Baffinland
Iron Mines Corporation

February 28, 2007

Sophia Granchinho
Technical Advisor
Nunavut Impact Review Board
P.O. Box 1360
Cambridge Bay, NU
X0B 0C0

Ms. Granchinho:

Re: Response to Comments Regarding Baffinland Geotechnical Drilling Program

File References:

NIRB No.:07EN004
INAC No.: N2006C0036
DFO No.: NU-07-0002
QIA No.:Q05L2C14

Baffinland Iron Mines Corporation is pleased to respond to the questions and comments received regarding the above-mentioned proposal.

Department of Fisheries and Oceans Letter of Advice, dated February 20, 2007

The project proposal as submitted has not changed, and Baffinland acknowledges and agrees to abide by the terms and conditions outlined in the DFO letter of advice.

Indian and Northern Affairs Canada Letters dated February 5 and 16, 2007

The February 5 letter states that INAC concurs that the proposed geotechnical drilling program and the proposed bulk sampling program are separate proposals, and comments that cumulative effects of the two project proposals should be considered by NIRB. We note that, since the geotechnical drilling program proposal was submitted in advance of the bulk sampling program proposal, that it does not consider cumulative effects of the two projects, cumulative effects is addressed in the second project proposal, the bulk sampling program.

The February 16 letter states that INAC is of the opinion that with appropriate mitigation, the project is not likely to cause significant adverse environmental effects. No response to this letter is deemed necessary.

Baffinland Iron Mines Corporation
Suite 1016 120 Adelaide Street West, Toronto, ON Canada M5H 1T1
Tel: +1 (416) 364-8820 ● Fax: +1 (416) 364-0193
www.baffinland.com

Department of Culture, Language, Elders and Youth Letter dated February 16, 2007

The Department of Culture, Language, Elders and Youth (CLEY) stated two requirements in their letter:

- Submit an Archaeological Assessment Report, after screening but prior to any ground disturbance activities; and
- That Baffinland abide by the standard Archaeological Terms and Conditions

Baffinland will comply with the above requirements. An archaeological report will be submitted in the near future.

Item #8 of the standard Archaeological Terms and Conditions state, "The permittee shall avoid the known archaeological and/or palaeontological sites listed in Attachment 1. We have not received the referenced attachment.

Comment Form Completed by Transport Canada dated February 15, 2007

The completed comment form outlines the various applicable acts and regulations administered by Transport Canada. We have provided a response to the various items in Table 1.

Comment Form Completed by Government of Nunavut, Department of Community and Government Services

No comments or recommendations were provided in this form.

February 26, 2007 E-mail from the Hamlet of Pond Inlet

The e-mail indicated that the Hamlet was in the process of issuing a commentary letter on the project proposal, but was awaiting requisite approvals within the Hamlet. Baffinland welcomes any comments of the Hamlet and will take any future submission into consideration in their program.

Environment Canada Letters dated February 5 and 16, 2007

Baffinland responded to the February 5 letter on February 8, and since the comments were not re-iterated in Environment Canada's February 16 letter, we assume our response to the earlier letter was adequate.

Within the February 16 letter, Environment Canada recommends a large number of conditions on various site activities, including drilling; camp operation; fuel storage and spill contingency planning; abandonment and restoration; airstrip; migratory birds and species at risk. For ease of reference, we have included these comments and our responses in the attached Table 2.

Government of Nunavut, Department of Environment Letter dated February 14, 2007

The comments received by the department regarding wildlife, and our corresponding answers, have been organized in Table 3. Knight Piésold prepared the answers regarding wildlife on our behalf. Baffinland included further actions, where applicable, within its response. These further actions are summarized as follows:

- Continue collecting and compiling wildlife baseline data, and identify critical habitat and avoid impacts based on current knowledge.
- Support a Government of Nunavut initiated caribou collaring program and a peregrine falcon research project, in addition to Baffinland's baseline studies
- Conduct a wildlife assessment report for submission to DOE (we suggest mid-April 2007)
- Comply with caribou protection measures
- Contact local HTO and Wildlife Officer in the event of a defense polar bear kill.
- Initiate discussions with the Mittimatalik Hunters and Trappers Organization and Igloolik Hunters and Trappers Association regarding compensation for any future defense kills of polar bear.
- Undertake the following with respect to air traffic:
    - Minimize the number of flights;
    - Implement a 610 m flight altitude minimum; 1,000 m near concentrations of birds
    - Avoid caribou calving grounds between May 15 and July 15. After July 15, post calving areas known to have aggregations of caribou will be avoided
    - Avoid a large concentration of wildlife, (i.e., Migratory Bird Sanctuaries, breeding colonies and caribou calving grounds), and take alternate routes
    - Plan routes that are likely to have least occurrences of wildlife
    - Use small aircraft rather than large aircraft whenever possible
    - Hovering or circling may greatly increase disturbances and must be avoided
    - Use fixed-wing aircraft rather than helicopters whenever possible
    - Inform pilots of the wildlife sensitive areas
    - Pilots to report caribou movements and locations during calving and post-calving periods, so that these areas can be avoided

All other comments from the Department of Environment have been included in Table 4. Further actions have been outlined within the table.

Changes to the Spill Contingency Plan and Abandonment & Restoration Plan

The above comments, particularly those from the Department of Environment and Environment Canada, have resulted in improvements to both these plans. Baffinland has not attached these revised reports in the interest of brevity, but will file the updated plans with the Nunavut Water Board in the near future, and copy each of these two agencies at that time.

Closure

We thank the respective agencies for their helpful input and trust our responses address any outstanding items. Any further comments or questions can be directed to the undersigned, and Baffinland will endeavour to respond in a timely manner.

Yours sincerely,

Baffinland Iron Mines Corporation

[original signed by]

Rodney (Rod) Cooper, P.Eng.
Vice President, Operations

c.c. Steve Aiken and Richard Cook, Knight Piésold
Carolanne Inglis-McQuay, Nunavut Impact Review Board
Malachi Arreak, Hamlet of Pond Inlet
Mike Atkinson, Department of Environment, Government of Nunavut
Julie Ross, Department of Culture, Language, Elders and Youth, Government of Nunavut
Spencer Dewar and Carl McLean, Indian and Northern Affairs Canada
Cindy Parker and Colette Spagnuolo, Environment Canada
Sandra Cashin, Transport Canada
Tania Gordanier, Department of Fisheries and Oceans

Attachments:

Table 1 Response to Comments/Recommendations from Transport Canada
Table 2 Response to Comments/Recommendations from Environment Canada
Table 3 Response to Comments/Recommendations from Department of Environment – Part 1
Table 4 Response to Comments/Recommendations from Department of Environment – Part 2
Figure 1 Regional Air Traffic Patterns
Figure 2 Mary River Site Air Traffic
Attachment 1 Caribou Protection Measures, from the North Baffin Regional Land Use Plan

