



December 12, 2014

Solomon Amuno
Mary River Project Monitoring Officer
Nunavut Impact Review Board
29 Mitik Street
P.O. Box 1360
Cambridge Bay
NU, X0B 0C0

Re: The Nunavut Impact Review Board's 2013-2014 Annual Monitoring Reports for the Mary River Project and Board's Recommendations

Dear Solomon,

Thank you for your letter dated November 12, 2014, which contained 17 recommendations by the Nunavut Impact Review Board (NIRB). Baffinland has provided a response to each comment and notes that several Project Certificate conditions are being discussed on an ongoing basis with the members of the Marine and Terrestrial Environment Working Groups. Baffinland will continue to discuss matters related to project certificate condition implementation with agencies and their respective experts, as well as report annually to the NIRB on the Company's progress.

Baffinland will submit our *2014 Annual Monitoring Report to the Nunavut Impact Review Board* on March 31, 2015, which will more thoroughly update the Board on the progress the Company has made regarding project certificate compliance in the past year. In this report Baffinland will also include updates to relevant management plans, including the Terrestrial Ecosystem Mitigation and Monitoring Plan and the Shipping and Marine Wildlife Management Plan, which have been reviewed by the working groups.

Should you have any further questions regarding the responses enclosed, please contact myself or Jennifer St Paul Butler, Environmental Analyst, at your convenience.

Respectfully,

A handwritten signature in black ink, appearing to read "O. Curran", with a stylized flourish at the end.

