appendix 4C depict the raw travel route data. Further the travel routes do not establish a temporal scale noting whether a route is a historically used route, a one time used route, or a continuously used travel route. Travelling through Steensby Inlet is used by Igloolik and Hall Beach residents to travel inland for caribou hunting and for travel between communities. Both of these activities are relatively infrequent as noted on page 173 of Volume 4 and especially due to the low abundance of caribou. Although the detour around Steensby Port will result in longer travel times, the infrequency of use deems the proposed mitigation measure as appropriate.
INAC-123	INAC requests that the Proponent provide a more detailed assessment of potential interactions between project activities and Inuit harvesting and analysis of associated effects.	We believe we have outlined the potential interactions and analyzed the effects of the project on harvesting in the appropriate level of detail.
INAC-124	INAC requests that the Proponent provide a more detailed assessment of potential effects to cultural and traditional values, lifestyles, etc related to changes in land use activities.	Volume 4, Section 11.0 acknowledges the importance of preserving and enhancing cultural well-being. The Project is not expected to adversely affect land use and harvesting activities and by extension the associated cultural preservation and well-being that may be derived from these activities. The Project is expected to have a positive effect on the ability of community members to participate in these culturally important activities. The pursuit of traditional land use activities is an expensive endeavour and lack of money limits people`s ability to participate. The Project will bring considerable additional money into the communities through wages and business opportunities, which will allow people to pursue such as activities with greater ease. The porposed 2 week rotation provides workers with time to pursue harvesting and spend time with family. Sharring networks present in the community (where one individuals income is used to supplement the traditional harvesting and land use activities of another, who then provides foods for both individuals) is expected to help in spreading the benefits within the communities.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
INAC-125	INAC requests that the Proponent provide additional information on the current status of the IIBA negotiations, and include anticipated timing for completion, and items being negotiated.	The IIBA is required to be completed prior to the commencement construction of the Project (not including pre development works). IIBA negotiations are confidential.
INAC-125	INAC requests that the Proponent provide additional information on the current status of the IIBA negotiations, and include anticipated timing for completion, and items being negotiated.	Baffinland negotiated a
INAC-126	INAC requests that the Proponent provide discussion on why VSECs identified in Table2-3.2 of Volume 2 are not included in Table 10-2.1 of Volume 10.	Mitigation and monitoring for VSECs are covered under Section 8.0 of Volume 10. Table 10 2.1 only addresses the VECs and the environmental mitigation and monitoring plans related to each VECs.
INAC-127	INAC requests that the Proponent provide additional information on how the socioeconomic monitoring plans and mitigation programs identified in the EIS will align with regional monitoring efforts conducted by the Qikiqtaaluk Regional Socio-Economic Monitoring Committee (SEMC).	Baffinland acknowledges that this committee is in the process of getting established. However, the Company has no control over the direction of this Committee, but will align and cooperate whenever reasonable.
INAC-128	INAC requests that the Proponent provide additional information on mine safety equipment and devices to be used at the Mary River mine site.	Refer to the Health & Safety Management Plan (Appendix 10E). Furthermore, as the Project advances through the detailed design, Baffinland intends to prepare a detailed field guide book for safe working methods related to mining operations and health, safety and environmental protection. Such field guide are in use at several mining operations are are used for training purposes and to reinforce safe working practices by employees. This information will not be available until the mining operation begins.
INAC-129	INAC requests that the Proponent provide additional information on first aid training and occupational health monitoring, including the anticipated number of first aid attendants that will be on site, as well as required level of training. In addition, INAC requests more specific information on nature and frequency of occupational health monitoring that will be undertaken.	Refer to the Health & Safety Management Plan (Appendix 10E). Staffing levels will vary with the phases of the Project.
INAC-130	INAC requests that the Proponent provide additional information that summarizes where community input influenced the design and implementation of monitoring plans and initiatives.	We have outlined the major ways in which community input influenced design in Volume 1, Section 4.5. Community input also influenced the implementation of monitoring plans and initiatives in the following examples: - aerial surveys for caribou were abandoned in part at the request of the communities - the socio-economic mitigation and Human Resources Management Plan emphasizes training to maximize local uptake of jobs, which is a priority of communities - to the extent possible, Inuit have participated in wildlife baseline and archaeological programs
INAC-131	INAC requests that the Proponent provide additional information on pay schedules.	Pay schedules are not established yet. This information is not required for completing the assessment.
NMRIRB-1	The NMRIRB would like to request information on the proposed shipping route of the project's transportation plan through the Hudson Strait as it pertains to the Nunavik Marine Region. The information request is regarding the trans-boundary environmental impact and the cumulative effects of the transportation corridor when considering seasonal variation, frequency, disturbance, and sea-ice breakage on marine VECs such as habitat, biota and mammals.	The proponents believes that spacial boundaries considered for the cumulative effects assessment in section 1.2.3 of volume 9 adequately addresses potential transboundary effects in Nunavik Marine Region. Conservative assumptions regarding the magnitude and probability of potential effects were worked into the CEA so that meaningful predictions on VEC's from Project activities could be assessed. Refer to section 4.5.1 of Volume 9 to which specifically addressed the transboundary effects related to shipping.
NMRIRB-2	We would also like to request information on the community consultation component with regard to its approach in terms of the role of the Nunavik communities on the Hudson Strait and the method of facilitating public meetings, as well as the process of compiling and addressing public comments on the project proposal.	NIRB completed consultation as part of the guideline scoping process. Baffinland continues to follow the NIRB guidelines with respect to potentially effected communities.
NRCan-01	NRCan requests that reports be provided that present detailed information on the results from geotechnical field inviestigations conducted at the project site including drawings, tables and maps showing locations where these investigations were conducted. These should include results from geotechnical borehole drilling programs, test pits and geophysical investigations. The information provided should include the results of both field observations and lab testing.	Geotechnical site investigation reports are included as Attachment 2.
NRCan-02	Please provide more detailed information on surface geology and terrain sensitivity along proposed Tote Road and railway alignments. This may include but is not limited to reports referred to in the EID such as Knight Piesold (2008d-g) and detailed alignment sheets (at a scale similar to that provided in App. 3D) providing this additional information.	Geotechnical site investigation reports are included as Attachment 2.
NRCan-03	NRCan requests that any describing the ground thermal conditions (ground temperature, thaw depths) throughout the project area be provided.	Geotechnical site investigation reports are included as Attachment 2.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
NRCan-04	NRCan requests that further information be provided on the analysis conducted to demonstrate that design of project components (such as road, railway embankments, bridges, waste rock piles) is adequate to ensure impacts will be minimized and infrastructure integrity will be maintained. This included, but is not limited to any reports documenting: thermal analysis conducted to support embankment, facility design; stability analysis for slope and water crossing design.	Environmental design criteria are provided in Section 3 of Volume 10 and these criteria will guide the feasibility of and engineering of various infrastructure .
NRCan-05	NRCan requests that additional information be provided to demonstrate adequate inclusion of climate change and variability in project design and impact assessment. This may include for example reports documenting analysis (e.g. thermal analysis) incorporating climate change and variability to support design of project components (e.g. embankments, bridges and water crossings, waste rock piles, etc.).	The effect of climate change on the project has been discussed in Vol 9. Baffinland recognises the concern raised by the information request. The structures that remain after project completion are the rail embankment, permanent water crossings and the waste rock dumps. During the Detailed Design phase the design of these components will be developed to conservatively include the effects of climate change. This may include thermal analysis.
NRCan-06	Please provide documentation describing the level of uncertainty in the prediction of extreme precipitation and flow/runoff events and how this has been dealt with in the project design (e.g. culverts, bridges, railway, road) and the impact assessment.	Please refer to vol 3 rail design 2.5.6 "A hydraulic design study was carried out to assess suitable hydraulic design criteria for culverts and bridges in order to avoid flooding of the railway infrastructure or any unexpected damage to the adjacent ground (Dillon, 2008b). Culvert capacities and bridge locations were assessed using a river hydraulics analysis software package assuming a 200 year return period with an allowance made for ice accumulation (Dillon, 2008c)."
NRCan-07	NRCan requests that reports that present detailed information on sediment properties and ice contents determined from results from geotechnical field investigations conducted at proposed borrow sites. These should include results from geotechnical borehole drilling programs, test pits and geophysical investigations at borrow sites.	Geotechnical site investigation reports are included as Attachment 2.
NRCan-08	NRCan requests that for Milne Inlet similar information on projected relative sea-level rise is provided as for Steensby Inlet, and it is proposed to have ongoing activity in that area during the project.	This information on projected relative sea-level rise provided for Steensby Inlet has not been provided for Milne Inlet. The elimination of the road haulage option means that following contruction, there will be no activity related to transportation of ore at Milne Inlet port.
NRCan-09	NRCan requests climate change projections based on the A1FI scenario.	In vol 5 sec 1.2.1. the A2, B1 models captured a range of potential changes in weather trends that could result from future human activity. The A1F1 model was not used.
NRCan-10	Could the proponent provide return period, or similar risk assessments, of these important phenomena that affect the proposed port infrastructure.	Following contruction, there will be no activity at Milne Inlet port.
NRCan-11	NRCan requests that data be provided on sea ice integrity from multiple passes from multiple ships. Additional information is requested on how many passes from multiple ships could affect traditional Inuit travel. Provide this information for both Steensby Inlet and Milne Inlet.	As stated in the EIS: Volume 8, Section 2.1; and Volume 3,Section 3.2.2, shipping to Milne Port (northern route) will only occur during the approximately 90-day ice-free period of July 15 to October 15. This is the defined “open water” season. Therefore, no shipping related effects to sea ice are anticipated along the northern route. During shipping in Steensby Inlet, disruption to landfast ice can be minimized by travelling along the same track as much as possible. A conservative estimate of a width of 1.5 km for disruption to the ice from ships passage was made. The amount of disruption to landfast ice depends on how many times the ship can navigate the same channel. Traditional Inuit travel could be required to follow a detour around the ships track. A route will be established around Steensby Port to facilitate this altered travel route. Other mitigation measures will be addressed in cooperation with the adjacent communities.
NRCan-12	NRCan requests an explanation for the determination of adequacy for this post closure monitoring time frame.	Baffinland acknowledges that a longer time frame could be required for the post closure monitoring. Monitoring results will determine the duration of port closure monitoring.
PC-1-1	a) Please assess the implications of the project on ‘wilderness’ experience’, particularly in the context of the presence of Sirmilik National Park and the proposed Lancaster Sound National Marine Conservation Area.	We note that this request is outside of the scope of the EIS guidelines.
PC-2-1	a) Please provide Appendix 8C-3.	Appendix 8C-3 is provided as Attachment 6.
PC-3-1	a) In the context of each population’s distribution range, migratory patterns, and seasonality, please provide information to indicate the importance of the habitat that is being used by marine wildlife and birds (those with a marine component) which may be disturbed or displaced by the project.	The DEIS provides a description of available habitat, habitat use and relevant importance to life cycle needs for each VEC and indicator species.
PC-3-2	b) Please assess the availability and accessibility of alternative suitable habitat which is not already being occupied to full capacity	This request reflects a different approach to the environmental assessment than has been taken by Baffinland. It also implies the availability of alternate, unoccupied (under-occupied) habitat. Baffinland stands behind the approach taken in the DEIS and notes that the availability of alternate habitat has been incorporated into the assessment.
PC-3-3	c) Commensurately, please use this information to assess the impact on marine wildlife and birds (those with a marine component) not just to the extent of presence, absence, and mortalities, but also population health, and local and regional ecological integrity.	This request reflects an a different approach to the environmental assessment than has been taken by Baffinland. It also implies the availability of alternate, unoccupied (under-occupied) habitat. Baffinland stands behind the approach taken in the DEIS and notes that the availability of alternate habitat has been incorporated into the assessment.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
PC-3-4	d) Similarly, please use this information to assess the health and stress of individual marine wildlife and birds (those with a marine component), even if they do 'habituate'. Also, please clarify the evidence and probability for 'habituation'	This request reflects an a different approach to the environmental assessment than has been taken by Baffinland. It also implies the availability of alternate, unoccupied (under-occupied) habitat. Baffinland stands behind the approach taken in the DEIS and notes that the availability of alternate habitat has been incorporated into the assessment.
PC-4-1	a) Please ensure that all issues raised by the Arctic Council are addressed, and that this is done in the context of Sirmilik National Park and the proposed Lancaster Sound National Marine Conservation Area. Please include in this assessment the following specific matters: I. Safe navigation in ice-covered waters depends much on the experience, knowledge and skill of the ice navigator. Currently, most ice navigator training programs are ad hoc and there are no uniform international training standards. To the extent that the project will entail travel through waters that are ice covered for a major part of the year, and may have ice present even in 'open water' season, please discuss how safe navigation will be ensured in these waters.	We note that this request is outside of the scope of the EIS guidelines.
PC-4-1	IV. Migratory marine mammals such as bowhead, beluga, narwhal and walrus have wintering areas in the southern extent of the sea ice zone, and spring migration routes into the Arctic through systems of leads and polynyas that are also used by many seabirds, ducks and other marine birds during spring migration. These migration corridors correspond broadly to the proposed main shipping routes and travel through geographic chokepoints. Hudson Strait and Eclipse Sound are such areas. What best practices and management measures is the project proposing: a. to deal with noise disturbance in sensitive periods, around major bird colonies and marine mammal concentration areas, etc.?	Management plans for marine mammals and birds are presented in the EIS. Specifically: Marine mammals: Volume 8, Section 5.6, 5.7, 5.8, 5.9, 5.10 and 5.11 Appendix 10D-10: Shipping and Marine Mammals Management Plan Marine Birds: Volume 6, Section 4.0 App 10D-11: Terrestrial Environmental Monitoring Management and Monitoring Plan
PC-4-2	b. to deal with icebreaker disturbance (i.e. artificially opened water channels can be problematic for marine mammals and other species, which confuse them for polynyas and can get trapped too far from the ice edge as the channel eventually refreezes)?	In assessing the question of marine mammals following the ice-breaking ore carriers into leads created behind the vessels, it is important to distinguish stable fast-ice from constantly moving pack-ice. The pack-ice environment is extremely dynamic with ice floes and pans constantly moving. In areas such as Hudson Strait and Foxe Basin, leads regularly open and close as the ice moves in response to wind, currents and tides. The marine mammals that winter in this habitat are accustomed to the constant opening and closing of open water areas where they can surface to breath. The passage of the ore carriers through this dynamic environment will have little effect on the already moving ice and will not create leads in the ice that can be followed by the marine mammals that winter in this habitat. Species that winter in the pack ice of Hudson Strait include bowheads, narwhals, belugas, walruses, bearded seals, and ringed seals. Fast-ice habitat is much more stable than pack-ice habitat. When icebreakers enter fast-ice, they leave a narrow track that is completely filled with small pans and brash ice. The ice in the track quickly refreezes (within a few hours) in cold weather (A.P.P. 1981). It has also been shown that most arctic marine mammals will avoid close proximity to moving ships. Therefore, it is unlikely that marine mammals would follow ships into the fast ice before the ship's track has refrozen. Observations of belugas and narwhals along the Admiralty Inlet ice-edge in spring confirmed that they did not follow an ore carrier into the fast-ice (LGL and Greeneridge 1986). It is relevant to note that virtually all cases of whales being trapped in the ice have occurred because the whales have not left an area before freeze-up in the fall. The recorded cases of entrapment have not involved whales getting caught because they enter an area too soon (e.g. Porsild 1918; Freeman 1968; Kapel 1977). A.P.P. 1981. Integrated Route Analysis. Report by Arctic Pilot Project, Petro-Canada, Calgary. 3 vols. Freeman, M.M.R. 1968. Winter observations of beluga (Delphinapterus leucas) in Jones Sound, NWT. Canadian Field-Naturalist 82:276-286. Kapel, F.O. 1977. Catch of belugas, narwhals and harbour porpoises in Greenland, 1954-1975, by year, month and region. Rep. International Whaling Commission 27:507-520. LGL and Greenerdge. 1986. Reactions of beluga whales and narwhals to ship traffic and ice-breaking along ice-edges in the eastern Canadian high arctic: 1982-1984. Environmental Studies Report No. 37, Dept. Indian Affairs and Northern Development, Ottawa. 301 p.
PC-4-2	II. The accidental release of oil, toxic chemicals, or other deleterious substances can be considered one of the most serious threats to Arctic ecosystems as a result of shipping. Concentrated aggregations of birds and mammals, often in confined spaces such as leads and polynyas, increase the risk to the animals in the case of an oil spill in the Arctic. Even small spills can have large consequences if they occur where wildlife and birds are concentrated. How will the project evaluate and monitor these concentrations? How will the project mitigate in the event of an oil spill? Will the project have oil spill response capability in strategic locations along the shipping routes?	The Emergency and Spill Response Plan is presented in Appendix 10C-1. The Oil Pollution Emergency Plans for both the milne Port and Steensby Port are presented in Appendix 10C-2 and Appendix 10C-3.