Table 1
Response to Comments/Recommendations from Transport Canada

COMMENT	RESPONSE	FURTHER ACTION (IF REQUIRED)
Work Impacting Navigable Water		
The proponent is required to submit Navigable Waters Protection Act application(s) to the Navigable Waters Protection Program (NWPP) for any works to be built or placed in, on, over, under, through, or across any navigable water, in order to obtain NWPP approval, promulgation or exemption for each specific work. If the proponent is uncertain of the NWPP requirements for a specific work, please contact the following NWPP office:	Thank you for the contact information.	
Aerodrome Safety – Airstrip use		
The airstrips are required to operate in accordance with Canadian Aviation Regulations (CARs 301). These regulations apply to all aerodromes that not military or certified (Aerodromes that are used for scheduled aircraft operations are required to be certified).	Thank you for the reference; which will be of good guidance in subsequent phases of the project.	
Aerodrome Safety – Aerodrome fuel storage		
Transport Canada recommends that the proponent review the Aerodrome Safety Circular (ASC 2006-029) to inform aerodrome operators of the CSA publication (B836-00 Storage, Handling and Dispensing of Aviation Fuels at Aerodromes). This document provides standards and the best practices of the industry for fueling activities, and may be found at the following link:	Thank you for the reference; which will be of good guidance in subsequent phases of the project.	
Aerodrome Safety – Proposed Wind Tower Installation		
Any structure that may pose a hazard to aviation safety should be assessed by Transport Canada Aerodrome Safety. The proponent is required to submit an Aeronautical Obstruction Assessment Form (26-0427) to determine whether or not the wind tower is a hazard. If so, marking and lighting requirements are to conform to the specifications found in the Canadian Aviation Regulations (CAR) Standards 621.19.	With respect to the test wind tower installation, the tower is less than 90 m in height, and as such does not require an Aeronautical Evaluation and is not considered an obstruction requiring marking and/or lighting. The tower is also 12 km from the Mary River airstrip. Nevertheless, Baffinland is in the process of registering the tower with Transport Canada.	

Aerodrome Satefy – Marine Safety		
Transport Canada's Marine Safety division is responsible for maintaining the safety and security of marine transportation for operators and various sized vessels. Marine Safety also promotes the safe and secure use of Canada's waters through its role in marine security, infrastructure and the transport of dangerous goods. References to Marine Safety roles can be accessed on the Transport Canada – Marine Safety Internet site http://www.tc.gc.ca/marinesafetv/menu.htm. Marine Safety also performs a key role in Canada's marine transportation system by developing and administering the Acts and Regulations that support and protect the marine environment. Two legislative platforms for controlling the activities of ships operating in Canadian Arctic waters exist: the Canada Shipping Act (CSA) and the Arctic Waters Pollution Prevention Act (AWPPA).	The proposed geotechnical and exploration drilling program does not have a significant marine transportation component. The sealift operator used by Baffinland is required to operate under the requirements of the *Canada Shipping Act* and *Arctic Waters Pollution Prevention Act*.	

Table 2
Response to Comments/Recommendations from Environment Canada

COMMENT	RESPONSE	FURTHER ACTION (IF REQUIRED)
Drilling		
Land based drilling should not occur within 30m of the high water mark of any water body.	This is a condition of Baffinland's water license, with exceptions as approved by the Nunavut Water Board.	Seek water board approval before drilling within 30 m of a water body.
If drilling within 30m of the high water mark is required to investigate the founding conditions for water crossings requiring bridges, EC recommends that all drill waste be directed to a properly constructed sump located above the high water mark of any water body and in such a manner as to prevent the drill waste from entering any water body frequented by fish. Sedimentation prevention measures such as the use of silt fences or curtains should be used where applicable.	Baffinland's water license states the following: *"The Licensee shall delineate through an appropriately scaled site map, include approximate GPS coordinates, and any mitigation measures in place to protect waters if filing a request to the Board to drill within thirty (30) metres of the ordinary high water mark of any water body."* Where drilling at the location of bridge abutments are required, Baffinland will submit a request to the water board describing appropriate mitigation measures, including use of a sump and sediment and erosion control measures.	Include a plan to manage drill waste in the submission to the water board for approval.
EC recommends that the proponent be required to analyze the geochemical properties of drill cores to determine whether the excavated material is acid generating and susceptible to leaching metals. If this is the case, all drill cuttings should be properly handled to protect the quality of freshwater sources.	Geochemical testing of the iron ore deposit and surrounding waste rock is currently underway. Geochemical testing will also be conducted at potential rock cut locations along potential transportation corridors. During land-based drilling, Baffinland proposes to dispose of drill cuttings in the drill hole. The cuttings will freeze inside the hole and will not be available as sediment run-off, acid generation or metal leaching.	Return drill cuttings at surface to the drill hole, at all land-based drilling locations.

Drilling additives or mud shall not be used in connection with holes drilled through lake ice unless they are re-circulated or contained such that they do not enter the water, or demonstrated to be non-toxic.	Drilling through the sea ice at potential port locations will be undertaken using drums or equivalent, to collect and re-circulate all drill water. No drill water will be released from the casing into the water. No additives or drill muds are planned for ice-based drilling.	
For “on-ice” drilling, where drill additives are not being used, return water released must be nontoxic, and not result in an increase in total suspended solids in the immediate receiving waters above the Canadian Council of Ministers for the Environment Guidelines for the Protection of Freshwater Aquatic Life (i.e. 10mg/L for lakes with background levels under 100 mg/L, or 10% for those above 100mg/L).	Drill additives will not be used during on-ice drilling, and final disposal of drill water will be within a snow berm on land more than 30 m from a waterbody.	
If an artesian flow is encountered, the drill hole shall be immediately plugged and permanently sealed.	This is a condition of Baffinland’s water license.	
The drill holes will be located with GPS and marked in the field; no other abandonment measures are proposed by the proponent. EC recommends that upon completion of the program, exposed drill casings be removed or cut off at or below the surface of the ground. Further, all sumps shall be backfilled upon completion of the field season and contoured to match the surrounding landscape.	Drill casings are not left in the ground, although there have been instances when the casing has frozen in the permafrost. In this case, the casing is cut off at surface. There are instances when instrumentation, such as thermisters, standpipes, etc. may remain in the borehole for a period of years to facilitate monitoring. Restoration of drill sumps is a requirement of Baffinland’s water license.	
It is recommended that the Proponent develop and implement a Noise Abatement Plan to protect	All equipment is equipped with noise attenuation devices (mufflers) that are maintained in good	Implement a 610 m flight altitude minimum (1,000 km near concentrations of birds). Avoid

people and wildlife from noise levels caused by exploration and drilling activities. The plan should include a commitment to use noise attenuation devices on drilling rigs and vehicles. Further, EC recommends a minimum flight altitude of 610 m above ground when flights to and from the project site are passing sensitive wildlife and bird areas.	condition. A minimum flight altitude of 300 m has been employed by the project to date in accordance with Baffinland's previous land use permit/license, and both wildlife and hunters are avoided by aircraft when spotted. Baffinland will use 610 m as a minimum flight altitude (1,000 m near concentrations of birds) during future operations, with exceptions as required. Sensitive wildlife and bird areas will be avoided.	concentrations of birds (except during wildlife surveys).
Camp		
The proponent shall not store materials on the surface ice of lakes or streams, except that which is for immediate use.	Agreed.	
Drip pans, or other similar preventative measures, should be used when refueling equipment on site.	Containment is used during fuel transfer to the extent possible, including refueling of helicopters from drums within a lined berm, or transfer of fuel from drums to jerry cans within the same containment, before refueling of small equipment.	
Given the increased camp size and proposed duration of the license, EC strongly recommends that the proponent be directed to implement a wastewater treatment system that is more suitable to the size and duration of the camp, such as a small, pre-package wastewater treatment system.	Baffinland is making plans to install a package sewage treatment system to meet the requirements of the full capacity camp in 2007.	
Section 1.12 *Inland Water Quality* indicates that a small percentage of sample parameter, including major ions, calcium, chloride and metal concentrations, exceeded various CCME guidelines for the protection of aquatic life	A weekly water quality monitoring program was implemented in 2006 at the Mary River site, to monitor site activities including drilling. Results are compared to CCME Criteria for the Protection of Freshwater Aquatic Life.	