Oliver Curran, Director
Sustainable Development

Enclosures (1)
Appendix A Response to NIRB Board Recommendations

Response to NIRB's 2014 Annual Monitoring Report					
Recommendation Number	Condition Number	Condition	Commentary	Recommendation	Response
1	58	<p>Within its annual report to the NIRB, the Proponent shall incorporate a review section which includes:</p> <p>a. An examination for trends in the measured natural variability of Valued Ecosystem Components in the region relative to the baseline reporting;</p> <p>b. A detailed analysis of wildlife responses to operations with emphasis on calving and post-calving caribou behaviour and displacements (if any), and caribou responses to and crossing of the railway, the Milne Inlet Tote Road and associated access roads/trails;</p> <p>c. A description of the extent of dust fall based on measured levels of dust fall (fugitive and finer particles such as TSP) on lichens and blueberries, and ash content of caribou fecal pellets;</p> <p>d. A demonstration and description of how the monitoring results, including the railway, road traffic, air traffic and dustfall contribute to cumulative effects of the project;</p> <p>e. Any proposed changes to the monitoring survey methodologies, statistical approaches or proposed adaptive management stemming from the results of the monitoring program;</p> <p>f. Any updates to information regarding caribou migration trails. Maps of caribou migration trails, primarily obtained through any new collar and snow tracking data, shall be updated (at least annually) in consultation with the Qikiqtani Inuit Association and affected communities, and shall be circulated as new information becomes available.</p>	<p>Condition 58 (item c) of the Mary River Project Certificate require that the Proponent report on the measured levels of dust fall on vegetation, and ash content of caribou fecal pellets. While Baffinland had indicated within its Terrestrial Monitoring Report that it collected caribou faecal pellets as a part of its terrestrial monitoring program, results of ash content for the caribou pellets collected have not been provided to the NIRB.</p>	<p>The Board requests that Baffinland provide results and analyses of the ash contents of caribou pellets collected for the monitoring period. It is requested that this reporting gap be addressed and incorporated in the Proponent's Terrestrial Monitoring Report and presented in Baffinland's next annual reporting to the NIRB.</p>	<p>Ash content of caribou pellets has not been analyzed because of insufficient sample size. Although pellet collection has been a task assigned to all terrestrial ecosystem monitoring crews working throughout the study area, very few observations of pellet groups have been made, resulting in limited collections of pellet groups. Analyses will be considered if a sufficient number of samples are collected to provide a robust estimate of mean ash content and variability values.</p> <p>As noted in the 2013 Terrestrial Annual Report (EDI 2014) there are few caribou within the Mary River study area. A few (~ 3) pellet groups were collected during field surveys in 2013. Regardless of the ground covered by terrestrial ecosystem survey crews in 2014, there were few faecal pellets observed or collected, and none of the samples were considered fresh. Three faecal samples were collected in 2014; one collected ~4km east of Nina Bang Lake (70.508, -79.003) and two near the proposed bridge crossing area on Ravn River (71.132, -78.357 and 71.132, -78.358). Although analysis of fecal pellet collections has not yet been completed, fecal pellets continue to be collected when encountered within the RSA and will form part of a collection that can eventually be analysed.</p> <p>Gathering fresh caribou fecal pellets and preserving the samples will continue to be a part of terrestrial effects monitoring. Currently, fecal pellet collection is limited because there are so few caribou in the Project area. Samples will be analyzed for ash content when a sufficient sample of fresh pellets are collected.</p>
2	35	<p>The Proponent shall undertake monitoring of baseline metal levels in organ tissue from caribou harvested within the local study area, prior to commencing operations. The proponent is strongly encouraged to coordinate with local Hunters and Trappers Organizations regarding procurement of harvested caribou organs.</p>	<p>Condition 35 requires that Baffinland undertake monitoring of baseline metal levels in organ tissue from caribou harvested within the local study area, prior to commencing operations. The NIRB noted that Baffinland has not addressed this condition.</p>	<p>The Board requests that Baffinland provide information on its monitoring program for baseline metal levels in organ tissue from harvested caribou, with specific notes on its plans to engage the Government of Nunavut (GN) and Qikiqtani Inuit Association on the program. It is requested that this condition be addressed through laboratory analyses of caribou tissue samples, with a discussion of the results. It is requested that this information be provided and incorporated in Baffinland's next annual reporting to the NIRB.</p>	<p>Changes in the health of caribou because of project activities are unlikely. Baffinland has not collected organ tissue from caribou harvested in the local study area. Baffinland will not collect organ tissues until there are indications of risk of increased metals uptake by caribou as a result of the Project. That early warning indications will be made apparent by the results of the ongoing dust fall monitoring and lichen sampling programs. Additionally, there is a very limited number of caribou using the Project area due to very low densities of caribou in the region.</p> <p>As stated in Section 4.5.4 – Caribou Health, of the TEMMP, Baffinland notes several programs that contribute to monitoring caribou health for animals that interact with the Project. Baffinland's main effort is monitoring dust fall and vegetation health. Dust fall monitoring evaluates the volume and metals content of dust accumulation at near site a far site (control) stations. Vegetation health includes monitoring metals content trends in caribou forage (lichen) and lichen recovery (abundance) in the study area. The results of those ongoing programs, data for which have been provided in 2012, 2013, and soon to be made available in 2014 annual reporting, remain the best indicators of potential risks to caribou health as a result of the Project. Baffinland also acknowledges support of the Government of Nunavut Department of Environment's recently initiated regional caribou health monitoring program. Baffinland's support and willingness to participate in that program have been discussed in the Terrestrial Environment Working Group, meetings as noted in the meeting minutes provided to the NIRB in the annual report. That program may involve the collection of organ tissue, but the analyses methods and results are conducted to meet the objectives of that program. Baffinland is not prepared to conduct additional organ tissue collection programs for any purposes outside of the support of the Government of Nunavut's caribou health monitoring program.</p>
3	27	<p>The Proponent shall include within its public consultation report information related to the sentiments expressed by affected communities about the impacts that changes to the topography and landscape have had on the aesthetic value of the Project area.</p>	<p>Pursuant to Condition 27, the Proponent is required to include within its public consultation report, information related to the concerns expressed by affected communities about the impacts of the Project on topography and landscape. This information may result in the Proponent's implementation of mitigation measures to ensure that impacts of the Project on topography or landscape are minimized; however the NIRB has yet to receive Baffinland's report on this condition.</p>	<p>The Board request that Baffinland provide information related to the concerns expressed by affected communities about the impacts of the Project on topography and landscape as required by Condition 27. It is requested that this information be provided and incorporated in Baffinland's next annual reporting to the NIRB.</p>	<p>Baffinland will note concerns specifically referencing topography and landscape in the annual report to the NIRB.</p>
4	48 (a)	<p>The Proponent shall develop plans to conduct additional surveys for the presence of arctic char in freshwater bodies and ongoing monitoring of arctic char health where applicable, within watersheds proximal to the mine, tote road and Milne Inlet Port project development areas, including but not limited to, Phillips Creek, Tugaat and Qurluktuk. The Proponent shall consult with the MHTO regarding the design, timing, and location of proposed surveys and ongoing monitoring.</p>	<p>In accordance with Condition 48(a), Baffinland is required to provide plans to conduct additional surveys for the presence of arctic char in freshwater bodies and implement ongoing monitoring of arctic char health in areas affected by the Project. Baffinland has not fully complied with this condition as it has not provided the NIRB with the required information.</p>	<p>The Board requests that Baffinland provide a plan to survey the population of arctic char in freshwater bodies, and implement monitoring of arctic char health in areas affected by the Project, as well as a discussion as to how this plan was informed through consultation with the Mittimatalik Hunters and Trappers Organization. It is requested that this information as well as any results of monitoring that may be initiated, be provided and incorporated in Baffinland's next annual reporting to the NIRB.</p>	<p>The monitoring of arctic char in freshwater is covered in the Aquatic Effects Monitoring Program, developed in consultation over a period of more than a year with various regulators including Environment Canada, DFO, QIA and required by the Type A Nunavut Water Board license 2AM-MRY1325. The finalized program was submitted to the NWB on June 27, 2014, and monitoring results will be presented in both the annual report to the Nunavut Water Board as required by the permit, and to the Nunavut Impact Review Board, as required by the amended project certificate of May, 2014.</p>