Table 1

Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
PC-4-3	c. to prevent vessel collisions with marine mammals in areas where shipping routes coincide with seasonal migration and areas of aggregation and with more vulnerable species such as bowhead whales which are slower to react?	As noted in the DEIS, mitigation measures to minimize the probability of vessel collisions with marine mammals include: • Ore carriers transiting the northern shipping route will decrease shipping speed from 26 km/h to 18.5 km/h in Milne Inlet. • All vessels will maintain a constant course and speed whenever possible. It should be noted that the southern shipping route avoids the bowhead whale nursery area in northwestern Foxe Basin. Marine mammal observers will be onboard on some passages of the vessels but it should be noted that it will not be possible for the large ships to take avoidance reactions if whales are seen ahead. It will be up to the whales to avoid the vessels .
PC-4-3	III. The introduction of invasive species into the Arctic marine environment from shipping can occur and the risk may be enhanced due to changing climate, possibly making conditions more favourable to some species. The most risk exists where a transfer of organisms from ecosystems of similar latitudes and conditions can occur. Introduction can occur through both ballast water and hull fouling. The project has explained that ballast water will be exchanged offshore, apparently before the ships enter the Lancaster Sound region or come into port. What precautions are being considered with respect to hull fouling?	The low-friction coating on the ice-breaking ore carrier is considered an anti-fouling coating. This coating is non toxic (see MSDS).
PC-5-1	V. Ship emissions to the air (i.e. CO2, NOx, CFCs, methane, particulate matter, etc.) have been associated with climate change effects and in the Arctic could have significant regional impacts on both human and environmental health. For example, black carbon, a component of particulate matter produced by marine vessels through the incomplete oxidation of diesel fuel, has been shown to accelerate ice melt. Effective reduction of ship emissions can be achieved through the application of feasible and best available technologies, through air emissions reduction techniques and through effective implementation of relevant International Maritime Organisation (IMO) regulations. What is the project proposing to evaluate, monitor, and mitigate these potential effects?	The design of the ore carriers is not complete yet. All engine emission levels will comply with the latest IMO guidelines when the vessels are ordered. The Air Quality Management Plan (Appendix 10D-1) is under review/revision and an update of this plan will be updated prior to construction.
PC-6-1	VI. Please also clarify what typical discharges will occur both during transit and while in port, and assess the implications of these discharges. Alternatively, can the proponent unequivocally state that there will be no intentional discharge in Canadian waters? Notwithstanding the latter alternative, please address the matter of uncontrolled discharges such as Stern Tube Oil Release, including in the context of accumulations in the relatively narrow on confined leads that may be used as open water.	There will be no intentional discharges from the dedicated ore carriers in Canadian waters. As noted " The intention is to have zero discharge in the north, except of course ballast water. In addition as a further mitigation, the stern tube would be lubricated with biodegradable oil (such as we have in the UMIAK, a vegetable based product) so that in the event of an unplanned discharge, the environmental impact is minimised." (T. Keane, Fednav pers.com. April 4, 2011). There is a selection of such biodegradable, non-toxic produCTA available in the market. Any incidental releases from the Stern Tube would be minimal in any case.
PC-7-1	VII. The EIS does note that coal dust near the ore docks has the potential to be deposited on ice or snow surfaces, and to subsequently decrease the ice's albedo and increase the short wave radiation absorption, potentially resulting in an accelerated melt during spring. Please assess the impacts and mitigation arising from a similar deposit of black carbon throughout the length of the shipping transit through the study area.	The design of the ore carriers is not complete yet. All engine emission levels will comply with the latest IMO guidelines when the vessels are ordered. Emissions from the vessels while underway should be so dispersed as to be insignificant, especially since these will be latest generation of marine diesels.
PC-8-1	a) Please reassess the implications of the project on birds. Please include in this reassessment a closer consideration of such matters as disturbance during sensitive nesting and fledgling seasons, displacement, spills, and release of oily bilge waters or other contaminants. Please do so in the context of Sirmilik National Park and the proposed Lancaster Sound National Marine Conservation Area.	Birds were considered no more sensitive in the National Park than they are anywhere else in the RSA. Baffinland does not suggest any different assessment criteria within the park than anywhere else.
PC-9-1	a) Please clarify what is meant by 'open water'. Include in this clarification any enhancements to open water, such as pushing aside of ice flows (for example, during break-up, or when winds cause an accumulation) or encouragement of break-up (for example, when most of the route is open, but some sections of the route are slow to break-up).	According to Environment Canada (http://ice-glaces.ec.gc.ca/WsvPageDsp.cfm?ID=11744&Lang=eng): 'open water' is defined as "a large area of freely navigable water in which sea ice is present in concentration less than 1/ 10. No ice of land origin is present". This definition is used in the EIS. Ice conditions in the Milne and Steensby areas were examined as part of an Ice and Marine Shipping Assessment in support of the Project (Enfotech 2010, Appendix 3F-1).