immediately downstream of drilling activities. Contaminated surface water should be monitored, filtered and treated prior to discharge to the land. EC recommends that the water be tested against the 2003 CCME guidelines for Freshwater Aquatic Life and be directed to a properly constructed sump to ensure that any water downstream of drilling activities is not effected. Water which is suitable for discharge after treatment should be discharged in such a manner as to prevent erosion from occurring.		
Any sumps created for the disposal of camp sewage and grey water shall be located above the high water mark of any water body and in such a manner as to prevent the contents from entering any water body frequented by fish. Further, all sumps shall be backfilled upon completion of the field season and contoured to match the surrounding landscape.	This is a condition of Baffinland's water license. All current greywater sumps are situated approximately 200 m from the nearest waterbody.	
The proponent clearly indicates in *Table 1 – Identification of Environmental Impacts* that air quality is a negative and non-mitigatable environmental impact to incineration. Environment Canada recognizes that timely disposal of camp waste - specifically food waste - is of critical importance to minimize safety risks associated with wildlife attraction. Timely disposal is usually achieved through burning. However, burning of waste products releases numerous contaminants to the air, many of them persistent, bioaccummulative and toxic (e.g. polycyclic aromatic hydrocarbons - PAH's - heavy metals, chlorinated organics – dioxins and furans). These contaminants can result in serious impacts to human and wildlife	We acknowledge that there is mitigation available (and used) at the Mary River site, with respect to air quality. Modern mobile equipment is used which are equipped with mufflers and catalytic converters. A new incinerator is being mobilized to the Mary River camp. Specifications for this incinerator are forthcoming. The vendor is CJS Combustion Products in Edmonton, and the unit is a Pyrox VC-10. The unit is dual chambered with combustion in the first chamber occurring at 850ºC and at 750ºC in the second chamber. This unit will replace the current incinerator at the Mary River site.	

health through direct inhalation and they can also be deposited to land and water, where they bioaccumulate through food chains affecting wildlife and country foods. However, the use of appropriate incineration technology helps to mitigate these impacts. It is therefore recommended that the proponent use an approved incinerator and the disposal of combustible camp wastes should comply with the *Canada-Wide Standards for Dioxins and Furans*, and the *Canada-Wide Standard for Mercury*. The application currently states that a "high efficiency incinerator constructed of thick plate steel" is used on site. Environment Canada requires further information regarding the incinerator, including the manufacturing, make and model of the incinerator. The proponent should review the incineration options available and provide justification for the selected device to the regulatory authority.		
EC recommends that all non-combustible and hazardous wastes, including waste oil and left over drums of diesel, receive proper treatment and disposal at an approved facility.	Baffinland has initiated discussions with the Environmental Protection Service of the Department of Environment regarding the disposal of waste oil and off-specification fuel. The small volume of these materials generated on site to date have been incinerated, as this avoids the requirement for on-site storage of these materials at Mary River, backhaul by winter road to Milne Inlet, temporary storage at Milne Inlet, and transport by sealift to an approved waste disposal facility in the south. Baffinland will comply with the requirements of the Department of Environment in its operations in 2007.	Discuss waste oil disposal options with the Department of Environment, and comply with Nunavut requirements as out lined in the *Environmental Guideline for the General Management of Hazardous Waste*.

Used absorbent materials, oily or greasy rags, and equipment servicing wastes (such as used engine oil, antifreeze, hydraulic oil, lead acid batteries, brake fluid and other lubricants) should be safely stored and transported in sealed containers and safely transported to a facility that is authorized for the treatment and disposal of industrial hazardous wastes.	Hazardous waste will be managed and disposed of in accordance with the Department of Environment's *Environmental Guideline for the General Management of Hazardous Waste*, which outlines the requirements for registration as a generator as well as the storage, transport and disposal of hazardous wastes in Nunavut. Baffinland has initiated discussions with the department to ensure that its operations meet these requirements.	Manage hazardous wastes in compliance with the DOE guideline for hazardous waste management.
EC recommends that a **Waste Management Plan** be considered and include: • Purchasing policies that focus on reduced packaging • On-site diversion and segregation programs (i.e. the separation of non-food waste items suitable for storage and subsequent transport and disposal or recycling). • Commitment to recycling where appropriate • If incineration is required, ensure diligent operation and maintenance of the incineration device and ensure appropriate training is provided to the personnel operating and maintaining the incinerator. The objective should be to ensure that only food waste and food-contaminated waste is burned (the use of paper, cardboard and clean wood as supplementary fuel is acceptable).	A waste management plan for solid non-hazardous wastes was articulated in the permit applications submitted for the project. Considering the remote location and high cost of operating the project, the emphasis has been on minimizing waste generated, and disposing of waste through on-site incineration or transport of waste to the Pond Inlet landfill, to the extent possible.	
Fuel Storage/Spill Contingency Planning		
Environment Canada notes that the proponent proposes to store 180,000 L of diesel and 180,000L of Jet-A fuel at the Mary River camp. Given the large volume of fuel, EC strongly recommends that fuel storage tanks capable of meeting the requirements of the CCME guidance	We acknowledge the benefits of bulk fuel storage compared with drum storage. The nature of the exploration program is not entirely conducive to bulk fuel storage. The main fuel consumers in the current operations are remote drills, helicopters (refueled on occasion by remote fuel caches), and	

document “Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products” (2003) be installed at the main campsite. Consolidating the fuel into larger tanks will help minimize the risk associated with the use of approximately 2000 individual drums of fuel.	camp tent heaters, all of which require fuel in drums. Bulk fuel delivered by sealift would require construction of a fuel tank farm at Milne Inlet, and a fuel truck to haul the fuel between Milne Inlet and Mary River. An alternative would be to airlift fuel into site using bladders within aircraft, which is very expensive. After airlifting fuel to Mary River and constructing a tank farm there, a considerable volume of fuel would still need to be transferred from tanks to drums to supply drills, camp heaters, and remote helicopter fuel caches. Bulk fuel storage is proposed for the bulk sampling program (separate proposal), which is a larger scale project that will utilize trucks as primary fuel consumers, which are amenable to refueling by a fuel truck.	
Fuel storage should not exceed the quantities estimated by the proponent. The amount of fuel stored on site should only be that which is required for the geotechnical drilling program. The proponent shall ensure that mobilization activities in support of potential future stages of the Mary River project, such as the Bulk Sample, are not undertaken as these future projects have not yet undergone the approvals process.	The fuel quantities specified in the permit applications reflects the volume of fuel brought to Pond Inlet by sealift last fall, which will be airlifted to Mary River upon receipt of the appropriate approvals. This fuel reflects the requirements of 7 drills and 4-5 helicopters in support of the exploration and geotechnical drilling program of 2007, in the absence of the bulk sampling program. The bulk sampling program plans to sealift 8 million litres of fuel and construct tank farms at Milne Inlet and Mary River.	
All fuel caches shall be located above the high water mark of any water body. Further, EC recommends the use of secondary containment, such as self-supporting insta-berms, when storing barreled fuel on location rather than relying on	The recommendation is consistent with Baffinland’s current operating practices. With the exception of small drum caches for positioned for immediate use, all fuel storage is located within lined containment. All fuel storage is >30 m from	

natural depressions.	waterbodies, in compliance with the water license.	
All spills shall be documented and reported to the 24 hour Spill Line at (867) 920-8130.	The Spill Contingency Plan is consistent with this recommendation.	
The Spill Response Plan currently lists Colette Spagnuolo as the appropriate contact person for Environment Canada. The Plan should be revised to list Jim Noble as the EC contact in the event of a spill. Mr. Noble can be reached at (867) 975-4644. Alternately, EC operates a 24-hour pager monitored by Emergencies and Enforcement personnel, which can be reached at (867) 920-5131.	Thank you, we have updated the Spill Contingency Plan accordingly.	
EC recommends that copies of Material Safety Data Sheets for all hazardous materials to be used for project activities be appended to the Spill Contingency Plan.	MSDS sheets are maintained on-site and were included in the physical copies of the previous version of this plan. The plan has been updated to list the MSDS in the table of contents, and include the MSDS as an attachment. The updated Spill Contingency Plan will be filled with the Nunavut Water Board.	File updated Spill Contingency Plan with the Nunavut Water Board.
Drip pans, or other similar preventative measures, shall be used when refueling equipment on site. Secondary containment should be of adequate size and volume to contain and hold fluids for the purpose of preventing spills (the worst-case scenario). Appropriate spill response equipment and clean-up materials (absorbents, containment devices, etc) must be on hand during any transfer of fuel or hazardous substances and at vehicle-maintenance areas.	Lined containment, consisting of geomembrane lined earthen berms with sand bedding inside, is used for drum storage at Mary River. The same lined containment will be used for small fuel caches supporting drilling at Milne Inlet and Steensby Inlet. Appropriate spill response equipment is or will be located next to fuel storage areas, as outlined in the Spill Contingency Plan.	
Transfer operations should be attended by trained personnel at all times.	This is standard practice at the Mary River Project.	