5	68	<p>The Proponent shall ensure flashing red, red strobe or white strobe lights and guy-wire deterrents are used on communications towers established for the Project. Consideration should also be given to reducing lighting when possible in areas where it may serve as an attractant to birds or other wildlife.</p>	<p>Condition 68 requires that Baffinland ensure flashing red, red strobe or white strobe lights and guy-wire deterrents are used on communications towers established for the Project. Based on the follow-up of this item from the preceding to the current monitoring period, it was noted that Baffinland has yet to provide updates or information to the Board on how it plans to comply with this condition.</p>	<p>The Board requests that Baffinland provide updates on its bird deterrence efforts, and information as to when it intends to engage Transport Canada’s Aerodrome and Air Navigation process for installation of communication towers. It is requested that this information be provided within 45 days’ receipt of the Board’s recommendations.</p>	<p>Baffinland acknowledges that there are potential interactions between birds and communication towers. However, Baffinland is not prepared to implement these general deterrence measures because 1) the guidelines provided likely do not apply to the structures on site or environmental conditions, and 2) It is unknown that there are interactions. Baffinland cannot support modification of these structures unless there is a compelling reason (i.e., interaction with birds) to do so.</p> <p>Project Condition 68 is specific to bird deterrence on guy wires for communication towers. “The Proponent shall ensure flashing red, red strobe or white strobe lights and guy-wire deterrents are used on communications towers established for the Project. Consideration should also be given to reducing lighting when possible in areas where it may serve as an attractant to birds or other wildlife.”</p> <p>Two communications towers, one each at km 33 and km 66 on the Tote Road, were erected in late summer 2013. The towers are ~ 30 m high with four guy wires each from ~ mid-height at ~45 degree angle to ground anchors. Each tower has a flashing red strobe at the top to accommodate potential navigation concerns. There are no deterrents on the guy wires. Deterrents have not been added to the guy wires because a) the project condition is based on bird collisions with towers > 100 m tall in distinct migratory bird corridors in the eastern United States and b) it is unknown if there are bird interactions with 30 m tall communication towers on Baffin Island with limited periods of darkness when birds are present on site. Any deterrence structures or strobe lights would be unproven, and not necessarily even precautionous until it is known that these structures are an obstacle to bird flight. Further, there has been no specific guidance about the specific strobe lights or guy wire deterrence that should be applied in these circumstances.</p> <p>Baffinland cannot move forward with deterrence measures until a) more information on the nature of interaction with the structures is determined, and b) specific guidance an practical deterrence measures are provided. To address the issue of unknown interaction of the communication structures with birds, Baffinland started monitoring the towers for potential bird mortalities in May 2014, likely near the end of spring migration as migratory birds arrived on site. There has been no indication of bird mortality associated with the towers, but it is acknowledged that the monitoring does not account for likely scavenging of bird carcasses, should they occur at the towers. This Project condition is likely to be discussed further within the TEWG to determine the need for further investigation into specific guidance and applicability from Environment Canada, Canadian Wildlife Service.</p>
6	174	<p>The Proponent and the Canadian Coast Guard are required to provide spill response equipment and annual training to Nunavut communities along the shipping route to potentially improve response times in the event of a spill.</p>	<p>Pursuant to Condition 174, Baffinland and the Canadian Coast Guard are required to provide spill response equipment and annual training to Nunavut communities along the shipping route to potentially improve response times in the event of a spill. While Baffinland indicated within its annual reporting to the NIRB that it conducted Marine Spill Response Training from August 5-10, 2013 at Mary River and Milne Inlet, the Canadian Coast Guard did not participate in the exercise, and no indication of meetings held with communities along the shipping route was provided. Similarly, no mention was made of equipment provided to communities along the route.</p>	<p>The Board requests that Baffinland and the Canadian Coast Guard provide the NIRB with an update as to plans to provide spill response equipment and annual training to Nunavut communities along the shipping route during the 2015 year. In addition, a discussion should be provided as to how the training and equipment are expected to help improve upon response times in the event of a marine spill. It is requested that this update be provided within 45 days’ receipt of these recommendations, and that additional information and evidence of meetings held and materials provided be included within the Proponent’s next annual reporting to the NIRB.