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
PC-9-2	b) Please also include a discussion of the effects of ship transit on peripheral ice (ice that is not in the channel used by the ships, but is still present along the periphery of the channel), and the consequent effect on seasonal habitat. Similarly, please assess the implications to ice-break up and ice-formation arising from such influences as ship wake.	As noted in Volume 8 of the EIS, as the ship passes through the ice, "the ice itself is broken into small pans, rubble, and brash ice. Generally, most of the broken ice remains in the track after the ship passes, but a smaller portion is forced down and under solid ice alongside the ship track, where it subsequently freezes. The ship track will immediately begin to refreeze following each passage of the ship. With frequent repeat passages, ice rubble builds up within the track until eventually the ship has to move to adjacent, undisturbed ice in order to make progress." This results in peripheral ice to the side of the channel becoming thicker with more frequent passes of the ship. It is noted in the EIS (In Volume 2, Section 2.6.2.1) that ice breaking could delay formation of a continuous, competent ice surface due to repeated disturbance of newly formed ice, however, given the variability of the timing of freeze-up, it was concluded that any localized disruption in the timing of ice formation would be restricted to a small area around the ship track, (1.5 to 6.5% of Steensby Inlet) the effects of which would be minimal in the context of the natural occurring variability in the timing of formation and in the spatial context of landfast ice development in Steensby Inlet.
PC-9-3	d) Commensurately, please assess the environmental impacts of such actions and changes to ice.	The potential effect of the disruption of landfast ice due to ice breaking activities was evaluated as " Not Significant".
PI-01	It is requested that the Proponent confirm if additional DEIS materials will be made available in Inuktitut.	Volume 1 of the EIS and the Popular Summary have been translated in Inuktitut.
PI-01-1	Committee members have echoed community concerns that they do not want to see another Nanisivik, where the entire infrastructure is built at the deposit site, without the outlying community benefiting from potential infrastructure that can support the project.	The infrastructure related to the Project will be required to be located at the various project sites (mine, Steensby Port). Since these are locations that do not have communities, it is not clear how the infrastructure can benefit the communities.
PI-01-2	There are community members that do have the concern that there may be a large amount of Southern workers that would like to move to Pond Inlet, and in the short term, may not have an effect on the community. In the long term, and for the duration of the whole project, there may be some adverse effects on the cultural integrity of the community.	Baffinland does not expect a large influx of Southern workers into the northern communities. As stated in the Human Resources Management Plan, Baffinland will develop and implement an Inuit Employment Strategy designed to favor employment of local Inuits.
PI-02	It is requested that the proponent confirm how the DEIS has been distributed within the communities	Initial distribution to the communities consisted of one complete hard copy (with DVD) to each of the following hamlets/municipalities: Arctic Bay, Cape Dorset, Clyde River, Hall Beach, Igloolik, Kimmirut, and Pond Inlet. Additionally, a hardcopy of the Popular Summary, in each Inuktitut and English, were provided to each of the HTOs in the same community. An Inuktitut version of Volume 1 has subsequently been generated and has been issued to each of these hamlets and HTOs.
PI-02-1	It states that employee's will have to be 18 and over to work at the mine site, but community members thought that it would be beneficial to have students employed in areas that are compatible with their skills or positions offered at the site for summer employment that can lead to skills development and further employment if the students are still in high school. Although that it is very important that capable people are hired for specific positions, it could beneficial to the youth in the community that could partake in entry level positions that would not be hazardous, including apprentice positions, or work experience positions would benefit younger people in the communities. With entry level, or seasonal jobs made available to students, it could create positive impacts with youth who desire jobs that are not available in the community.	The minimum age for employment will be 18. Baffinland will put in place program to hire students during school breaks. Refer to Appendix 10F-3, Human Resources Management Plan.
PI-02-2	Training and education opportunities should be available for Northern residents in the North. There should be initiatives to train workers towards building up their capacity in the North. This could help increase the capacity of our communities to help "take care of our own" instead of sending Northerners to the South for training.	Baffinland recognizes the important of training and capacity building in the communities. Refer to Appendix 10F-3 - Human Resources Management Plan for an overview of the approach that Baffinland intends to follow.
PI-02-3	Comments were made that the employment numbers with Inuit from the North Baffin and South Baffin (Iqaluit) does not reflect the actual numbers that were hired	All personnel hired by Baffinland must be qualified to perform work. Priority employment is given to Inuit.
PI-03	It is requested that the Proponent confirm whether additional efforts to ensure Draft Environmental Impaact Statement materials with the most relevance to the concerns of each community have been introduced and made publically available.	Initial distribution to the communities consisted of one complete hard copy (with DVD) to each of the following hamlets/municipalities: Arctic Bay, Cape Dorset, Clyde River, Hall Beach, Igloolik, Kimmirut, and Pond Inlet. Additionally, a hardcopy of the Popular Summary, in each Inuktitut and English, were provided to each of the HTOs in the same community. An Inuktitut version of Volume 1 has subsequently been generated and has been issued to each of these hamlets and HTOs.

Table 1

Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
PI-03-1	There was a statement in the document that has said that the mine will not have an adverse effect on harvesting practices in the communities in the North Baffin Region. Community and committee members had thought that this statement is untrue. Although that the culture is moving into a more monetary society, there is still a significant amount of Inuit that practice their traditional right to hunt and harvest animals that are for the large part, free of contaminants. With the development of the port at Milne Inlet, there is the opportunity for habitat change that can affect the traditional migration patterns of marine mammals in the area. Milne Inlet is a sensitive area for Narwhals and Char. There should be mitigation measures in place, or plans for such events. The Hunters and Trappers Organization has expressed interest in developing Koluktoo Bay for a commercial fishery and with the close proximity of Koluktoo Bay and Milne Inlet, there is a chance that if there is a catastrophic event should occur, ship sinking in the vicinity, or a large oil spill at Milne Inlet, it could permanently effect the ability to harvest country foods in the area. Community members have concerns that the long term effect of contaminants on the fish could have long term, adverse effects to the ability to benefit commercially on the area. This should be addressed during the technical review period of the NIRB process	Baffinland maintains the view that the Project will have no adverse effects on harvesting practices. The DEIS supports this view.
PI-03-2	Although there will be an increase in employment opportunities for Baffin residents, the presented document states that "without the infusion of jobs and income that the Project will bring to the region, harvesting activities will continue to decline". There was strong opposition to this statement. There is only a relationship presented that pertains to people who are employed, and how they will be able to continue harvesting activities with the assistance of an income. It does not present any information as to how sustenance hunters will be affected. Sustenance hunting will take place in the region, and although there is a slow decline in harvesting activities that has occurred over the last 40 years, community members conclude that it could happen at a faster rate, with more people being employed rather than out practicing harvesting. The affect on unemployed sustenance hunters must be presented and discussed, as there is a percentage of regional residents that do practice sustenance hunting to help provide for the household.	On the basis of the baseline studies and the expected Project interaction with the natural environment, and the community consultation carried out by Baffinland, the analyses presented in the DEIS confirm that the Project will not have a significant effect on sustenance hunters.
PI-04	it is rquested that the Proponent confirm whether the types of documents and the level of Inuktitut in the DEIS can be viewed as limiting the ability of community members to fully comprhend and paricipate in the formal review process.	The documents available in Inuktitut are adequate. Several community meeting and workshops have been held to inform the communities - refer to QIA-34-2.
PI-04-1	Community members have concerns about the well being of Inuit residents that there may be an affect on family lives in Pond Inlet. With rotational shifts at the mine site, it could have adverse affects on home life for some residents. Although it is against Federal Government wishes of not having a town built on the mine site, it would be beneficial to have housing available for some families should it assist in retaining employment at the site, therefore mitigating some impacts of adverse affects of separating family members for extended periods of time.	The fly-in/fly-out approach has been demonstrated to be optimal for many remote job sites in Northern Canada and around the world. Although this work rotation requires adjustment by the employees and their families, it enable workers and their families to remain socially connected and active in their communities.
PI-04-2	There are a percentage of community members that do rely on sustenance hunting through their traditional and cultural right to harvesting in the Milne Inlet area, including Koluktoo Bay. Should this project have significant impacts on the wildlife, ie: Narwhals, Arctic Char, this could have a significant negative effect on the health and well being of sustenance hunters right to harvesting. There needs to be discussions on the impact of development at Milne Inlet and the area in relation to cultural harvesting. Should There be mitigation efforts in place, they Should be divulged to and discussed with community members rather than just stating that There are efforts in place. community members wish to understand what these measures are before the development of the project	Baffinland maintains the view that the Project will have no adverse effects on harvesting practices. The DEIS supports this view.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
PI-04-3	There appears to be a statement in the document that says, "The periodic absence of mine employees from the community is not expected to affect life in the community generally." Community and committee members thought that this statement is untrue. There is the opportunity that employment at the mine site can have adverse affects on the community in regards to employment issues. Members felt that, although in some cases, it may be beneficial to have community members working out there, removing them from"unhealthy" environments in communities; it goes to say that it can as well create unhealthy environments for younger families who find it hard to be away from their households and their spouses. This could affect employment opportunities and as well create unhealthy environments as well too	The absense of employees from the community is discussed in Voilume 4, Socio Economic Impact Assessment.
PI-05	It is requested that the Proponent produce thematic guides based on the larger DEIS to facilitate discussions within the communities in advance fo the technical review process.	Baffinland is currently preparing these at the request of the QIA.
PI-05-1	Although the document states that There will generally be economic benefits available to community members, companies in the region, and to employees of the company, it makes no mention of the self reliance of community members who do not choose to gain employment at the site. There could be negative impacts due to lack of wildlife in the area Should There be adverse affects to migration patterns of caribou, fish, and narwhals. There Should be discussions on the impacts of residents who hunt and harvest for sustenance. Mitigating efforts must be discussed and outlined before any further development. -it states that "any negative effects to the land or to harvesting activities will be minimized". community members have expressed interest and request understanding in how these will be accomplished	Baffinland maintains the view that the Project will have no adverse effects on harvesting practices. The DEIS supports this view. Residents who do not wish to gain employment at the mine site will also benefits from the capacity building programs and community support programs that will be funded by Baffinland and jointly administered with the QIA. Through the IIBA, all Inuits will benefit from the Project, whether they are employed by Baffinland or not.
PI-05-2	Community members agree that there will be positive economic development opportunities for Pond Inlet and affected communities.	This is also Baffinland's conclusion.
PI-05-3	The Hunters and Trappers Organization has expressed interest in making lakes in the MilneInlet area available for commercial fishing. Fish stocks in the area need to be counted to ensure that they can be safely harvested without reducing stocks, but as well, this includes ensuring that they are not going to be affected by long term shipping and marine activities in the area. Should ballast water be released in the inlets, it could prove devastating for area species.	Vessels calling at Milne Port or Steensby Port will comply with Transport Canada approved practice with regards to the management of ballast water. As required by regulations, vessel will exchange the ballast water before entering Canadian waters. Refer to Apprendix 10D-10 Shipping and Marine Mammal Management Plan for a description of these practices.
PI-06	It is requested that the Proponent produce summary repors related to terrestrial environment, marine envirnment, shipping operations, fisheries and aquatics in advance of the technical review process.	Baffinland is currently preparing these at the request of the QIA.
PI-06-1	The community residents and organizations agree that there will be significant positive impacts with contracting and business opportunities.	This is also Baffinland's conclusion.
PI-06-2	Community members state that there must be an MOU, or outlines for contracts with community companies, prior to development of the project. These negotiations should take place prior to any major development	Baffinland is commited to support capacity building of the local business community. To this end, Baffinland propose to establish a fund that will be jointly managed by QIA-Baffinland. Firms providing services to Baffinland must be qualified to do so.
PI-06-3	Although there are several opportunities for contracts, they should not be ad-hoc contracts.The impacts on community infrastructure to support these contracts should be taken into consideration. IE: the community may not have the water or waste management infrastructure to host a laundry facility; therefore other opportunities should be made available.	The Project will offer many opportunities for local businesses. However, it is the responsibility of local entrepreneurs to qualify themselves for providing these services. As stated in the Human Resources management Plan (Appendix 10F-3), Baffinland will work closely with the QIA and establish a fund to support capacity building within the communities. It is up to the individuals to take afdvantage of such opportunities.
PI-06-4	Country foods should be made available to employee's who desire country food, and these should be purchased from the communities and HTO's in the region. It says that the company will implement programs to support local business development. When is the company going to draft them? Who is going to be involved in the planning process? Before implementing the programs? Any and all programs to develop the business in the community should be identified and outlined prior to the mine is put into place. MOU's, contracts and business opportunities should be identified prior to further development.	These programs will be established once the IIBA is finalized. Although Baffinland will provide most of the funding for the programs, through the IIBA an Executive Committe will be established (composed of QIA and Baffinland personnel) to administer these programs.