Decanting of snow or water from the berm area should proceed only if the appropriate chemical analysis has determined the contents meet the requirements of Section 36(3) of the *Fisheries Act*.	Water contained in berms is not discharged to fish bearing waters.	
Fuel containers, including barrels, should be marked with the responsible party's name, product type, and year purchased or filled.	This is a standard condition of all land use permit/licenses in Nunavut, and is standard practice at Mary River.	
Waste tracking, or "manifesting," should be implement to ensure proper use, storage, and management of materials. Manifests provide detailed information to first responders in the event of an accident and serve as a tool for confirming that shipments of dangerous or hazardous waste are properly handled, transported, and disposed of.	The project will operate in compliance with the Transportation of Dangerous Goods Regulations, and the Department of Environment's *Environmental Guideline for the General Management of Hazardous Waste*.	
Abandonment and Restoration Plan		
Environment Canada has some concerns with the Abandonment and Restoration plan submitted by the proponent and it is EC's recommendation that the plan be revised to address these concerns and then be re-submitted for review prior to commencement of project activities. • The Abandonment and Restoration Plan indicates that the bone yard would be inspected upon abandonment. The proponent should specify what clean-up and treatment will take place at the existing bone yard. In addition, the proponent makes reference to a "closure landfill" in Section 4.0 *Final Abandonment*. It is unclear if this is referring to the bone yard or if this is different disposal site all together. EC strongly recommends that a landfill not be permitted during	An earlier draft of this A&R Plan conceived a closure landfill, and it was then decided that all wastes should be removed from site (as reflected on the discussion regarding wastes, in the Final Abandonment section). Reference to liner disposal in a closure landfill is an artifact of an earlier draft. We have amended the text to reflect that all wastes will be removed from site. With respect to the existing boneyard, the Plan submitted states that the contents of the boneyard will be inspected and any hazardous components removed for proper disposal. The subsequent bullet states that all remaining wastes will be removed from site. This may not be entirely clear from the text as written, so the text regarding	The A&R Plan has been revised to remove artifact reference to a closure landfill, and re-word discussion of wastes to make it clear that ultimately all remaining wastes, including materials from the 1960s, will be removed from site upon final abandonment.

for the geotechnical drilling program and that **all** bulky material, including materials that have been discarded into the bone yard during previous projects, is removed from the site.	wastes under the Final Abandonment section has been re-worded.	
The Plan currently states a one-time follow-up inspection will be completed upon final closure to ensure that conditions are stable. Environment Canada recommends that decisions regarding monitoring not be made until specific details regarding potential residual contamination and remaining infrastructure (i.e. closure landfill) are available.	We have revised the text to indicate that additional site visits will be carried out if conditions require.	Amend text of A&R Plan to allow for the possibility of additional follow-up monitoring.
The submitted Abandonment and Restoration Plan's final abandonment section should clearly communicate that all gray water sumps will be backfilled and contoured to match their surrounding landscapes.	The greywater sumps at the camp are backfilled and undistinguishable from the surrounding ground surface, except for the pipe entering the ground. The pipe will be removed, but otherwise the greywater sumps will be left as-is. This is mentioned under "Wastes" in the Final Abandonment section.	
Some of the equipment at the project site is the property of others, most notably drill rigs owned and operated by Boart Longyear or heavy equipment owned by Qikiqtaaluk Corporation. Although this equipment is not the property of Baffinland the abandonment and restoration of the entire Baffinland property is ultimately the proponent's responsibility. EC recommends that Baffinland act with due diligence and ensure all equipment is removed from site upon closure.	The A&R Plan has been updated to reflect that the removal of this equipment will be completed by Baffinland and that it is their ultimate responsibility to do so.	Revise A&R Plan
The proponent has indicated that the bedding inside the liner of the fuel storage facilities will be tested for petroleum hydrocarbons before being removed and will be disposed of with bulky	An earlier draft of this A&R Plan conceived a closure landfill, and it was then decided that all wastes should be removed from site (as reflected on the discussion regarding wastes, in the Final	

wastes in the closure landfill. EC recommends that the liner be removed from site and disposed of in an approved disposal facility. EC requests information regarding what parameters are being tested for and what quality assurance is being applied to ensure all contaminated soils have been removed.	Abandonment section). Reference to liner disposal in a closure landfill is an artifact of an earlier draft. We have amended the text to reflect that all wastes will be removed from site. With respect to the parameters tested for and quality assurance applied, we note that the A&R Plan is conceptual, and does not attempt to describe each step in detail. The parameters will include those outlined in the Canada-wide Standards for Petroleum Hydrocarbons, or whatever is enforced by the Government of Nunavut at the time. A private environmental services company will be used to complete this work to acceptable industry standards.	
Environment Canada is pleased that the soil beneath the lined areas will be tested for petroleum hydrocarbons and will be excavated and loaded into fiberglass ore sacks and removed off-site for disposal at a licensed facility in Montreal. EC recommends that the proponent ensure that all hazardous waste manifesting and tracking requirements under the *Nunavut Environmental Protection Act* and *Transportation of Dangerous Goods Act* are adhered to.	This will be done, in order to remain in legal compliance.	
The Proponent indicates that the airstrips will be left for future use. EC strongly recommends that the airstrip and any roads that were constructed and/or used for the purpose of the exploration and geotechnical drilling program be restored. This includes loosening compact soil and flattening side slopes of the airstrips and contoured to match the surrounding landscapes.	Baffinland has not and will not be constructing any additional roads that do not already exist, to carry out the exploration and geotechnical drilling program. The existing road and airstrips have been constructed with little fill. As such, portions of the road are wet. Traffic on the roads to date has not included trucks of any kind, so relatively little compaction has occurred (particularly in comparison to mining haul roads constructed of compacted engineered fill). The airstrip is also not	

	elevated meaningfully above the existing grade and so there are no side slopes. Decommissioning of existing roads and airstrips has not been proposed. The Nunavut Land Claim Agreement notes that the Milne Inlet tote road should remain for public access, and this road and site roads are valued by the local community. Additionally, as a 'Brownfield' exploration site, current and future mineral exploration both at Mary River and in the region, depend upon the airstrip(s) in this area.	
Airstrip		
EC requests further information on the airstrips located in the area that may be used by the proponent. EC requests information regarding the length of the airstrips, their distance to water bodies, and mitigation measures to prevent sedimentation of nearby water bodies is submitted for review. Given that the airstrips were built in the 1960's will up-grades be necessary?	The three airstrips in the area were built in the 1960s by drawing from local borrow sources and infilling low spots. The airstrip at Mary River is nearly 1,500 m in total length, although the usable length when the ground isn't frozen is about 1,200 m. The Mary River airstrip is about 170 m from Camp Lake to the north, and 280 m from Sheardown Lake. The airstrip at Milne Inlet is approximately 1,090 m long and is located 90 m from the inlet, 40 m from a drainage ditch to the inlet, and 420 m from Philip's Creek. This airstrip has soft sections owing to the nature of the fill used in its construction. The airstrip at Katiktok Lake, next to the existing Milne Inlet Tote Road and near to Deposit No. 4, is 610 m in length. The airstrip is 50 m from a stream on the south side and 320 m from Katiktok Lake. This airstrip has not been used to date, and	