</p>	<p>Baffinland cannot speak for the Canadian Coast Guard; however, Baffinland has held two spill training exercises (one in 2013, and one in 2014), both with a representative from Pond Inlet in attendance, in the interest of that person informing their home community. Translation was provided by our site Elder-in-Residence so all technical terms and activities were fully communicated.</p> <p>In addition, as noted in the 2013 Annual Report to the NIRB, Baffinland has contracted a world-class third-party response organization, based in the UK, called OSRL. This organization has been involved in fuel spill modelling and emergency preparedness with the Company. Spill response is a very complicated issue the Company takes very seriously and in this regard has held one multi-party workshop (which included federal regulators, QIA, Pond Inlet community members, HTO, OSRL, and Baffinland) on April 16, 2014. Any relevant documentation will be included in the annual report to the NIRB.</p>
7	105, 120	<p>The Proponent shall ensure that measures to reduce the potential for interaction with marine mammals, particularly in Hudson Strait and Milne Inlet, are identified and implemented prior to commencement of shipping operations. These measures could include, but are not limited to:</p> <p>a. Changes in the frequency and timing (including periodic suspensions) of shipping during winter months in Hudson Strait and during the open water season in Milne Inlet, i.e., when interactions with marine mammals are likely to be the most problematic;</p> <p>b. Reduced shipping speeds where ship-marine mammal interactions are most likely; and</p> <p>c. Identification of alternate shipping routes through Hudson Strait for use when conflicts between the proposed routes and marine mammals could arise. Repeated winter aerial survey results showing marine mammal distribution and densities in Hudson Strait would greatly assist in this task.</p>	<p>The GN indicated that Baffinland’s marine mammal monitoring program has not sufficiently accounted for polar bears as required under term and conditions 105 and 120 of the Project Certificate.</p>	<p>The Board requests that Baffinland, in consultation with the Government of Nunavut, work to improve baseline data and refine study design for polar bear monitoring in the Project area, including the northern shipping route. It is requested that this information be provided and incorporated in Baffinland’s next annual report to the NIRB.</p>	<p>NIRB Condition 120 identifies mitigation procedures to be followed by project shipping while in the vicinity of marine mammals (including polar bears). As per the Shipping and Marine Wildlife Management Plan (SMWMP) (Sec 5.3) these mitigation measures are in force and procedures in place to ensure their implementation. Additionally, shipboard monitoring has been conducted and , to date, has not identified any instance where the occurrence of polar bears or other marine mammals have required the implementation of these mitigation measures. Baffinland continues to develop monitoring measures to ensure that there is adequate detection of the presence of marine mammals in the vicinity of shipping.</p> <p>NIRB Condition 105 identifies candidate measures that would be considered for implementation as required to reduce the potential for interactions with marine mammals (including polar bears) during Project operations. Pilot monitoring programs are currently in place during Project construction with the intent of identifying the nature and extent of interactions between shipping and marine mammals (including polar bears). These monitoring programs have been developed with input from members of the MEWG. The main focus of these programs is with the more vulnerable species, but includes (as per NIRB direction) all marine mammals.</p> <p>Baffinland will continue to consult with the Government of Nunavut and refine study design for polar bear monitoring if required as relevant to potential Project interactions, and in a manner that meets EEM design criteria.</p>
8	8	<p>The Proponent shall demonstrate through monitoring of air quality at the mine site and at the Steensby Inlet and Milne Inlet port sites that SO2 and NO2 emissions remain within predicted levels and, where applicable, within limits established by all applicable guidelines and regulations. In cases where exceedances are manifested, the Proponent shall provide an explanation for the exceedance, a description of planned mitigation, and shall conduct additional monitoring to evaluate the effectiveness of mitigative measures.</p>	<p>Condition 8 requires that the Proponent demonstrate through monitoring of air quality at the mine site and at the Steensby Inlet and Milne Inlet port sites that SO2 and NO2 emissions remain within predicted levels and within regulatory limits. It was noted that the Baffinland has not complied with the requirement of air quality monitoring.</p>	<p>The Board requests that Baffinland implement an air quality monitoring program, and account for the measurements of SO2 and NO2 emissions around point source locations. It is requested that evidence of monitoring through emission data be provided in Baffinland’s next annual report to the NIRB.</p>	<p>Baffinland has implemented an air quality monitoring program at the Mine Site and Milne Port. A report will be included in the next annual report to the NIRB.</p>