Table 1

Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
PI-07-1	The community infrastructure in Pond Inlet should be reviewed to see how we can increase the capacity of residents to maintain levels of services required in regards to community maintenance and services.	Although the project will provide employment opportunities for residents of Pond Inlet, it is not apparent that the population of Pond Inlet will increase due to these employment opportunities, or, in-migration of workers associated with the Project. Planning for community services and infrastructure rests with the administrationof the Hamlet.
PI-07-2	There is a desire for Pond Inlet to have infrastructure available to help support the project. This includes a jet strip and possibly a docking facility should there be a requirement for one. Community members would like to discuss that with GN and Federal Government departments.	This type of development is not in the scope of the Project.
PI-08-1	community members have had a generation's long attachment to the mine. it is named Nuluuyat by our ancestors. what will happen to the mountain when it is gone? community members have a concern about the change to the environment and to the land surrounding the project and the deposit.	The purpose of the EIS is to inform the resident of the changes that the Project will bring to both the natural environment and the socio economic environment and to assess the adverse or positive effects of these changes.
PI-08-2	Community members are concerned over all archeological sites that are known and possibly unknown in the deposit site and on projected land use areas. They recall during the bulk sample that, although there was an interest from the community to assist the company in developing and progressing, there was a great interest in preserving archeological artifacts and sites, and this was made known to key interest groups. Residents wanted a thorough inspection of land use areas for the bulk sample, and they were not granted one. Once the bulk sample was approved, the site inspections were speeded up to facilitate the development. Inspections were done via aircraft and members felt that if this is done again, it will have an impact on any known or unknown sites if any were discovered. They feel that the company does not share the same interest in archeological sites and reparation should be made in aseany site is disturbed. Should there be a site discovered that is currently an unknown, changes should be made to the project to protect areas of concern.	The location of archaeological sites have been identified and mapped. Prior to construction, these sites will be mitigated. Appendix 10F-2 presents the Cultural Resources management Plan which outlines procedures for dealing with archaelogical sites presents on the project area. As much as possible, archaeological site have been or will be avoided. The sites that cannot be avoided will be mitigated. CLEY will be consulted for all archaeological work.
PI-09-1	Narwhals may be disturbed in certain areas, at certain times of the year, including Lancaster Sound, Navy Board Inlet and Milne Inlet; this may affect cultural harvesting practices. The railway and lands used in the Mary River proximity as well will need to be studied and the impacts of the affected areas must be discussed during the formal review. Community members want to discuss how reparation is made to hunters and people who do not want to work at the mine, and what can be done to compensate for the loss of sustenance foods if negative impacts are encountered.	Baffinland maintains the view that the Project will have no adverse effects on harvesting practices. The DEIS supports this view. All Inuit will benefit from the Project through the IIBA.
PI-09-2	Milne Inlet is important area for narwhal, to give birth and to feed, if affected by mining. Not all people in the communities will work at the mine; there are income support recipients that may need assistance with buying provisions, to sustain cultural activities. Community members have concerns about the distance hunters will have to travel to hunt, should there be adverse affects to migration patterns of species of interest. Some community members do not want shipping through Milne Inlet during the open water season due to the impact it will have on the sensitive marine environment and the amount of mammals it sustains.	Baffinland maintains that the Project will have no adverse effects on marine mammals present in Milne Inlet. The DEIS supports this view. Shipping will occur only during the open water season
PI-09-3	The document states that based on all the studies done on marine mammals, it is predicted that the Project will have a minor effect on marine mammal harvesting. Community members thought that this is untrue, as there has been an observed effect on Narwhals and seals during the bulk sample. Community members had noticed that there were less seals in the Milne Inlet area since the bulk sample and they were harder to find. The use of ships in Milne Inlet can cause significant changes to migration patterns for the Narwhal in the area. Milne Inlet, Lancaster Sound and Navy Board Inlet is a very sensitive area for marine mammals and mitigating measures must be identified, and agreed upon by Inuit in the region before any development. Community members would like to discuss reparation for disruption of habitat and the mammals in the area, as they feel there will be an impact.	Baffinland will continue to engage communites regarding concerns related to the Project and the potential impacts related to Project activities. Appendix 10D-10 in Volume 10 contains the shipping and marine mammals management plan which outlines future monitoring and management plans that are designed to be adaptive to future observations.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
PI-10-1	The document as presented, states that Inuktitut will be encouraged and promoted at the site, but residents may not agree with the statement. There should be meaningful discussions with the communities on how this will be accomplished, including the health of the ability to accomplish cultural harvesting practices for non employees who wish to travel the area.	The Human Resource Management Plan (Appendix 10F-3) outlines the company's HR plans including the promotion of Inuktitut at the site. Baffinland is open to feedback and suggestions on the further incorporation of Inukitut into the workplace. impacts to land use are addressed in Volume 4, Section 10.
PI-11-1	Committee and community members agree with the comments made by the company in the respeCTA to the Benefits, Royalties and Taxation areas as presented by the QIA, but community members feel that there have not been enough meaningful discussions to those respeCTA with the community members. It has been brought up as a discussion item at many community consultation visits, but some feel that most consultations are not meaningful in the context of what compensation and reparation can be made to communities from negative external impacts in regards to development. Some community residents would like discussions on reparations sooner during the review rather than later in the review	This is acknowledged. Baffinland is required to negotiate the IIBA with the QIA, and we understand the QIA has had some consultation with the communities. Further, the QIA has selected community members on its negotiating team.
PI-12-1	Committee and community members feel that there may be cumulative effect within Pond Inlet with regards to migration of employee's from the community. Community members feel that there will need to be government assistance in increased training opportunities in place in the Pond Inlet to help maintain municipal services. -Committee and community members felt that there could be the potential for increased substance abuse in the North Baffin region. They felt that there should be infrastructure in place to deal with them prior to development, and felt that this will need to be discussed with the Territorial Government.	Acknowledged. These concerns have been taken into consideration by Baffinland. Refer to the Human Resources Management Plan (Appendix 10F-3) for an overview of various programs that will be implemented to alleviate some of these concerns.
Public 2-2	Baffinland may want to consider hiring summer students where possible to include fostering youth and student experiences.	Baffinland understands the value in trained and educated youth and will consider programs that aim to foster training and or experience for youth within affected communities.
Public 2-3	As mentioned, the open pit mine will be equivalent to that of the CN Tower and what is not mentioned is the water collection that will be already in the pit and whether there are plans on purifying the water to acceptable standards and releasing back the water before closing the pit.	During open pit operations it will be necessary to pump water from the pit to treatment ponds surrounding the waste rock piles. Water discharged from the ponds be within applicable regulations. A closure plan for the open pit will be updated throughout the life of the project and will be reviewed by applicable parties to ensure its approval.
Public-1-01	Killer whales and northern bottlenose whales were found in small numbers. The question then is who found that there were small numbers? There was a video taken, recently of a large pod of Killer whales including sightings seen of over 60 Killer whales excluding underwater ones in and around Pond Inlet and Arctic Bay area. Is the number of the two species just specific to the Milne Inlet area?	The statement in Volume 8, Section 5.1 of the DEIS "…other odontocetes that occur (albeit in low numbers) in the RSA include the killer whale (Orcinus orca) and northern bottlenose whale (Hyperoodon ampullatus)" was based on a review of the literature (see Appendix 8A-2, Sections 2.3.8 and 2.3.13) and results of aerial surveys conducted for the Project. It is acknowledged that killer whales can occur in large pods in the RSA and that in recent years the numbers of killer whales in the RSA have been increasing (see Appendix 8A-2).
Public-1-02	Access to training opportunities can be a barrier to learning given the small population size and associated need to limit the range of programs that can be made available at the local level. Individuals who seek to pursue education in areas where there are not others interested in the same program are likely to need to travel either to Iqaluit or to the south. In the area of the trades, the apprenticeship system requires the apprentice to work under the guidance of a qualified journeyman who will certify the hours worked. The availability of these apprentice positions is limited by access to journeyman trades people at the local level who are willing to take on an apprentice. • In light of Baffinland's statement above and as apprenticeship opportunities for future trades persons are limited in the communities, apprenticeship programs should be made available at the mining sites. Future plumbers, mechanics, electricians, and carpenters will have a chance to get their apprenticeship hours while experiencing working at a mine.	Training and apprenticeship will be a major effort. Appendix 10F-3 outlines the programs that Baffinland intends to implement. Opportunities for apprenticeship will be provided for interested and qualified personnel at the mine.
Public-1-03	• Mining companies should be encouraged to provide scholarships to students and other community members who are enrolled in education programs that focus on the skills the mines are looking for in the workforce.	Refer to Baffinland's Human Resources Management Plan. Considerable efforts will be place on Inuit hiring, education and traning opportunities.
Public-1-04	• Although Qikiqtani Logistics is involved in hiring Inuit labor, the mine should consider hiring an Inuit Employment Coordinator and to be located at the mine site.	Baffinland will hire an Inuit Employment Coordinator.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
Public-1-05	As mentioned in the public meeting held in Pond Inlet March 1, 2011 what was heard by a Pond Inlet resident while in Iqaluit for people to go to Frobisher Inn for those who wish to work at Mary River and try to compete against the people of Pond Inlet. With Mary River being on the Pond Inlet's Land use plan it is suggested that those affected people in the adjacent communities be given top priority.	Baffinland has stated its position to give priority hiring to the Northern Baffinland communities.
Public-1-06	To bring this into perspective, according to 2001 statistics, unemployment figures for Pond Inlet was at 158; Clyde River 96; Hall Beach 107; Arctic Bay 85 and Igloolik at 202 not factoring in how many is employable but to give an idea that much more is needed.	Baffinland has stated its position to give priority hiring to the Northern Baffinland communities.
Public-1-07	It is suggested that Baffin Land ensure that an exit survey form be given to each worker that is leaving and the completed forms be sent to QIA to compile the data to try to ascertain the reasons why people do not return or leave early.	Baffinland intends to develop an Inuit Employment Strategy. The outline of this strategy is presented in the Human Resources Management Plan (Appendix 10F-3). Details remain to be developed.
Public-1-08	Human Health and Well-Being: • In Clyde River, there are two excellent organizations: Illisaqsivik Society and Ittaq, which have developed skills in dealing with such problems. It was suggested that Baffinland and other communities work closely with those organizations.	Baffinland intends to work closely will local Inuit organizations with all aspects of education, training, human health and well being.
Public-1-09	• Cumulative effects of ore for workers should also be monitored, for example at Nanisivik, the cumulative effect of a worker who had worked at the mine for 30+ years caused his heart to be calcified and hardened due to zinc and other mine properties entering to his body.	There are no health risk associated with the mining of iron ore.
Public-1-10	• Crossing shipping routes. Concern was expressed about the location of shipping routes and how to get across the open water they create. With year round shipping, it may be necessary to choose different routes for different times of year. It will also be necessary to consider how to get people across the shipping routes. Will the communities be informed of any proposed changes in the shipping routes prior to action?	Baffinland acknowledges that the shipping track through the Foxe Basin and Steensby Inlet will require on ice traveller to take a detour north of the Steensby Port in order to reach the western coast of Baffin Island. Travellers will be compensated with fuel and rest at the Steensby camp for this incovenience.
Public-1-11	• If hunters have to travel longer distances to get around leads in the ice created by ships, it will increase their fuel costs. This will need to be addressed and may already be discussed in the IIBA agreements.	Baffinland acknowledges that the shipping track through the Foxe Basin and Steensby Inlet will require on ice traveller to take a detour north of the Steensby Port in order to reach the western coast of Baffin Island. Travellers will be compensated with fuel and rest at the Steensby camp for this incovenience.
Public-1-12	• Could empty ships bring back food or other goods for the communities?	The ore carriers are very large vessels and cannot dock at hamlet ports.
Public-1-13	• There is a need for clean-ups protocols and emergency clean-up measures in place in the event there is a ship spill be it natural gas or oil. With increased mining activity, there is a need to have protocols and plans in place to react to potential risks that may occur. I feel these are areas which we must be able to respond to in an efficient, effective manner.	Baffinland has an Emergency and Spill Response Plan (Appendix 10C-1) as well as Transport Canada approved Oil Pollution Emergency Plan (Appendix 10C-2 and 10C-3) for both Milne Port and Steensby Port.