	use of this airstrip is not planned. The airstrips are somewhat rudimentary and have not been constructed with substantial fill or with proper drainage (ditching and culverts) at all locations along their length. The airstrip at Mary River, as an example, was constructed using locally derived fill adjacent the airstrip, which has probably caused some permafrost degradation and water ponding, contributing to the condition of the airstrip today. There are soft and/or low areas that have required maintenance. In 2004 a culvert was installed across its entire width at one location, to pass surface runoff flows across the airstrip and improve drainage of a soft area. The condition of the airstrip is monitored on a regular basis, and maintenance is completed as required to ensure a safe runway. With respect to sedimentation resulting from airstrip repairs, the ground surface in the area at each airstrip is very flat (hence the drainage issues) and therefore the conditions to not exist for sediment to runoff into nearby waterbodies.	
Winter Road		
Proponent should not travel until the ground is sufficiently frozen to provide support and avoid surface damage and rutting.	Baffinland's water license permits the use of the Milne Inlet tote road as a winter road during the late-winter period of March, April and May. There is no question that the road is frozen by this time.	
Stream crossings shall be located to minimize approach grades. Bank disturbance is to be avoided and mechanized clearing should not be done immediately adjacent to any watercourse.	Baffinland adheres to the existing alignment of the road at a time when the road is completely frozen. Some culvert maintenance work has been undertaken in previous years, in accordance with	

	DFO's Operational Statement on culvert maintenance. The comment provided suggests that no culvert maintenance is acceptable, which is not our understanding.	
Winter lake/stream crossings shall be constructed entirely of ice and snow materials; stream crossings shall be removed or notched prior to spring break-up.	The road is used "as-is", save for an initial traverse by dozer to remove large snow drifts. Snowfills or other reinforced winter road crossings have not been required.	
Baffinland should ensure that spill kits are located along all transportation routes. Vehicles used in transporting fuel and chemicals should also be equipped with portable spill kits to allow for the efficient and expeditious response to spills.	Acknowledged. To date, no fuel has been transported over the road, and only calcium chloride has been transported. The cat-train used is equipped with spill response equipment.	
Migratory Birds		
Section 6 (a) of the Migratory Birds Regulations states that no one shall disturb or destroy the nests or eggs of migratory birds. Therefore, Environment Canada recommends that all activities be conducted outside the migratory bird breeding season, which extends from approximately May 15 to July 31. These dates are approximate, and if active nests (i.e. nests containing eggs or young) are encountered outside of these dates the proponent should avoid the area until nesting is complete (i.e. the young have left the vicinity of the nest). If activities are permitted to occur during the breeding season, Environment Canada recommends that the proponent confirm there are no active nests (i.e. nests containing eggs or young) in the vicinity of their operations before activities commence. If active nests of migratory	Baffinland's operations respect the Migratory Bird Regulations. Raptor nests have been identified in the general area, and loons are located on most lakes in the vicinity of Mary River, but these nests are known and avoided with the exception of monitoring of fledgling success undertaken by experienced biologists. Songbirds have been found nesting on the lower edges of the ore deposits, however, drilling is concentrated at the upper portions of the mountains that make up the deposits. Migratory birds are found nesting throughout the transportation corridor area. Inventory avifauna surveys conducted in 2006 will be repeated in 2007 as part of a monitoring program. Baffinland has been operating in the area since 2004. Suggesting that all project activities be conducted outside of a 2.5 month window in late	Avoid wildlife, including birds and nests. Position drills along transportation corridors away from nesting birds.

birds are discovered, the proponent should halt all activities in the area until nesting is completed (i.e. the young have left the vicinity of the nest).	spring/summer does not seem reasonable, nor are we aware of such a precedent. Baffinland will comply with the legal requirements outlined in the Migratory Bird Regulations and will avoid activities where active nests are discovered.	
In order to reduce disturbance to nesting birds, Environment Canada recommends that aircraft used in conducting project activities maintain a flight altitude of at least 610 m during horizontal (point to point) flight during the nesting season.	Please see an earlier response with respect to flight altitudes.	
In order to reduce disturbance to resting, feeding, or moulting birds, Environment Canada recommends that aircraft used in conducting project activities maintain a vertical distance of 1000 m and minimum horizontal distance of 1500 m from any observed concentrations (flocks / groups) of birds.	Baffinland will use 610 m as a minimum flight altitude (1,000 m near concentrations of birds) during future operations, with exceptions as required. Sensitive wildlife and bird areas will be avoided.	Implement a 610 m flight altitude minimum (1,000 km near concentrations of birds). Avoid concentrations of birds (except during wildlife surveys).
Environment Canada recommends that camp waste be made inaccessible to wildlife at all times. Camp waste can attract predators of migratory birds (e.g., foxes and ravens) to an area if not disposed of properly. Environment Canada is particularly concerned with the proponent's statement that "Both red and arctic foxes were occasionally observed in the Project area, especially at the camp and drill sites where they had access to human food." (Proponent's completed NIRB SCREENING PART 2 FORM, page 18).	Baffinland has had foxes attracted to drill sites and camp. A camp education program implemented since 2005 has made it clear to project personnel that feeding of animals is not to occur, and this appears to be working as visits to camp or the drills by foxes were infrequent in 2006.	.
Section 35 of the *Migratory Birds Regulations* states that no person shall deposit or permit to be deposited, oil, oil wastes or any other substance	Understood.	

harmful to migratory birds in any waters or any area frequented by migratory birds.		
The project activities will include the delivery of contractor mining and crushing equipment, camp materials and fuel in 2 ship voyages to Milne Inlet in August 2007. The exact shipping route is not indicated in the project application, but presumably the route will pass by Bylot Island. Part of Bylot Island is a Migratory Bird Sanctuary and the southeastern tip and surrounding marine area has also been identified as a Key Migratory Bird Marine Area (Mallory, M. L. and A. J. Fontaine. 2004. Key marine habitat sites for migratory birds in Nunavut and the Northwest Territories. CWS Occasional Paper No. 109). Marine birds in the area are vulnerable to oil spills and to pollution of their feeding areas. The proponent should plan its shipping route to avoid the key bird areas, as much as possible. Also, the proponent should ensure that wildlife protection measures are identified as part of its Spill Contingency Plan for marine areas. This should include specific mitigation measures to keep birds out of any contaminated area and what measures would be taken if birds do come in contact with the spill.	This comment appears to be in regard to the proposed bulk sampling program, a separate project proposal currently undergoing screening. In the absence of the bulk sampling program, Baffinland would expect a single sealift to enter Milne Inlet each year. Baffinland has used the same shipping company used for community sealifts, a reputable company experienced at shipping in the region. The response to marine spills is addressed in the shipper's on-ship spill response plan, as mandated by Transport Canada acts and regulations.	
The proponent appears to be starting to collect some baseline data on birds within the project area. If the proponent is planning on undertaking systematic surveys of birds in the area, it is suggested that the proponent contact Canadian Wildlife Service of Environment Canada for advice on migratory bird survey techniques to ensure that the methodologies used are comparable to surveys done elsewhere in the region.	CWS survey methodologies have been used for the surveys at Mary River, to allow for comparison to other studies. The Knight Piésold biologist leading the avifauna baseline program (Matthew Evans) received much of his training from CWS throughout his Ph.D. program, and he currently teaches Ecological Methodology courses at Mount Allison University.	Knight Piésold to make contact with CWS to review survey methodologies and study findings.