9	54	<p>The Proponent shall provide an updated Terrestrial Environmental Management and Monitoring Plan which shall include, but not be limited to the following:</p> <p>a. Details of the methods and rationale for conducting monitoring prior to the commencement of construction;</p> <p>b. Monitoring for caribou presence and behavior during railway and Tote Road construction;</p> <p>c. Description and justification of statistical design or other means of determining effect and proposed analyses to support the conclusions drawn from monitoring impacts of the mine and related infrastructure on wildlife;</p> <p>d. Details of monitoring and mitigation activities, which should be established in collaboration with the Terrestrial Environment Working Group and are expected to include:</p> <p>i. Dust fall (fugitive and Total Suspended Particulates), that addresses methods to reduce risk to caribou forage from dust fall;</p> <p>ii. Snow track surveys during construction and the use of video-surveillance to improve the predictability of caribou exposure to the railway and Tote Road. Using the result of this information, an early warning system for caribou on the railway and Tote Road shall be developed for operation.</p> <p>e. Details of monitoring thresholds related to level of mitigation and management; and</p> <p>f. Details of a comprehensive hunter harvest survey to determine the effect on caribou populations and potential effects on caribou behaviour resulting from increased human access caused by upgrades to the Milne Inlet tote road (and any other roads if they are shifted from private to public use) and increase local knowledge of the mine site, including establishing pre-construction baseline harvesting data.</p>			
	55	<p>The Proponent shall develop an adaptive management plan applicable to wolves and wolf habitat in collaboration with the Government of Nunavut-Department of Environment (GN-DOE) to ensure compliance with the Nunavut Wildlife Act. Consideration must be given to the following:</p> <p>a. Monitoring for active wolf dens within a 10 km radius from the mine site, under the direction and prior approval of the GN DOE, and reporting the results through NIRB's Annual Reports on terrestrial wildlife in the Potential Development Area (PDA);</p> <p>b. Estimating the available (glacio-fluvial materials) esker habitat within the Regional Study Area/PDA and identifying such habitat as ecologically sensitive</p> <p>c. Developing "wolf indices" for presence/abundance of wolves (by conducting studies) to set a baseline pre-construction baseline;</p> <p>d. Ensuring that wolf monitoring is capable of determining the relative abundance and distribution of wolves in the Project Development Area over time</p>	<p>Pursuant to conditions 54 through 58, Baffinland is required to mitigate and monitor Project-related impacts to wildlife. Baffinland had indicated that it adopted techniques such as height-of-land (HoL) caribou surveys, caribou fecal pellet collection and incidental observations for its terrestrial monitoring program. The GN, however, noted that HoL surveys and incidental observations were insufficient for monitoring impacts on wildlife.</p>	<p>The Board requests that Baffinland consider, in consultation with the GN, improvements to the techniques or tools used to monitor interactions of wildlife with the Project. It is suggested that this condition be addressed through the Proponent's consideration of various field techniques and survey methodologies for monitoring wildlife interactions and Project impacts on wildlife. It is requested that this information be provided and incorporated in Baffinland's next annual reporting to the NIRB.</p>	<p>Relevant surveys for monitoring Project effects on terrestrial wildlife are in place for the Project, and are clearly justified in the Terrestrial Ecosystem Mitigation and Monitoring Plan. These plans have been made apparent in all versions of the TEMMP and discussed in detail at four Terrestrial Ecosystem Working Group meetings, all of which the GN has been present. The comments from the GN are not specific nor do they suggest alternative approaches for effects monitoring. As per Project Commitment 58 and Project Condition 51, Baffinland is willing to support broader regional initiatives when practical and relevant to our Project activities. Baffinland continues to discuss regional monitoring initiatives with the GN.</p>
	56	<p>The Proponent shall develop a strategy for the recovery of terrestrial wildlife habitat in a progressive manner that is consistent with the Nunavut Wildlife Act. Overall, this will require the integration of a decision-making process and the identification of mitigation responses to cumulative impacts on caribou survival, breeding propensity, and population dynamics.</p>			
	57	<p>The Proponent shall report annually regarding its terrestrial environment monitoring efforts, with inclusion of the following information:</p> <p>a. Description of all updates to terrestrial ecosystem baseline data;</p> <p>b. A description of the involvement of Inuit in the monitoring program;</p> <p>c. An explanation of the annual results relative to the scale of the natural variability of Valued Ecosystem Components in the region, as described in the baseline report;</p> <p>d. A detailed presentation and analysis of the distribution relative to mine structures and activities for caribou and other terrestrial mammals observed during the surveys and incidental sightings;</p> <p>e. Results of the annual monitoring program, including field methodologies and statistical approaches used to support conclusions drawn;</p> <p>f. A summary of the chronology and level of mine activities (such as vehicle frequency and type);</p> <p>g. An assessment and presentation of annual environmental conditions including timing of snowmelt, green-up, as well as standard weather summaries; and</p> <p>h. A discussion of any proposed changes to the monitoring survey methodologies, statistical approaches or proposed adaptive management stemming from the results of the monitoring program.</p>			
	58	<p>Within its annual report to the NIRB, the Proponent shall incorporate a review section which includes:</p> <p>a. An examination for trends in the measured natural variability of Valued Ecosystem Components in the region relative to the baseline reporting;</p> <p>b. A detailed analysis of wildlife responses to operations with emphasis on calving and post-calving caribou behaviour and displacements (if any), and caribou responses to and crossing of the railway, the Milne Inlet Tote Road and associated access roads/trails;</p> <p>c. A description of the extent of dust fall based on measured levels of dust fall (fugitive and finer particles such as TSP) on lichens and blueberries, and ash content of caribou fecal pellets;</p> <p>d. A demonstration and description of how the monitoring results, including the railway, road traffic, air traffic and dustfall contribute to cumulative effects of the project;</p> <p>e. Any proposed changes to the monitoring survey methodologies, statistical approaches or proposed adaptive management stemming from the results of the monitoring program;</p> <p>f. Any updates to information regarding caribou migration trails. Maps of caribou migration trails, primarily obtained through any new collar and snow tracking data, shall be updated (at least annually) in consultation with the Qikiqtani Inuit Association and affected communities, and shall be circulated as new information becomes available.</p>			