Public-1-14	In 2011, the land-based permanent fuel tank farm constructed at Steensby Inlet will receive fuel deliveries. The existing bladder tank farm at Milne Inlet will continue to be utilized and a steel tank farm will be constructed for additional capacity. It was a concern at one of the Baffinland public meetings that there has been seepage from the existing bladder tanks at Mary River and was suggested that the bladder tanks not be used as the material is rubber. To stop unnecessary site contamination other forms of containers should be used.	The bladder farms at Milne Port and the Mine Site will be replaced with permanent steel storage tanks. This will be done at the onset of the construction activities.
Public-1-15	Currently, local hunters are not allowed to dwell in any of the units at Mary River and the cabin which is deemed unnecessary is used for refuge during whiteout or blizzard conditions even during the spring/summer months as winds gust up to 90 due to the canal or valley structure of the land. For people who go over to quarry at the site, the cabins are used as well. Regardless of the condition, the cabins are quite necessary for local hunters and will continue to be of use.	Baffinland has not restricted use of the cabins, and is open to provide refuge to hunters during stormy conditions or other emergencies. During mine development, the cabin at Mary River and the cabin at Steensby Port will no longer be available for use. This loss will be compensated in the IIBA.
Public-1-16	With both communities and the structure-government and services offered, Mary River will be a community in itself and based on population will require all water and garbage regulations to be followed. It would be most appropriate and one which isn't covered in the proposal (and is possibly beyond their scope) is the need for a committee comprised of personnel at the site and the representatives from the adjacent communities who will look out for the interests of workers there), this group to be recognized by the officials from all organizations involved and the proponent Baffinland Iron Mines Corporation.	Baffinland is responsible for all services and infrastructure required for the development and operation of the Project.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
Public-2-1	Unionizing workers is one which is not mentioned and one which will be a requirement once the mine is operational; there will be a need to coordinate this with QIA and their negotiations because of the uniqueness of the North and to ensure that working relationships are kept.	Baffinland will continue to work with the QIA to ensure that negotiations collaborate with considerations of community, workers and the company.
QIA-01-1	It is requested that harvesting and associated cultural meaning be reconsidered as a Key Indicator and that it is treated to a full impact analysis and cumulative effects assessment. Given the many statements made by Inuit and recorded in the DEIS that emphasize the importance of wildlife harvesting to Inuit, the impact assessment should include an exploration of levels of acceptable risk to harvesting activities from an Inuit perspective.	Harvesting was addressed as a Key Indicator (Volume 4, Sections 10.3 and 10.4), as were the key wildlife species that are harvested. Cultural well-being was assessed as a subject of note owing to its multiple dimensions, of which ability to harvest (practice a traditional activity) is one dimension. As stated in the DEIS quantification of effects to cultural meaning or well-being is very difficult.
QIA-01-2	It is requested that organizations such as the Nunavut Wildlife Management Board also be engaged on these topics.	N/A
QIA-02-1	It is requested that the Proponent assess the distribution of impacts within and between communities as a Subject of Note, including any potential effects on community cohesiveness. The discussion should refer to data from the Project Definition phase as well as experience from other relevant ProjeCTA such as the Raglan Mine in Nunavik and Voisey's Bay in Labrador.	Baffinland's Human Resources Management Plan (Appendix F-3, section 13) describes the joint management structure that will be established within the framework of the IIBA to administer and monitor the potential effects of the Project on communities. The socio-economic effects assessment presented in Volume 4 identified the affected individuals or groups within a community and between communities.
QIA-02-2	It is requested that the Proponent comment on the availability of quantitative data (at the scale of the community or the aggregated North Baffin communities) to support indicators that measure inequities (e.g., income distribution by skill category, Gini coefficient for household income, etc.), as well as the appropriateness of such data and indicators in the Nunavut context.	An excellent perspective on data sources on income inequality can be obtained from Statistics Canada, e.g. "Rising Income Inequality in the 1990s: An Exploration of Three Data Sources." Catelogue #11F0019MIE — No. 219. Exploration of the meaning, appropriateness, and methodological issues specific to Nunavut will best be carried out in the context of collaborative discussions that involve community representatives and others involved in territorial monitoring.
QIA-03-1	It is requested that the Proponent survey northern mines or relevant projects in other locations that have implemented mitigation measures similar to those proposed by the Proponent, and compile the lessons learned about their effectiveness and actual outcomes.	Proposed mitigation related to optimizing socio-economic effects (increasing benefits while minimizing negative outcomes) are identified in Appendix 10F-3. These measures have been included in the IIBA negotiated with QIA and are believed to reflect the evolution of best practice. Through the IIBA, there is funding and a management structure established to fund, implement and monitor the effectiveness of these mitigation measures. The value of a synthesis of knowledge and experience related to socio-economic mitigation in the mining sector is recognized. However, such a project has a generalized public value and is considered to be outside the scope of a project-specific EIS.
QIA-03-2	It is requested that the Proponent provide an analysis of potential risks to the effective implementation and outcomes of proposed mitigation measures and management plans, and what can be done to reduce these risks.	Risk analysis is included in Volume 4, under the headings "prediction confidence and risk analysis." Generally, the monitoring and management programs—described in Appendix 10F-3 and in Volume 4, Section 14.2—will be implemented to assess the effectiveness of mitigation measures and to respond appropriately. The management structure described in Appendix 10F-3, Section 12 identifies the structure for response related to those areas under the control of IIBA-related initiatives. In areas where the appropriate response needs to arise from entities outside BIM/QIA, the monitoring program should help in detecting the need and in building partnerships where effective response can be initiated.
QIA-04-1	It is requested that the Proponent specify at what stage and by what process it will develop a comprehensive and coordinated monitoring program and an initial set of indicators to monitor the effects of the Project and mitigation measures. Without this information at the Review stage, it is very difficult to 'get a handle' on the determination of significance and how affeCTA will or even can be monitored.	Socio-economic monitoring is addressed in Volume 4, Section 14.2. Baffinland supports the notion that project-specific monitoring of socio-economic indicators should be carried out in the context of broader community-based and regional monitoring. The details of such a monitoring program need to be developed in partnership with the other stakeholders who will be involved in monitoring. Within such a partnership, Baffinland will contribute appropriate data that is generated directly by its activities. It is anticipated that this process will begin following the issuance of a Project Certificate and prior to commencement of construction. In the event that partners are unable or unwilling to participate in a collaborative monitoring endevour, Baffinland would monitor indicators and provide data that are directly generated by its Project. It should be noted that through the IIBA Executive Committee---as referenced in Appendix 10F-3---there is funding and a management structure established to fund, implement and monitor the effectiveness of specific mitigation measures.
QIA-04-2	It is requested that, as partners in the Q-SEMC, the Proponent and Committee members comment on the expertise and support that each can provide to ensure that the Committee has the capacity to perform effective monitoring.	BIM has the capacity and expertise to provide data generated directly by Project activities. This may include data related to recruitment, employment, termination reasons, procurement, training investments and so forth. Community-based monitoring carried out by groups such as the Q-SEMC can add value to this data by providing context and interpretation of these data.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
QIA-04-3	Rapid intervention in regard to adverse socio-economic impacts is critical. It is requested that the Proponent describe what mechanisms it will include in the monitoring plan to ensure that information flows from all monitoring initiatives (Project, Q-SEMC, and perhaps others) in time to trigger and implement corrective actions.	A description of specific reporting that Baffinland is committed to is presented in Appendix 10F-3, Section 13. These reports will be provided to the IIBA Executive Committee. In addition, a Joint Management Committee, described in Appendix 10F-3, Section 12.1.2, will be established between QIA and Baffinland to, among other things, bring forward items of concern from Baffinland or QIA to the Executive Committee, and to make recommendations to the Executive Committee on appropriate actions to enhance results. In addition, monitoring of Project-community interactions will be carried out through the socio-economic monitoring program that is described in Volume 4, Section 14.2.
QIA-04-4	It is requested that the Proponent comment on the extent and ways that monitoring associated with the IIBA could be coordinated with these other monitoring efforts in order to avoid redundancy in data collection and to obtain a more complete picture of impacts and benefits to Inuit.	In general, monitoring associated with the IIBA will focus on data generated directly by Project activities. This data will be combined with community-based monitoring carried out by groups such as the Q-SEMCto provide context and allow for more complete interpretation of these data. This will support effective alignment of public services to any changing service needs arising in the population, as well as effective modification of Project activities that may be needed to enhance Project socio-economic results.
QIA-05-1	It is requested that the Proponent produce a summary list of the project certificates and attached terms and conditions granted to mines in Nunavut and the Northwest Territories over the last 20 or so years.	This information is out of scope and available in the public domain.
QIA-05-2	It is requested that the Proponent and the Government of Nunavut elaborate on the anticipated content and process involved in creating a Development Partnership Agreement (DPA), such as the one mentioned in Vol. 4, section, 13.2, p185.	There is no requirement for the Proponent to enter a Development Partnership Agreement. GN is the lead for the process and no formal discussions on the content of a DPA have taken place.
QIA-05-3	It is requested that the Proponent state its willingness to cooperate with the QIA to draft a Socio-economic Table of Commitments as a major tool in overall Project mitigation and management. This Table would list specific commitments, such as payments to a community support fund or agreement to implement a training program. The Table would include all responsible authorities, timelines and criteria to meet, and any consequences for non-compliance. All responsible authorities would have to agree and sign off on listed Commitments. The Table would be subject to periodic review and independent audit.	The Company has stated its willingness to cooperate with the QIA and others on many issues. All of these commitments are expressed in Baffinland's Human Resources Management Plan, Appendix 10F-3, and are incorporated in the IIBA, which is a confidential document between the Company and QIA.
QIA-05-4	The Proponent states that its Environmental Health and Safety (EHS) management system is also consistent with ISO 14001:2004 (Environmental) Management System standards. It is requested that the Company comment on its intent to pursue formal ISO 14001 Certification (and the reasons why if it does not intend to pursue Certification).	At this time, the Proponent does not intend to pursue ISO 14001 certification but will consider certification in the future.
QIA-06-1	It is requested that the Proponent clearly confirm their understanding of LSA and RSA boundaries for the marine environment. The use of maps is encouraged.	The LSA and RSA are defined in accordance with NIRB guidelines, and in Volume 8 are found in Section 13. Maps of the LSA and RSA are presented in each of the assessment volumes of the DEIS, and are presented separately for each VEC in Volume 8.
QIA-06-2	Given the significant increase in vessel traffic, it is requested that the Proponent and NIRB confirm whether other Canadian waters outside the Nunavut Settlement Region are considered as part of the LSAs and RSA.	The assessment focused on the NSA. The effects extending beyond the NSA were discussed in the Transboundary effects Assessment (Volume 9, Section 4).
QIA-06-3	It is requested that clarity be given as to how will concerns over impacts to marine habitats and biota outside the RSA and LSA be considered.	The assessment focused on the NSA. The effects extending beyond the NSA were discussed in the Transboundary effects Assessment (Volume 9, Section 4).
QIA-06-4	It is requested that the Proponent clearly indicate the entire length of all proposed shipping route(s), from point of ore loading, to point of ore off-loading, for the entire project lifespan. If delivery ports are uncertain they should be ranked in order of greatest likelihood and frequency of visits.	The assessment focused on the NSA. The effects extending beyond the NSA were discussed in the Transboundary effects Assessment (Volume 9, Section 4).
QIA-07-1	It is requested that the Proponent confirm whether they intend to implement more precautionary noise exposure levels for seals and walruses?	Baffinland intends to use the 180 and 190 dB re 1 uPa (rms) criteria for pulsed sounds when implementing safety zones as a mitigation measure for cetaceans and pinnipeds, respectively. According to the most current and scientifically defensible information, these criteria are conservative when considering the prevention of hearing injury from exposure to pulsed sounds in cetaceans and pinnipeds. The reviewer is referred to Volume 8, Sections 5.5.3.1 and 5.4.1.4 of the DEIS for a review of this topic.
QIA-08-1	It is requested that the Proponent clearly explain the rationale underlying Table 8-2.1 (DEIS Vol. 8).	Table 8.2.1 describes the area of pack ice disturbance associated with each transit. Disturbance to pack ice integrity is short lived and is not expected to temporally overlap with successive transits (see text Vol. 8, Sec. 2.5.4).