	It is worth noting that Knight Piésold did make contact with the CWS in 2005, prior to any surveys, and solicited direction on survey methodologies recommended for the region, and received a nil response. Knight Piésold will be pleased to follow up with CWS to review survey methodologies and study findings.	
All mitigation measures identified by the proponent, and the additional measures suggested herein, should be strictly adhered to in conducting project activities. This will require awareness on the part of the proponents' representatives (including contractors) conducting operations in the field. Environment Canada recommends that all field operations staff be made aware of the proponents' commitments to these mitigation measures and provided with appropriate advice / training on how to implement these measures.	Agreed. Baffinland has and will continue to ensure that all project-related personnel on-site are aware of environmental sensitivities, the terms and conditions of permits and licenses, and the legal requirements.	Continue to develop and expand site orientation program. Have environmental specialists present their work within the camp to increase awareness.
Implementation of these measures may help to reduce or eliminate some effects of the project on migratory birds, but will not necessarily ensure that the proponent remains in compliance with the *Migratory Birds Convention Act* (the *Act*) and *Migratory Birds Regulations (*the *Regulations)*. The proponent must ensure they remain in compliance with the *Act* and *Regulations* during all phases and in all undertakings related to the project.	Understood and agreed.	
The following comments are pursuant to the Species at Risk Act (SARA), which came into full effect on June 1, 2004. Section 79 (2) of SARA, states that during an assessment of effects of a project, the adverse effects of the project on listed	Understood. Environmental baseline work has identified both species listed under SARA and identified by COSEWIC. Avoidance is undertaken. With respect to the	

wildlife species and its critical habitat must be identified, that measures are taken to avoid or lessen those effects, and that the effects need to be monitored. This section applies to all species listed on Schedule 1 of SARA. However, as a matter of best practice, Environment Canada suggests that species on other Schedules of SARA and under consideration for listing on SARA, including those designated as at risk by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), be considered during an environmental assessment in a similar manner. The proponent has identified Species at Risk within and near the project area, and identified some adverse effects. The proponent identified both Ivory and Ross's gulls as Species at Risk near their project area. Note that there are no known breeding sites of either of these species within the project area. Both species, however, would be susceptible to pollution and disturbance at marine feeding areas.	Ivory and Ross's gulls, surveys have been conducted throughout the study area (Mary River, transportation route alternatives, port sites) and a single ivory gull was reported migrating in early June near the coast. These surveys will be repeated in 2007 and an on-going bird monitoring program is being established.	
Environment Canada recommends: If Species at Risk are encountered, the primary mitigation measure should be avoidance. The proponent should avoid contact with or disturbance to each species. The proponent should record the locations and frequency of any observations of Species at Risk and note any actions taken to avoid contact or disturbance to the species. The proponent should consult with the Department of Fisheries and Oceans (for aquatic species) and the Government of Nunavut (for species under Territorial jurisdiction such as polar	All bird species, as a general rule, are avoided. Observations of species at risk will be recorded and actions to avoid contact or disturbance documented.	

bear, wolverine, peregrine falcon) to identify other appropriate mitigation and/or monitoring measures to minimize effects to these species from the project. Mitigation and monitoring measures must be taken in a way that is consistent with applicable status reports, recovery strategies, action plans, and management plans.		

Table 3
Response to Comments/Recommendations from Department of Environment – Part 1

COMMENT	RESPONSE
Wildlife a) Baseline Data Collection	
Wildlife data deficiencies and the lack of effective impact and mitigation measures are a concern to DOE. Baffinland should be aware that this must form a comprehensive part of any future project proposals submitted by them. Additionally, wildlife impacts and their management/mitigation in the current project proposal, must be assessed more fully to ensure that the location and timing of activities (i.e. exploration drilling, aircraft operation and baseline data collection) does not interfere with sensitive wildlife populations and habitats.	Baffinland agrees that the level of detail in a submission should match the scale of the project. The bulk sampling program environmental screening document that follows is considerably more comprehensive in baseline descriptions, impact evaluation and mitigation than the application for drilling. Subsequent submissions (i.e., for mine development) will be additionally comprehensive. The main mitigation tool for the drilling program is adherence to the Caribou Protection Measures, as required by the land use plan.
Section 8.0 of the *NIRB Screening Part 2 Form* requests a map of the project site indicating existing and/or proposed infrastructure, proximity to water bodies and proximity to wildlife. No wildlife observations, including dens, nest sites, caribou locations, migration routes, calving areas, etc, have been mapped, and provided for review. Existing data should be compiled and critical habitat (calving areas, nests, denning sites, movement corridors) should be identified to inform and mitigate project activities (i.e. location, timing), to avoid impacts, and establish an effective monitoring program.	This information will be presented, interpreted and discussed in a terrestrial baseline report currently nearing completion. This report will continue to be updated each year as additional wildlife work is completed and the understanding of wildlife in the region improves. The information collected will be used to design mitigation measures in project planning and plan monitoring programs. DOE designated critical wildlife areas in the region include the Baird Calving Area, Dewar Calving Area, and Longstaff Calving Area. These areas are well removed from project related activities. Caribou have been observed moving through the region near Mary River in 2006, although no calving was observed within the vicinity of Mary River. The DOE's 1997 survey data, however, shows that caribou have calved at Mary River in the past. The current data set consists of DOE's cursory aerial survey from 1997, Baffinland's systematic aerial surveys in 2006, and preliminary feedback from on-going IQ studies. At this point, delineation of migration routes and calving areas would be speculative. An on-going wildlife study over the next few years will provide an increased understanding of spatial and temporal patterns of caribou distribution and abundance. In the absence of more detailed long-term data, Baffinland has committed

	to meeting the terms of the land use plan and the Caribou Protection Measures.
Section 11.0 of the *NIRB Screening Part 2 Form*, page 3, indicates that the geotechnical investigation will study two major transportation alternatives however, this assumes that the location of the proposed roads is suitable with respect to environmental impact, specifically, the potential to impact wildlife movement, habitat use (i.e. nesting, calving, denning, foraging), distribution, productivity, and intra and interspecific interactions (i.e. mating, predation, insect harassment). DOE recognizes that a thorough assessment of road impacts and alternatives is a little premature, but would like to point out to Baffinland the need to collect adequate baseline data to assess the impacts highlighted above and inform route selection. Additionally, this data must be robust enough to allow eventual monitoring of impact predictions once the road is built and distinguish impacts from natural variation.	The collection of baseline environmental data and project planning and design are iterative processes that occur concurrently. Transportation routes and alignments will be evaluated for environmental impact before final decisions are made. We agree that initial baseline work forms the basis for future monitoring throughout the life of the project. Baseline studies are being conducted with a view of long-term monitoring.
b) Impacts of drilling operations	
Within the current proposal Baffinland outlines the geotechnical survey work that will be undertaken on the route of the proposed road(s) from Mary River camp to Steensby Inlet. Considering the scale and scope of drilling operations an assessment of activity in relation to wildlife impact should be addressed There is a lack of information (i.e., zone of influence, proximity to wildlife and critical habitat) that must be considered and inform the work being undertaken.	In order for projects to conform to the regional land use plan, proponents are required to adhere to the DIAND Caribou Protection Measures (Attachment 1). Meeting the terms of the Caribou Protection Measures is not an insignificant commitment, and provides blanket mitigation for all project activities. The main tenants of the measures include cessation of activities within calving areas, or when caribou move into the area during calving season (May 15 to July 15). Nevertheless, Baffinland will submit a wildlife impact assessment for the drilling activities to DOE, independent of the land use permitting process.
Section 16.0 of the *NIRB Screening Part 2 Form* presents a schedule of activities including the partial operation of the camp and remote geotechnical drilling from March to April and full operation from May to October. No further details regarding the location and timing of operations is provided and this thwarts an evaluation of potential impacts to wildlife and requirements for mitigation measures. The broad spatial scale of the proposed work and the timing of operations span critical life cycle events for wildlife. Caribou are of particular concern and are known to use the area for calving. The timing of activities must be detailed and evaluated in relation to wildlife occurrence and important habitat. Modifications to work schedules and/or halting of activities may be necessary in some areas during periods of sensitivity.	Location of activities was provided on Figures 2,3,4,6 and 7 accompanying the application and the schedule as indicated. With respect to schedule, we can add that drilling will begin in late March at each of the port sites, starting with on-ice drilling and eventually moving to land-based drilling at each port site. Following completion of work at the port sites, drilling will commence along the transportation corridors. This is likely to be the period of July-August-September. Drilling at Mary River will start in early June and carry through until late September. As mentioned above, Baffinland will adhere to the Caribou Protection Measures. In addition, Baffinland has committed to conducting a wildlife impact assessment to submit to DOE.