10	57 (e and h)	<p>The Proponent shall report annually regarding its terrestrial environment monitoring efforts, with inclusion of the following information:</p> <p>e. Results of the annual monitoring program, including field methodologies and statistical approaches used to support conclusions drawn;</p> <p>h. A discussion of any proposed changes to the monitoring survey methodologies, statistical approaches or proposed adaptive management stemming from the results of the monitoring program.</p>	<p>Condition 57 (items e and h) requires that the Proponent provide information on its field methodologies and statistical approaches used to support conclusions drawn. The GN noted that Baffinland had not applied statistically analyzed data of cliff nesting raptors, caribou, and other terrestrial mammals.</p>	<p>The Board request that Baffinland integrate the statistical tools necessary to support conclusions on its terrestrial monitoring program. It is recommended that this condition be addressed through the application of statistical analyses for birds, caribou and other wildlife within the Project Development Area. It is requested that evidence of the use of statistical techniques for terrestrial monitoring be incorporated in the Proponent's next annual reporting to the NIRB.</p>	<p>Statistical analyses for cliff nesting raptors have been provided in the 2012, 2013 and forthcoming 2014 terrestrial annual monitoring reports. The design of the surveys for raptor occupancy and productivity Project effects monitoring is being completed for the 2014 terrestrial annual monitoring report. Those methods include various statistics relevant to Project effects monitoring. Methods will also be included in updated versions of the Terrestrial Ecosystem Mitigation and Monitoring Plan (TEMMMP).</p> <p>It is unclear what the GN is requesting for statistical analyses for caribou and other terrestrial mammals. Since the start of baseline studies in 2006, and particularly since the start of effects monitoring in 2012, there have been too few caribou observed within the study area to provide meaningful statistics. Caribou need to be observed interacting with the project before data can be collected to derive Project effects-related statistics.</p> <p>The wolf den survey requested by the GN in Project Condition 55a will not result in data conducive to statistical analysis either 1) active wolf dens are found, or 2) long-term multi-annual data are collected through the life of the Project.</p>
11	64	<p>The Proponent shall ensure that its Environment Protection Plan incorporates waste management provisions to prevent carnivores from being attracted to the Project site(s). Consideration must be given to the following measures:</p> <p>a. Installation of an incinerator beside the kitchen that will help to keep the food waste management process simple and will minimize the opportunity for human error (i.e. storage of garbage outside, hauling in a truck (odours remain in truck), hauling some distance to a landfill site, incomplete combustion at landfill, fencing of landfill, etc.); and</p> <p>b. Installation of solid carnivore-proof skirting on all kitchen and accommodation buildings (i.e., heavy-duty steel mesh that would drop down from the edge of the buildings/trailers and buried about a half meter into the ground to prevent animals from digging under the skirting).</p>	<p>Project Certificate term and condition 64 requires that the Proponent ensure its Environment Protection Plan incorporates waste management provisions to prevent carnivores from being attracted to the Project site. During the NIRB site visit, it was observed that the protective mesh around the landfill was significantly damaged, with some areas not properly enclosed to contain refuse or prevent access by wildlife. At the Milne Inlet site, it was also noted that the landfarm was not enclosed with a fence to prevent discarded synthetic liners or debris from been dispersed offsite by wind action or accessed by wildlife.</p>	<p>The Board requests that Baffinland provide an explanation for the deteriorated condition of the protective mesh in use at the landfill, and outline its planned corrective measures to be taken to prevent wastes from been dispersed offsite by wind action or to be accessed by wildlife at the landfill and landfarm. It is requested that this information be provided within 45 days' receipt of the Board's recommendations.</p>	<p>The Mine Site landfill receives only non-hazardous inert waste and does not receive hazardous waste, hydrocarbons, or food waste / packaging. All food-related waste is incinerated; hence, there are no wildlife attractants disposed of in the landfill. Potential windblown debris from the landfill is an aesthetic issue rather than a wildlife issue. The main control for eliminating windblown debris is by regular (weekly or bi-weekly) cover application over the exposed waste in accordance with the Landfill Operations Manual (refer to the March 2014 Waste Management Plan as submitted in the 2013 Annual Report to the NIRB). The purpose of fencing around the landfill is to control debris from being dispersed by wind action. For the reasons cited above, the purpose of the fence is not to limit wildlife access but is a secondary control to limit the blowing of inert debris onto the tundra. Due to the expanding footprint of the landfill and the high winds often observed, the current fence requires periodic relocation, maintenance, and repair which are undertaken on a regular basis. Overall, the effectiveness of the current fence type and configuration is deemed to be acceptable, however consideration is currently being given to examining potential alternative fence types and designs based on experience to date.</p> <p>With regard to the landfarm, the purpose of this facility is to provide disposal and treatment capacity for hydrocarbon contaminated soils. As such, there is typically a low risk of windblown material from the facility. During the bladder farm decommissioning this past summer, some liner material became entrained in the soils and ended up in the landfarm for temporary storage. Environmental staff and Site Services personnel ensure that this material is stable and not transported by the wind to the adjacent tundra. Next spring/summer the plan is to remove the liner from the facility and send it off site to a certified disposal facility in Southern Canada. In consideration of the above, fences around the landfarm are not required, nor are they part of the approved landfarm design.</p>