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
QIA-08-2	It is requested that the Proponent confirm how avoidance reactions of marine mammals have been taken into account in the assessment of impacts to marine mammals from vessel traffic in pack ice.	Avoidance responses of marine mammals to vessel traffic, including ice breaking ore carriers, were carefully considered in the EIS. For each marine mammal indicator species, with the exception of polar bears, the number of animals exhibiting avoidance responses to ice breaking ore carriers in Hudson Strait, Foxe Basin, and Steensby Inlet were estimated. For polar bears, the proportion of available landfast and pack ice disrupted by icebreakers was calculated and this was compared to overall available habitat. For all indicator species, the estimated zone of avoidance (i.e., ringed seals = 0.3–0.7 km; walrus = 0.1–15 km; all cetaceans = 15–20 km; polar bears = 0.5 km) extended beyond the area of physically disturbed ice created by icebreakers.
QIA-08-3	It is requested that the Proponent confirm whether impact predictions are sensitive to the degree of disruption of the pack ice.	As noted in response to QIA IR#8-2, the assessment of avoidance responses by marine mammals was predicted to extend beyond the area of disrupted pack ice and is primarily based upon estimated sound levels from the icebreaking ore carrier.
QIA-08-4	It is requested that the Proponent produce a series of impact predictions demonstrating the influence that the number of vessel tracks has on impact predictions for pack ice. Impact predictions should be presented for lower and high shipping frequencies than suggested in the Project Description.	Volume 8, p. 156 states that pack ice will be temporarily changed by ice breaking; evidence of ships track will quickly disappear due to movement of ice by wind/tides (Enfotech 2010 – Appendix 10D-10). It is estimated that approximately 76.4 km^2 of pack ice will be moved by a single transport in Steensby Port (which is less than 1% of all the pack ice in the area).
QIA-08-5	It is requested that the Proponent confirm why the disruption of pack ice is not considered a Key Issue.	In Volume 8, p. 156 it states that pack ice will be temporarily changed by ice breaking; evidence of ships track will quickly disappear due to movement of ice by wind/tides (Enfotech 2010). It is estimated that approximately 76.4 km^2 of pack ice will be moved by a single transport in Steensby Port (which is less than 1% of all the pack ice in the LSA). Volume 8 (Section 2.5.4) describes the disruption of pack ice during icebreaking activities.
QIA-09-1	It is requested that the Proponent confirm whether impact predictions related to landfast ice and its use are sensitive to changes in the number of vessel tracks into the Steensby Inlet Port.	The effects predictions related to landfast ice have been rendered low in sensitivity to changes in the number of vessel tracks. This has been achieved by making conservative assumptions about the width of the area of disruption. This estimate of disruption to landfast ice (Volume 8, Section 2.6.2.1) is based on a conservative set of assumptions, that the area of disruption would be a maximum of 1.5 km in width, due to use of various channels, however this may be smaller. Given that the shipping route through landfast ice cover is approximately 90 km, an estimated area of 136 km2 of landfast ice could be disturbed by ships approaching Steensby Port. The percent of disrupted ice in Steensby Inlet will therefore range from 1.5% (January) to 6.1% (July)
QIA-09-2	It is requested that the Proponent produce a series of impact predictions demonstrating the influence that the number of vessel tracks has on impact predictions for landfast ice. Impact predictions should be presented for lower and high shipping frequencies than suggested in the Project Description.	This estimate of disruption to landfast ice (Volume 8, Section 2.6.2.1) is based on a conservative set of assumptions, that the area of disruption would be a maximum of 1.5 km in width, due to use of various channels. The actual area of disruption will likely be much smaller. Given that the shipping route through landfast ice cover is approximately 90 km in length, an estimated area of 136 km2 of landfast ice could be disturbed by ships approaching Steensby Port. The percent of disrupted ice in Steensby Inlet will therefore range from 1.5% (January) to 6.1% (July). This estimate, which represents the maximum disruption to ice, was used to produce impact predictions for disruption to landfast ice. The shipping frequency as described in the Project Description has been assessed. It is outside the scope of the Guidelines to assess lower or higher shipping frequencies.
QIA-09-3	It is requested that the Proponent describe how sensitive impact predictions are if the extent of the landfast ice decreases (due to climate change and other factors) such that shipping disrupts a greater percentage of the remaining fast ice, and breeding habitat for the ringed seal becomes more concentrated.	With any reduction in the extent of landfast ice, the disturbance area will be consequently reduced, such that there will be no effective change in percentages of the remaining fast ice. There is no evidence that breading habitate will become more concentrated due to climate change.
QIA-10-1	A threshold of 10% has been used widely Volumes 8 and 9 of the DEIS to assess the significance of various impact predictions, although a 20% threshold was used to assess the magnitude of effect on marine fish habitats (DEIS VOl. 8, Table 8-4.7). It is requested that the Proponent present rationale for the 10% and 20% thresholds.	A threshold of greater than 20% change in the productive capacity of a marine coastal habitat is thought to measurably exceed the range of natural variability in habitat productivity at the affected location. A change of this magnitude was assigned a Level III Magnitude of Effect category as it may result in an unacceptable adverse effect depending upon duration and spatial extent and how that spatial extent relates to the LSA. A change of 10% in a population (e.g., ringed seal) may or may not exceed the range of natural variability within the population; however, the pre-defined population-based geographic extent (generally large) of the change implies a greater potential severity of impact. Consequently a lower (i.e., 10%) threshold for change seems appropriate for population-related effects as opposed to habitat effects that may be confined to a very localized area. Other EA have used thresholds as follows: Bathurst Inlet Port and Road-change beyond range of natural variation; High Lake EA - > 10% change to fish habitat or fish population; Doris North EA - > 10% change from baseline in LSA; Diavik EA - > 20% loss of fish habitat.
QIA-10-2	It is requested that clarity be provided as to whether it is reasonable to apply the same 10% threshold to assess the broad range of different impacts found in the DEIS.	A value of 10% has been selected as reasonable, based on current practice, logic with respect to population-level effects, and ability to distinguish from natural background levels of disturbance.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
QIA-11-1	It is requested that the Proponent describe all possible adaptive management measures that would be feasible as means of mitigating vessel impacts from the Project.	Credible management measures have been identified in the Shipping Management Plan (Appendix 10D-10)
QIA-11-2	It is requested that the Proponent clearly describe how sensitive the Project is to changes in the routing, timing, and number of vessel transits.	The project viability is contingent on year-round shipping. Variations in vessel transits have been addressed in Volume 3, Section 6, Project Alternatives.
QIA-11-3	It is requested that the Proponent clearly and comprehensively present what is known about activities of other commercial icebreaking operations including how mitigation measures were developed relative to impact predictions. In presenting such information the Proponent should clearly state whether consideration has been given to all pertinent information related to mitigation measure development, and whether mitigation measures from smaller and/or more southerly mining operations are applicable to the proposed Project.	In the EIS, Volume 8, Section 5.6 describes what is known from various commercial icebreaking operations and its effects on ringed seals (p 164). Mitigation measures have been developed based on knowledge from other operations and impact predictions and are described in the same Section (5.6) of the EIS (p. 170). 'Lessons Learned' from the Voisey's Bay and Raglan Mine shipping experienced was also outlined in the Shipping and Marine Mammals Management Plan (Appendix 10D-10), and mitigation measures from these mining operations were examined to determine relevance and applicability to the Mary River Project.
QIA-11-4	It is requested that the Proponent describe whether the application of mitigation measures specific to land fast ice formation have been considered.	As stated in Section 2.6.5 Vol. 8. mitigation measures specific to land fast ice are considered under Adaptive Management to reduce large pieces of ice from leaving the Inlet prematurely as a result of ice breaking. The viable mitigation measures include:· modifying the route through land fast ice (during spring only);· following a zig-zag pattern; and· reduction of ship speed .
QIA-11-5	It is requested that the Proponent describe whether the application of mitigation measures specific to wildlife sensitivities, such as key life cycle stages, have been considered.	Overall, the assessment process undertaken for this EIS considered key life stages and important areas (e.g., feeding, nursing, breeding, or haul-out habitat) for marine mammals. For all indicator species, measurable parameters and threshold levels focused on these aspects of a marine mammal's life history. Mitigation measures were derived to minimize potential effects on marine mammals and this involved consideration of key life cycle stages. For example, the mitigation measure of decreasing vessel speed from 26 km/h to 18.5 km/h in Milne Inlet was included to minimize effects on large numbers of narwhals that are thought to feed and calve there. The route selection for shipping into Steensby Inlet was made in part to avoid key marine mammal areas (walrus calving area) noted during consultations. In addition, blasting operations are proposed to occur during the ice-covered season (late spring) to minimize the number of marine mammal species present in the area.
QIA-12-1	It is requested that the Proponent confirm whether increasing project production rates, and therefore that shipping frequency, will be included as part of the DEIS.	The DEIS describes the project for which Baffinland is seeking approval: 18 Mt/a to be transported by rail to Steensby Port and shipped from Steensby Port throughout the year, while up to 3 Mt/a could be trucked to Milne Port and shipped during the open water season. The 3 Mt/a road haulage option is no longer proposed - see Baffinland's covering letter to this IR response.
QIA-12-2	It is requested that the Proponent state when and how plans to expand the project production rate will be formalized and made publically available. In providing details on this topic is the Proponent prepared to discuss the sensitivity of impact predictions in the DEIS relative to an increase in Project production.	Baffinland discusses the potential for future development in Volume 3, Section 1.5.
QIA-12-3	It is requested that the Proponent present a list of all project infrastructure (e.g., DEIS Vol. 3, Table 3-2.1) and indicate whether or not each component is being designed to accommodate a higher production rate?	The Project is designed to consistently produce and ship 21 Mt/a, including 18 Mt/a via the railway and Steensby Port, and 3 Mt/a via the road and Milne Port. In order to allow for downtime and maintenance, the nominal capacity of the equipment and infrastructure has to be overdesigned and can handle higher production rates. Potential for proposed infrastructure to accommodate higher production rates is discussed in Volume 3, Section 1.5.
QIA-12-4	It is requested that NIRB describe how increasing project production rates, and therefore that shipping frequency, would be addressed for two scenarios; where the Proponent elects to modify the current Project Proposal during the current Part 5 Review, or, where the Proponent elects to modify the Project Plans following the conclusion of the current Part 5 Review.	This information in out of scope
QIA-13-1	The following documents were referred to in the DEIS but could not be located in appendices: North/South Consultants Inc. 2008a. Freshwater aquatic environment baseline report: fish and fish habitat, 2007. A report prepared for Knight Piesold Ltd by North/South Consultants Inc., Winnipeg, MB. 182 pp + appendices. North/South Consultants Inc. 2008a. Freshwater aquatic environment baseline report: lake limnology and lower trophic levels, 2007. A report prepared for Knight Piesold Ltd by North/South Consultants Inc., Winnipeg, MB. 115 pp + appendices. It is requested that the Proponent provide NIRB and all other parties with electronic copies of non-sensitive background documents that were not included in the DEIS.	These documents are provided as Attachments 4 and 5.
QIA-14-1	Significance of aircraft disturbance to VEC's in the project area cannot be determine without detailed information related to daily noise from fixed-wing large aircraft and helicopters (e.g., DEIS Vol. 8, pg. 165). It is requested that the Proponent provide a map detailing the proposed runway alignment and approach plate for all airstrips in the project area together with a noise contour map.	During construction there may be relatively frequent flights in and out of the airport. However, once the mine is in operation flights should be relatively infrequent. Noise generated from aircraft landing and take-off will be insignificant relative to the noise generated from machinery and mobile equipment at the Mine Site and Steensby. The expected noise contours for the Mine Site and Steensby Port are presented in Volume 5, Section 3.0.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
QIA-14-2	It is requested that the Proponent develop a map detailing the proposed flight paths for all aircraft (including helicopters) for the life of the project including on-going exploration activities. Maps should be prepared for both the LSA and the RSA. Maps should be supported by text describing flight path frequency.	Project-related air traffic is described in Volume 3, Section 2.7 and is shown graphically on Figure 3-2.10.
QIA-15-1	It is requested that the Proponent confirm if vessels visiting the ports at Milne Inlet and Steensby Inlet will be treating their ballast water before it is released. If so, what treatment method(s) will be used.	Management of ballast water is described in Volume 9 Section 9.3.4.4 and Appendix 10D-10. In compliance with the Canadian shipping protocol, ballast water will be exchanged prior to entering Canadian waters.
QIA-15-2	It is requested that the Proponent confirm what studies be conducted to assess and monitor the risk of species introductions.	In line with other ports on the eastern canadian seaboard, no directed studies are proposed. The current federal shipping regulations take these risks into consideration.
QIA-15-3	It is requested that the Proponent confirm the expected destination ports for iron ore from Mary River.	Rotterdam has been identified as the primary receiving port. Other ports may be considered.
QIA-15-4	It is requested that the Proponent confirm if risk analysis been conducted for invasive aquatic species that might be released in Canadian waters by vessels visiting the proposed mine.	Shipping will comply with Transport Canada approved protocol for ballast water management for navigation in Canadian Waters. No risk analysis was conducted.
QIA-15-5	It is requested that the Proponent describe what anti-fouling will be used on the ore carrier hulls. This includes describing the types of chemicals, their quantities, and the risk they may pose to biota in the environment along the ship track and in port.	The low-friction coating on the ice-breaking ore carrier is considered an anti-fouling coating. This coating is non toxic (see MSDS).
QIA-16-1	It is requested that the Proponent clarify whether the Project Description in the DEIS (Vol. 3) accurately reflects how the Project would be constructed, operated, and closed under current Project ownership.	The change in Company ownership does not change the Project description for the 18 Mt/a railway operation. As discussed in Baffinland's covering letter to these IR responses, the company has decided not to pursue the 3 Mt/a road haulage operation . The description of the 18 Mt/a railway operation remain unchanged.
QIA-16-2	It is requested that the Proponent describe whether changes in the Project Description will alter parameters used for impact prediction.	No changes to the project description are proposed.
QIA-17-1	Deep-draft ship propellers are expected to mobilize seabed sediment at a distance of up to 100 m (DEIS Vol. 8, p. 54, pgph 2). Given that there is likely to be more maneuvering in the vicinity of the Steensby Inlet Ports in winter, when ice breaking is require, this disturbance could be greater when ice is present than in open water. It is requested that the Proponent describe the extent of the area where sediments may be disturbed at the Milne Inlet and Steensby Inlet ports.	Areas of general disturbance due to propwash effects were estimated around the ore and freight docks based on buffer zones that account for ship size and the various activities that would be occuring at each port site during all phases and seasons of the Project. These are captured in the estimates of post-construction disturbance area (2.67 + 1.04 ha for Milne and 6.77 + 0.75 ha for Steensby shown in table 8.4.11
QIA-17-2	It is requested that the Proponent describe how winter ice breaking and maneuvering by ships arriving in ballast, working to maintain ice, and loaded with ore or supplies been factored into the habitat disturbance estimates provided in Table 8.4-11 (DEIS Vol. 8, pg. 110).	Areas of general disturbance due to propwash effects were estimated around the ore and freight docks based on buffer zones that account for ship size and the various activities that would be occuring at each port site during all phases and seasons of the Project. These are captured in the estimates of post-construction disturbance area (2.67 + 1.04 ha for Milne and 6.77 + 0.75 ha for Steensby shown in table 8.4.11
QIA-17-3	It is requested that the Proponent describe how extensively planned activities will disturb sediment spread in summer at both ports, and in winter under the landfast ice of Steensby Inlet.	Areas of general disturbance due to propwash effects were estimated around the ore and freight docks based on buffer zones that account for ship size and the various activities that would be occuring at each port site during all phases and seasons of the Project. These are captured in the estimates of post-construction disturbance area (2.67 + 1.04 ha for Milne and 6.77 + 0.75 ha for Steensby shown in table 8.4.11
QIA-17-4	It is requested that the Proponent describe the effects sediment disturbance will have on ringed seals and other biota in the vicinity of both ports in summer and under the landfast ice of Steensby Inlet in winter.	It was estimated that 3.71 ha (Milne Inlet) and 7.52 ha (Steensby Inlet) of bottom substrate will be altered as a result of ship operations. The change from finer substrates to a more predominant coarse substrate is expected to alter the composition of the benthic biota community structure over this area which represents less than 0.1% of the benthic habitat within the LSA. As noted in Volume 8, Section 5.6.2 (Disturbance), ringed seals are expected to avoid the immediate area around ports when vessels are maneuvering. It was also assumed that the ice covered habitat that will be disturbed by ship traffic (i.e., vessel turning and standby operations) in the area of the ore dock at Steensby Port will not be available to seals. Therefore, ringed seals are not expected to be in the vicinity of either port and thus, they are unlikely to be directly affected by sediment disturbance.
QIA-18-1	It is requested that the Proponent confirm what studies will be conducted on the Candidate Reference Lake to assess whether it is suitable as a control site for comparison with lakes impacted by the Project?	As noted in Section 4.5.10 (p. 298) a screening exercise was undertaken to identify an appropriate reference lake for the Mine Area and field sampling was undertaken in 2008 in the Candidate Reference Lake identified through this exercise. The desktop screening exercise considered a variety of criteria including lake surface area, geology, location in relation to current and potential future disturbances, drainage basin, lake size and shape, and shoreline development ratio. Field sampling was initiated in 2008 to assess its suitability as a reference lake and information was collected on aquatic habitat (substrate and water depth), water quality, and the presence/absence of Arctic char. The Aquatic effects Monitoring Program (AEMP) will provide descriptions of monitoring activities, including monitoring in reference area(s). In addition, the Metal Mining Effluent Regulations (MMER) specify site-specific monitoring that is required of the aquatic environment, including reference areas, and the monitoring program will address these and other MMER requirements. Please also refer to EC-26-1.