c) Impacts of aircraft	
Sections 44, 45, and 46 of the *NIRB Screening Part 2 Form* request information and a map detailing how the site(s) will be accessed, supplies brought in, and flight altitudes. The flight routes and shipping route are not specified nor are the patterns of movement between local airstrips detailed. As well, flight above an altitude of 300m has been identified by the proponent; however, flight activities (i.e. landing, take-off) at the 3 airstrips will require operations at low altitudes and the zone of influence should be evaluated for these sites. As well, cargo slinging flights and wildlife investigations have not been discussed and potentially have low altitude occurrences. An equipment list in Section 51 includes 4-5 helicopters and the use of fixed wing aircraft has also been identified elsewhere. The intended use of the equipment is not described, nor is there any indication of the frequency of use, or the spatial and temporal dimensions of activities. This is problematic as it thwarts the evaluation of wildlife impacts, the development of mitigation measures, and their application to this project. On page 16 Section 1.15 of the *NIRB Screening Part 2 Form* (Noise Levels) the creation of noise pollution through exploration activities and air traffic at Mary River is recognized. Unfortunately, the impact of noise on wildlife is not fully recognized, particularly with respect to aircraft operations (i.e. Table 1 *NIRB Screening Part 2 Form* identifies no biological impacts from aircraft operation). Negative effects of aircraft overflights on numerous ungulates, birds, and mammals, have been reported. In most cases, reports show that the intensity of responses is inversely related to the altitude of aircraft above animals but also the horizontal distance of aircraft to the animals. In general, the DOE recommends that aircraft activities should maintain a minimal altitude of 610 meters above ground level to minimize wildlife disturbances. In areas where there are observed concentrations of migratory birds, flight level is restricted to 1,000 meters vertical distance and 1,500 meters horizontal distance from the migratory birds. These guidelines are provided as a general standard, and exceptions may arise on a case-by-case basis. In addition to flight altitudes, there are also other aspects of aircraft activities that have shown to disturb wildlife such as aircraft type and size, flight frequency, wildlife reproductive status, wildlife species and flock size. To minimize flight disturbances, below is a list of recommendations that can be put forward to reduce the disturbance:	The shipping route for an annual sealift is via Pond Inlet and Eclipse Sound into Milne inlet. We have described air traffic at various activity areas in detail below, and have shown this air traffic on a regional scale conceptually on Figure 1. **Mary River** The following types of air traffic will occur at Mary River: 1. Constant lower level helicopter transits between camp and the deposits 2. Regular helicopter transits to remote work sites and wildlife surveys 3. Daily to semi-daily fixed wing (Skyvan and Dornier) air traffic to and from communities 4. Several airlift flights in spring, while the airstrip is frozen, by cargo planes (Hercules, Buffalo). A zone of influence has been delineated at the Mary River site that encompasses lower level helicopter traffic between the camp and drilling sites, where achieving the minimum flight altitude is not possible, and also including the approach and take off of fixed-wing aircraft at the airstrip, defined by the rates of ascent and descent of a fully loaded Skyvan of 500 ft/minute (~500 ft/mile) and 1,000 ft/minute (~1,000 ft/mile), respectively. Figure 2 shows the zone of influence affected by air traffic at Mary River. **Katiktok Lake Airstrip** The permit applications indicated that this existing airstrip may be used by the project, however, its condition has not yet been assessed and at present it is not expected to be used outside of emergencies. **Milne Inlet Airstrip Use and Drilling Support** Aircraft use in the vicinity of Milne Inlet will include the following: 1. Semi-daily to weekly drill moves within Milne Inlet using helicopter 2. Daily to semi-daily helicopter traffic between Mary River and Milne Inlet 3. Occasional (i.e., 2-3 dozen) fixed-wing trips using the airstrip. Drilling at Milne Inlet will begin on the ice in late March through to May when drilling will become land-based. By June, the drill rig will be sent to Mary River for drilling on the deposits. **Steensby Inlet, Area 2 and Separation Lake Hydro Sites** Aircraft use in the vicinity of Steensby Inlet will include the following: 1. Semi-daily to weekly drill moves at the port site using helicopter in

• Minimize the number of flights; • Fly at a time when there are few migratory birds around (i.e., early spring, late fall and winter); • Caribou calving grounds should be avoided between mid May and mid July. After July 15, post calving areas known to have aggregations of caribou should also be avoided; • Avoid a large concentration of wildlife, (i.e., Migratory Bird Sanctuaries, breeding colonies and caribou calving grounds), and take alternate routes; • Plan routes that are likely to have least occurrences of wildlife; • Use small aircraft rather than large aircraft whenever possible; • Hovering or circling may greatly increase disturbances and must be avoided; • Use fixed-wing aircraft rather than helicopters whenever possible; • Inform pilots of the wildlife sensitive areas.	March through May 2. Daily to semi-daily helicopter traffic between Mary River and Steensby Inlet 3. Twice daily helicopter transits between the Steensby Inlet temporary camp and remote drill sites for worker shift changes, from June through September Drilling at Steensby Inlet will begin on the ice in late March through to May when drilling will become land-based. By June, the drill rig will start drilling at Area 2, Separation Lake, or along the candidate transportation corridors. **Wildlife and Other Surveys** Researchers will conduct surveys according to established methods already in use in the Northwest Territories and Nunavut, and appropriate to the species in question. A review of caribou surveys conducted in the NWT, Nunavut and Greenland has been completed, showing that surveys have been flow at altitudes ranging from 15 m to 180 m. In order to spot caribou, spring surveys are flown at a height of 150 m above ground level. Summer and fall aerial surveys were flown at lower heights because of reduced visibility of caribou, at 60 to 90m. Once caribou are seen, in any season, the helicopter immediately climbs above 300 m to minimize any immediate disturbance. The crew lands in advance of the caribou, in the direction they are walking, to sex and age the animals from a distance. Survey effort is a function of species, time of year and weather. For example, caribou surveys will be flown in spring and fall but are not planned for summer. Areas of proposed development will receive greater degree of study, as compared to areas that are far from the proposed development. Wildlife studies are planned and have been designed to collect the necessary information for a proper baseline while minimizing potential disturbance to wildlife. Aircraft will be used throughout the region to support water sampling, archaeology and vegetation surveys. The peak use of helicopters for these purposes will be in August. These surveys generally involve point-to-point flights at prescribed flying altitude, rather than surveys, and are focused on a detailed study area encompassing potential project infrastructure. **Recommendations for Flying** With respect to recommended flight altitudes, Baffinland will adhere to the recommended flight altitude minimums of 610 m and 1000 m near concentrations of birds, with exceptions as outlined above. Most of the