12	64		<p>Also within the landfarm, it was further observed that synthetic liners had been co-disposed with contaminated snow and soil.</p>	<p>The Board requests that Baffinland provide a rationale for the co-disposal of synthetic liners within the landfarm, describe how the landfarm is designed to address the treatment of contaminated synthetic liners, and discuss its plan for long term disposal of these materials. It is requested that this information be provided within 45 days' receipt of the Board's recommendations.</p>	<p>At the end of this past summer, the liner from the decommissioned Milne Port Fuel bladder farm was removed and temporarily stored in the landfarm over the winter 2014/2015 period. This was the liner observed by the Inspector during his site visit. During the upcoming spring and early summer of 2015, the liner material will be removed from the landfarm and placed in lined sea containers for transportation to a certified disposal facility in Southern Canada.</p>
13	N/A	N/A	<p>During the NIRB site visit, it was observed that sewage sludge from the Membrane Bioreactor (MBR) was contained in what appeared to be non-biodegradable bags and disposed of in an external containment unit without a protective lid or cover. Although there are no specific terms and conditions regarding the regular operation of the MBR or disposal methods, general waste management practices at the Project site are certainly expected to be consistent with best practices.</p>	<p>The Board requests that Baffinland consider employing best practices that incorporate the use of containment with protective covers for sludge disposal. It is requested that a plan of action to this effect be provided within 45 days' receipt of the Board's recommendations.</p>	<p>The operation of the MBR is based on the Freshwater Supply, Sewage, and Wastewater Management Plan (January 2014) as submitted in the 2013 Annual Report to the NIRB. The dewatered sewage sludge "cake" observed by the Inspector is transferred expeditiously to the onsite Incinerator. Upon burning, all incinerator bottom ash is analyzed in accordance with the <i>Environmental Guidelines for Industrial Waste into Municipal Solid Waste and Sewage Treatment Facilities</i> prior to either disposal in the inert non-hazardous waste landfill or shipment off-site to certified disposal facilities in Southern Canada. Baffinland employs certified/experienced sewage treatment plant operators who operate their facility based on best practice. It is Baffinland's opinion that best practices are currently followed in this respect and no additional actions are required at the present time.</p>
14	24, 46	<p>The Proponent shall monitor as required the relevant parameters of the effluent generated from Project activities and facilities and shall carry out treatment if necessary to ensure that discharge conditions are met at all times.</p>	<p>Conditions 24 and 46 stipulate that Baffinland monitor relevant parameters of on-site effluent generated and ensure that runoff from facilities meets discharge requirements. It was noted during the NIRB's September 2014 site visit that what appeared to be oil contaminated liquid waste was on the floor of the incinerator facility at Milne Port, and that the material was entering the floor drain. While the specific source of the leakage could not be confirmed, there is concern that the containment in use at the facility may not be effective for the management of liquid wastes.</p>	<p>The Board requests that Baffinland discuss the source of the liquid waste on the floor of the incinerator facility, and that it confirm the end point for the runoff observed to be entering the drainage system. Further, it is requested that Baffinland provide more information on how such liquid wastes, or the resulting runoff, are sampled and treated prior discharge into the receiving environment. It is requested that this be provided within 45 days' receipt of the Board's recommendations.</p>	<p>The incinerator is housed within the Waste Management Building/Facility. During the routine handling, processing, and packaging of waste within the Waste Management Building, it is typical from time to time for small quantities of waste to be released onto the impermeable concrete floor of the Waste Management Building. It should be noted that the the Waste Management Building is a concrete floored structure that is constructed with a self-contained sump that does not have a drain. The sump is based on an engineered design that includes a small secure storage capacity for minor volumes of liquids that happen to be released to the floor from time to time during waste handling operations. Any liquids that drain to the sump are stored in drums that are placed within lined and secure secondary containment. It is estimated that during the course of a year, the volume of liquids collected in the sump would typically be no more than a drum or two. The current plan for collected sump liquids is to classify and label them as mixed liquid waste and backhaul them to a certified disposal facility in Southern Canada. Therefore, based on the foregoing, the small volume of liquid that the Inspector observed on the concrete floor is of no consequence in consideration of the concrete floor and sump design and disposal practices. The Inspector is directed to our Waste Management Plan (March 2014) and our Hazardous Waste Management Plan (March 2014) submitted with the 2013 Annual Report to the NIRB for further information regarding the management and disposal of wastes on site. It is Baffinland's opinion that the current plan is adequate and that no additional actions on this item are required at this time.</p>
15		<p>The Proponent shall ensure that runoff from fuel storage and maintenance facility areas, sewage and wastewater other facilities responsible for generating liquid effluent and runoff meet discharge requirements.</p>		<p>The Board requests that Baffinland conduct inspections of waste containment units for leakages on a regular basis, and implement appropriate measures to prevent future leakages or runoff of untreated wastes into the drainage system. It is requested that a discussion of Baffinland's plan to implement these measures be provided within 45 days' receipt of the Board's recommendations.</p>	