Table 1
Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
QIA-18-2	It is requested that the Proponent confirm if there are there plans to augment the baseline?	Additional baseline data will be collected under follow-up programs, as described in the DEIS in Section 4.5.3.1 (p. 252-253), Section 4.5.3.7 (p. 256), Section 4.5.4.7 (p. 260), and Section 4.5.6.12 (p. 279). Please also refer to QIA-18-1 and EC-26-1.
QIA-18-3	It is requested that Interveners confirm if the aquatic baseline is sufficient for use in detecting whether changes are occurring and, if so, at what level?	This IR does not require a response from Baffinland
QIA-18-4	It is requested that Interveners confirm whether natural variations be confidently differentiated from project-related effects?	As noted in the DEIS (Section 4.5.10, p. 298), an aquatic effects monitoring program (AEMP) will be developed in which details of the monitoring programs will be provided. It is also noted that monitoring of reference areas will be used to assist with delineation of Project-related effects. In addition, the Metal Mining Effluent Regulations (MMER) specify site-specific environmental effects monitoring (EEM) of the aquatic environment, and the EEM guidance document prescribes study designs and methods to quantitatively identify Project-related effects on aquatic biota. The AEMP will address these and other MMER requirements.
QIA-18-5	It is requested that Interveners confirm if the designed monitoring program is robust enough to support the assessment of cumulative impacts by future projeCTA?	Response from Baffinland not required. However, with respect to the aquatic environment to which this comment is directed, the only potential cumulative effect anticipated to the aquatic environment is climate change, which should be detectable with the proposed monitoring program. No other projects are located within the Mary River Project study area.
QIA-19-1	It is requested that the Proponent confirm if consideration was given to following the more precautionary 50 kPa threshold for assessing blasting impaCTA?	As noted in Section 4.4, p. 246, a detailed blasting management plan will be developed, which will follow DFO blasting guidelines (Wright and Hopky 1998). It is also indicated that if any issues associated with meeting these guidelines are identified, they would be discussed with DFO prior to undertaking blasting activities
QIA-19-2	It is requested that the Proponent and Interveners confirm whether there are additional guidelines that have been used in other jurisdictions for similar purposes?	We are not aware of any Canadian guidelines other than the 1998 Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters. In the USA it appears that only Alaska have guidelines that reference allowable pressure changes associated with blasting.
QIA-20-1	It is requested that the Proponent confirm what amount of explosives will be used and how much nitrogen will be residual afterwards such that it may enter the aquatic environment?	Expected quantities of explosives required are summarized in Table 3.1 of Appendix 10C-4 (Explosives Management Plan). Since the mining pit will be mostly dry throughout the year, amonia or residual nitrogen is not expected to cause a problem for the aquatic environment. During the freshet and summer months, any residual explosives washed away by precipitation will report to the waste rock pile (by trucking of waste rock, or pumping of the mine pit water to the waste rock pile). Runoff from the waste rock pile will be channeled to a sedimentation basin prior to discharge to th environment. The quality of the sedimentation pond discharge will be monitored to ensure its complies with water quality guidelines of the MMER.
QIA-20-2	It is requested that the Proponent confirm whether sublethal effects of nitrates (e.g., endrocrine disruption of fish) been considered in the effects assessment?	As described in Section 3.4.1.1 in the water quality effects assessment, water quality thresholds were identified from various published sources, including the Canadian Council of Ministers of the Environment (CCME) water quality guidelines. This included the interim guideline for nitrate for the protection of freshwater aquatic life. As described in Section 4.5.1, effects of the Project on the health and condition of the key indicator (Arctic char) were described through consideration of the CCME water quality guidelines for the protection of freshwater aquatic life – including the interim guideline for nitrate.
QIA-21-1	Please explain the rationale for setting the 1 mm/year deposition threshold, given that the data are from a different species under post-impoundment conditions without pre-impoundment data for comparison.	As noted on p. 250, the published ecological threshold for effects of sedimentation on lake whitefish eggs (1 mm/year, Fudge and Bodaly 1984) was adopted for the assessment. Specific thresholds for Arctic char were not located in the published literature. However, the threshold of 1 mm/year has been applied in other arctic EISs (e.g., Diavik Diamond Mines Inc. 1998) for assessing effects of sedimentation on salmonids. DDMI (1998) also noted that consultations with "senior fisheries scientists" (see p. 6-27) were undertaken to identify an appropriate threshold. Wyatt et al. (2010) also reported that survival of rainbow smelt embryos covered with < 1 mm of sediment was not significantly different than controls (effects were significant at > 1 mm of sediment). Lastly, effects of sedimentation on the viability of fish eggs is generally attributed to reductions in availability and uptake of dissolved oxygen. In turn, the size of fish eggs affeCTA their vulnerability. As Arctic char eggs are larger than lake whitefish and rainbow smelt eggs, this threshold was deemed appropriate. DDMI. 1998. Environmental effects report, fish and water. Volume 1 of 2. Diavik Diamonds Project, DDMI, September 1998. Wyatt, L.H., A.L. Baker, and D.L. Berlinsky. 2010. effects of sedimentation and periphyton communities on embryonic rainbow smelt, Osmerus mordax. Aquat. Sci. 72: 361-369.
QIA-22-1	It is requested that the Proponent provide in detail the probability of caribou calving during lows and highs in the abundance cycle relative to terrain, vegetation and proximity to mine infrastructure.	Baffinland expects that habitat preference is similar during population highs and lows. Collar data did not indicate calving season habitat preferences that are different from the remainder of the growing season; therefore, calving and growing season data were grouped. The results of the resource selection probability function model indicate that caribou select for slope of approximately 15˚, habitats closer to water and areas where there is more vegetation during the growing season. Baffinland will update this analyses with data that became available from the GN.