16	20	The Proponent shall monitor the effects of explosives residue and related by-products from project-related blasting activities as well as develop and implement effective preventative and/or mitigation measures, including treatment, if necessary, to ensure that the effects associated with the manufacturing, storage, transportation and use of explosives do not negatively impact the Project and surrounding areas.	Given the ongoing blasting activities on site, and the likelihood for the occurrence and potential runoff of ammonia nitrate residues from blasted areas, the NIRB was not made aware of any system in place that specifically addresses the monitoring of explosives residue or related by-products.	The Board requests that Baffinland provide information on site-specific initiatives being adopted for monitoring the potential effects of explosives residue or related by-products in the Project areas. It is requested that this be provided within 45 days' receipt of the Board's recommendations.	Under the monitoring program detailed in Water Licence 2AM-MRY1325, monitoring locations for surface discharge downstream of construction areas, quarries, ore stockpiles, and waste rock stockpiles have been established. The schedule and scope of analyses, also detailed in the Water Licence, includes among other parameters, nitrogen compounds and acute toxicity. Other downstream sampling locations have been established as part of the approved Aquatics Effects Management Plan (June 2014). The results from water licence monitoring programs are provided in monthly and annual reports for the Nunavut Water Board and the landowner, QIA. Baffinland works proactively with our AANDC and QIA Inspectors to ensure the adequacy and acceptability of the water quality monitoring network for the Project, and to the best of our knowledge there are no concerns with respect to this aspect of our Project. Therefore, since the information requested is already available in the form of our Type A Water Licence and periodic monitoring reports, it is Baffinland's opinion that no further action is required.
17	N/A	N/A	During the NIRB site visit, it was noted that signage around the Project site did not incorporate Inuktitut to delineate potentially dangerous or hazardous site areas (e.g. blasting zones). This is important in order to ensure all Project employees are aware of safety and other general considerations on site, and is especially important in consideration of Inuit employees and potentially travelers who may be on site.	The Board requests that Baffinland provide a plan of action as to its incorporation of Inuktitut for use of all signage and other site-specific and safety documentation and postings. It is requested that Baffinland provide the Board with its plan of action to include Inuktitut within all signage and site-specific and safety documentation and postings within 45 days' receipt of the Board's recommendations.	The use of Inuktitut in the workplace is discussed within section 11 of the IIBA, "Workplace Conditions", specifically section 11.4 which acknowledges that the working language of the mine will be English but the company supports the principle of increased usage of Inuktitut over the life of the project. As per section 11.4.8, the Company has focused on ensuring as a first priority that we "provide translation and interpretation services as are necessary for all employees to function safely, effectively and comfortably." As well as per section 11.4.9 we ensure that "all staffing documents and processes, including notices, applications and interviews are available in and can be completed in Inuktitut." This is done primarily through translation of job postings and use of our Community Liaison officers. The Company and the QIA meet monthly through the Management Committee and quarterly through the Executive Committee to discuss IIBA items including section 11 of the IIBA.
	N/A	N/A	N/A	N/A	The NIRB report incorrectly attributes Baffinland as encountering an exotic species (common dandelion, Taraxacum officinale) during field surveys. Baffinland has not encountered any exotic or invasive plant species, and this is summarized in the forthcoming 2014 annual terrestrial ecosystem monitoring report to be submitted in the 2014 Annual Monitoring Report to the NIRB.