Table 1

Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
QIA-22-2	It is requested that the Proponent provide more results from the June 1994-97 caribou surveys conducted by GN-DoE.	Baffinland has made this request to the GN.
QIA-22-3	It is requested that the Proponent provide a map of calving locations (during approx. 15-21 June) based on the GN DoE collar program from June 2009 and June 2010.	Based on our discussion on the ecology of north Baffin Island Caribou (from IQ and limited collar data availability) there is very little discernible seasonal movement. Restricted movements, typically observed in migratory barrenground caribou during the calving season was almost indistinguishable from the other seasons for these data, as summarised in the wildlife baseline report (Volume 6F, discussed throughout). The GNDoE provided additional collar data on 7 April, 2011, but analyses could not be completed in a reasonable time period. Data will be re-analyzed using RSPF analyses to determine possible calving area preferences.
QIA-22-4	It is requested that the Proponent clarify if they anticipate providing details of monitoring and mitigation for caribou calving.	No effect of the project is expected to be unique during calving, so mitigation and monitoring actions identified are the same for all seasons. Observations of calving caribou and caribou with young will be of particular interest during operations because of the infrequent observations of such during the baseline studies. No specific caribou calving surveys are identified.
QIA-23-1	It is requested that the GN provide the Proponent with the most recent complete North Baffin caribou collar dataset for use in the baseline and impact assessment for this project.	Baffinland cannot comment on this IR as it is directed towards the GN. Baffinland had requested this data from the GN prior to submission of the DEIS.
QIA-23-2	It is requested that the GN clarify if they are aware of any other data in relation to North Baffin caribou that may not be listed in the proponent's baseline reports. If so, it is requested that the GN provide additional data so that it can be integrated into the DEIS.	Baffinland cannot comment on this IR as it is directed towards the GN.
QIA-23-3	It is requested that the Proponent clarify whether addition data will be integrated into the DEIS provide an updated analyses to examine seasonal habitat use, fidelity to seasonal habitat and movements, and calving locations.	The analysis was conducted based on data that were provided by the GNDoE up to January 2011. The GNDoE provided additional collar data on 7 April, 2011, and Baffinland has not yet had a reasonable amount of time to analyze. When the data are reviewed, we will be completing further habitat selection analysis and investigating fidelity to seasonal habitats, movements and calving locations. Further analyses is addressed in response to See QIA 22-3.
QIA-24-1	It is requested that the Proponent provide an assessment of the risk of caribou exposure to dust based on analyses of the probability of caribou distribution for both historic and current distribution, the proposed Zone of Influence and the annual and cumulative dustfall (Total Suspended Particulate isopleths).	The ZOI identified in Volume 6, Section 5.2.1 was developed to reflect the response of caribou distribution to dust deposition within the RSA. No historic caribou distribution data are available for the RSA. Predicted dustfall is described in Volume 6, Section 3.2.2.2.
QIA-24-2	It is requested that the Proponent provide an assessment of the risk to caribou from annual and cumulative levels of metals from dust affecting forage plants in the caribou diet.	Please refer to Volume 6G of Volume 6 for this information.
QIA-25-1	It is requested that the Proponent provide an assessment of iron and other metals toxicity in plants, especially mosses and lichens and for caribou.	Appendix 6G of Volume 6 includes an assessment of metal toxicity to plants using threshold regulatory guidelines considered applicable to vegetative species.
QIA-26-1	It is requested that the Proponent obtain data on levels of metals in lichen and snow relative to the predicted isopleths for dustfall from Ekati and Diavik for Baffinland and re-assess the dustfall effects on lichens.	The potential for dustfall to affect caribou as an important harvest species is addressed in Appendix 6G, Evaluation of Exposure Potential from Ore Dusting
QIA-27-1	It is requested that the Proponent provide a more comprehensive baseline for birds from which a proper evaluation of potential project impacts, mitigation measures, and monitoring can be assessed.	Baffinland collected 3 years of comprehensive bird baseline data - we disagree that the baseline is not comprehensive. Some information requests specific to the bird baseline are addressed in response to Environment Canada's IRs. Raptor locations are based on data from 2008 and earlier. Consequently, Baffinland will be updating raptor nest locations in 2011 so that a monitoring program can be initiated.
QIA-28-1	It is requested that the Proponent revise the conformity tables to point to the specific information that satisfies the EIS guidelines, and to avoid referencing entire volumes or appendices unless it is unavoidable.	Where NIRB guidelines were specific, BIM referred to specific sections or Tables or Appendix. Where NIRB guidelines were vague or all encompassing, BIM responded accordingly.
QIA-28-2	It is requested that the Proponent comply with the EIS guidelines, and revise the conformity tables to include specific page numbers.	Where NIRB guidelines were specific, BIM referred to specific sections or Tables or Appendix. Where NIRB guidelines were vague or all encompassing, BIM responded accordingly.
QIA-29-1	It is requested that the Proponent revise the SIG to point to the specific information required for the water license application with proper referencing (section and page number).	The DEIS is prepared on the basis on the Project conceptual design. At this stage of the Project, much of the detailed design required to satisfy the requirement of the Water License application are not available. It is the intent of Baffinland to provide the detail design of all SIG requirements for water licensing in a separate water licensing package in the final EIS. We will provide section and page referencing.
QIA-29-2	In the event that the information required by the water license is present in the DEIS, but is too fragmented to be referenced succinctly, it is requested that the Proponent consolidate the information and submit it in a separate document.	The DEIS is prepared on the basis on the Project conceptual design. At this stage of the Project, much of the detailed design required to satisfy the requirement of the Water License application are not available. It is the intent of Baffinland to provide the detail design of all SIG requirements for water licensing in a separate water licensing package in the final EIS. We will provide section and page referencing.

Table 1

Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
QIA-31-1	It is requested that the Proponent take a proactive approach in ensuring that all water licence application materials are available for review by Interveners and Interested Parties prior to DEIS distribution for public technical review.	Baffinland has provided concordance of the DEIS to Appendix C of the EIS guidelines (the NWB's Supplemental Information Guideline). However, not all information is available at present, at least in the level of detail requested. Our understanding of the coordinated process is that a detailed water licensing package with the missing level of detail is expected to accompany the FEIS.
QIA-32-1	It is requested that the Proponent commit to drawing materials from the DEIS for the purpose of producing a plan language discussion related to shipping route sensitivities. The document should contain both text and supporting visual material such as diagrams and maps and should include full Inuktitut translation. The document should also describe the entire length of all shipping routes associated with the project with the	Volume 1 of the DEIS provides a plain language summary of the entire EIS, including key maps and figures translated in Inuktitut.
QIA-33-1	It is requested that the Proponent provide additional information, to define how the act(s)/regulation(s)/policy would apply to each project component (i.e., road, railway, sea route, fuel storage, abandonment and reclamation etc.). Where possible reference to where further context has been provided within DEIS should be provided, including section and page number.	Refer to DEIS Volume 2 for a list of the applicable ACTA and Regulations (Table 2-2.1). Volume 10 contains management plans applicable to all project activities and lists relevant applicable aCTA/regulations and guidelines.
QIA-33-2	It is requested that each Responsible Agency provide a summary of the project components that will require their attention according to the mandates authorized unto them by their governing jurisdictions. It is requested that each Responsible Agency provide context into their role in inspection, monitoring, and enforcement activities with respect to their act/regulation.	Yes.
QIA-33-3	It is requested that the Proponent compile the information requested under 1 and 2 into a comprehensive table. The suggested design for the table is:	This information cannot be compiled until the Project Certificate, Water License and other Permits are issued by the regulatory authorities.
QIA-34-1	It is requested that the Proponent confirm if additional DEIS materials will be made available in Inuktitut.	Volume 1 has been translated in Inuktitut and be made available. The popular summary translated into Inuktitut was also provided to the Hamlet Office of each affected community.
QIA-34-2	It is requested that the Proponent confirm how the DEIS has been distributed within the communities.	Initial distribution to the communities consisted of one complete hard copy (with DVD) to each of the following hamlets/municipalities: Arctic Bay, Cape Dorset, Clyde River, Hall Beach, Igloolik, Kimmirut, and Pond Inlet. Additionally, a hardcopy of the Popular Summary, in each Inuktitut and English, were provided to each of the HTOs in the same community. An Inuktitut version of Volume 1 has subsequently been generated and has been issued to each of these hamlets and HTOs.
QIA-34-3	It is requested that the Proponent confirm whether additional efforts to ensure DEIS materials with the most relevance to the concerns of each community have been introduced and made publically available.	Baffinland provided popular summaries including a CD copy of the entire DEIS to Hamlets of each affected community. Additionally, NIRB has posted the entire DEIS on their public website.
QIA-34-4	It is requested that the Proponent confirm whether the types of documents and the level of Inuktitut in the DEIS can be viewed as limiting the ability of community members to fully comprehend and participate in the formal review process.	Baffinland has made efforts to make a highly-technical EIS available in Inuktitut that will be widely comprehensible. However, in an oral culture, community meetings are equally important to reach out to community members and to bring forth an understanding of the project and its effects. Baffinland carried out public meetings following issuance of the DEIS, and plans to participate in upcoming NIRB meetings as well.
QIA-34-5	It is requested that the Proponent produce thematic guides based on the larger DEIS to facilitate discussions within the communities in advance of the technical review process.	Various presentation materials have been and will continue to be develop for presentations at community meetings. The popular summary of the DEIS and all supporting figures provide good summaries of information and visual interpretations.
QIA-34-6	It is requested that the Proponent produce summary reports related to terrestrial environment, marine environment, shipping operations, fisheries, and, aquatics in advance of the technical review process.	These summaries are presented in the Popular Summary, the Executive Summary and Volume 1 of the DEIS.
QIA-35-1	It is requested that each Responsible Agency with a permit, licence or other approval commit to presenting their role in the project assessment and operational setting for the proposed project. To assist with this commitment, QIA will commit to working with all Responsible Agencies to facilitate effective community interactions.	Not for Baffnland to answer.
QIA-36-1	It is requested that the NPC confirm the land values, and associated rationale, that are attributed to areas associated with the proposed transportation corridor as described by the Areas of Importance Map. When providing information on land values QIA requests that specific geographical areas are clearly denoted.	Not for Baffnland to answer.
QIA-37-1	It is requested that the NPC describe what criteria and methods are used to determine if a particular area constitutes an important fish and wildlife harvesting area, and/or, a key habitat for fish and wildlife species.	Not for Baffnland to answer.
QIA-37-2	It is requested that the NPC provide more information specific to the definitions for negative impact, important areas, and, key habitats.	Not for Baffnland to answer.
QIA-38-1	It is requested that the NPC confirm if this provision in the NBRLUP has been appropriately applied by the Proponent.	Not for Baffnland to answer.

Table 1

Baffinland Response to Intervener Information Requests (IRs) on the Draft Environmental Impact Statement

Number	Request	Baffinland Response
QIA-38-2	It is requested that the Proponent confirm whether this provision of the NBRLUP was taken into consideration during the drafting and submission of the DEIS.	NBRLUP was considered in the drafting of the DEIS.
QIA-39-1	It is requested that the NPC confirm whether they now have enough information before them to issue a conformity decision against the NBRLUP.	Not for Baffnland to answer.
QIA-39-2	It is requested that the NPC confirm how the NPC will determine if an amendment to the NBRLUP is required, if the decision to seek an amendment will include public further comment, and, if required the process through which an amendment will be sought.	Not for Baffnland to answer.