	department's list of recommendations for reducing the impact of aircraft noise are reasonable and are ones that Baffinland can commit to. The exception is the second recommendation with respect to flying when few migratory birds are around. Baffinland has committed to avoiding large concentrations of birds with aircraft, but a no flying period would seriously hamper Baffinland's ability to conduct its program. With respect to the preference of fixed-wing aircraft compared to rotary aircraft, this is a particularly good recommendation with challenges to implement. In 2006, Baffinland arranged for the sealift of some av-gas fuel to Pond Inlet so that a Cessna 337 (twin-engine) may be used for a portion of the aerial survey work, in particular the marine wildlife surveys where a twin-engine is desirable over open water. The Cessna will also be used for terrestrial wildlife surveys in spring to the extent that the fuel supply allows.
d) The Importance Of The Area For Barren Ground Caribou	
On page 18, Section 2.2.1 of the *NIRB Screening Part 2 Form*, the occurrence of barren-ground caribou in the vicinity of the Mary River Project is discussed. The description is limited and although the proponent indicates that some preliminary surveys were completed, no detailed or quantitative information (including the number of surveys, the spatial and temporal dimensions of the survey program, the location of caribou observations, movement patterns, calving sites, the composition and number of caribou groups) has been provided**.** Furthermore, the need for mitigation and monitoring of potential impacts to caribou has not been identified in the Mary River Geotechnical Screening Document.	We refer to the discussion above regarding available baseline data, particularly with respect to caribou. Baffinland commits to submitting a wildlife assessment report to the DOE.
On page 18, Section 2.2.1, the proponent indicated "In May, caribou are mainly found south of Mary River…All movements were from south to north, and appear to be related to travelling to calving areas…The most extensive use of habitat in the project area by caribou appears to occur in spring, because of these directed movements to calving areas". Preliminary surveys by the GN and others also indicate that the area is important to caribou and critical for spring migration, calving, and post calving. A historical survey identified a concentration of caribou in the Inuktorfik and Angajurjualuk Lake area in North Baffin. As well, Rippin (1972) reported that the core of north Baffin caribou inhabited the Steensby Inlet-Inuktorfik Lake area. Rippin suggested that this herd moved to the Ravn River drainage area to calve and may have divided into groups which moved south to Steensby Inlet and north, northwest towards Tay Sound and Milne Inlet. More recently, IQ and a preliminary calving survey in 1997 have also identified the Mary River study	The North Baffin caribou herd is poorly known and has demonstrated large changes in distribution and abundance over time. Knight Piésold received DOE's survey data from 1997, at a time when caribou were abundant in the region. No caribou calves were observed in the vicinity of the Mary River in May and June of 2006. We refer to the discussion above regarding available baseline data, particularly with respect to caribou. Baffinland has also committed to support a GN caribou collaring study which will provide data on caribou movements in the area. Baffinland commits to submitting a wildlife assessment report to the DOE.

area as significant to caribou (Figure 1a and 1b). Observations by local hunters also suggest that the area as important winter habitat. Taking into account the uncertainties and limitations in the existing data, if geotechnical drilling, camp operations, aircraft operations, and supply transportation, were carried out at the wrong time and location, a adverse effect on the caribou movement, space use and calving could occur. A detailed assessment of these activities needs to be undertaken, that uses existing knowledge on timing and location of caribou, movement patterns, habitat, and calving, but also identifies gaps in knowledge and areas of uncertainty. The evaluation of potential impacts from the proposed activities is required and mitigation and monitoring activities must be developed to reduce risks due to uncertainties and confirm the accuracy of impact predictions. DOE would again like to emphasize for future project proposals the importance of collecting good baseline and long-term information on space and resource use, and the movement and distribution of caribou, as patterns can vary with changes in spatial and temporal dimensions. Further work is also required to define the herd or herds impacted as well as their seasonal distributions, composition and abundance.	
e) Carnivores	
Section 2.2.2. of the *NIRB Screening Part 2 Form.* Information on furbearers and denning habitat is limited in the screening document and survey results, survey dimension and the location of dens and potential denning habitat were not provided. Survey information and observations of fur bearers and denning sites must be mapped and reported as that project activities can be managed and modified to avoid impacts. Thus, the evaluation of impacts, and the development of mitigation measures and a monitoring program is still required.	Den surveys were conducted in 2006, with no dens found in the vicinity of the advanced exploration project area. Only 2 dens were found in the entire Project region, despite intensive survey effort. Surveys will be ongoing in 2007, and will include the use of DNA hair sampling to attempt to better understand carnivore populations.
The proponent also indicates that 'both red and arctic fox were occasionally observed in the Project area, especially at the camp and drill sites where they had access to human food.' This is a concern as potential human-wolf, wolverine, and fox encounters can result in injury or death to either the animal or the human(s). All possible efforts to avoid human-wolf encounters must be made. The proponent must plan to o avoid human-wolf/fox/wolverine conflict o have a deterrent strategy o have a human safety strategy o have a waste management strategy • All camp members should be fully aware and trained in the human-	Baffinland has had foxes attracted to drill sites and camp. A camp education program implemented since 2005 has made it clear to project personnel that feeding of animals is not to occur, and this appears to be working as visits to camp or the drills by foxes were infrequent in 2006. Baffinland will comply with DOE requirements if a defense kill were to occur. Wolverine is extremely rare on Baffin Island (Inuit report seeing a track about every 5 years). Knight Piésold has included carnivore bait stations in its 2007 wildlife research application submitted to DOE, which should help establish whether or not wolverine are in the project area.

wolf/fox/wolverine encounter avoidance plans especially in avoidance of any feeding of these species. • The proponent must discourage food conditioning of all wildlife species, negative reinforcement is encouraged. • Also, if a defense kill does occur, the proponent must record the location of the carcass. If required, specimens such as the skull must be submitted to the Wildlife Officer as soon as possible.	
f) Raptors	
Section 2.3.1 of the *NIRB Screening Part 2 Form*, Raptors, indicates that Peregrine Falcon, Rough-legged Hawks, and Snowy Owl nest were found throughout the road corridor and in the control area and Gyrfalcon were also observed in the Project area. As well, on page 26, Potential to Adversely Effect Species at Risk, the proponent indicates that 'peregrine falcons and their habitat are abundant and well distributed throughout the region' suggesting that the proposed project may intercept significant nesting habitat for this species. Good baseline data sets of raptors nests and favorable nesting habitat is necessary for the implementation of conservation and mitigation measures. Notwithstanding the later, the following is a list of general precautions that must be considered when conducting activities near Peregrine Falcon, Gyrfalcon, and other raptor nests (most of these precautions will also apply to all nesting bird species): 1) Disturbance is most harmful early in the nesting period (May and June for Peregrine Falcon and Gyrfalcon, similar for Rough-legged Hawk): *Raptors will attempt to maximize their chances of successfully raising young. If they decide early in the breeding period that their nest is at risk, they may abandon it. If nests are disturbed at this stage of nesting, there may not be sufficient time to re-nest. All disturbances to nests during the early part of the nesting cycle must be avoided (avoid nest sites from late May through to mid-July).* 2) Individuals show variability in their response to disturbance: *Different birds will show different responses to varying levels of disturbance. This may result from the general health of the bird, weather conditions, previous life experiences, and adaptability. Therefore, treat all nest sites with equal precaution, regardless of the response of the bird. Do not disturb raptor nests during conditions of poor weather (rain, snow, high winds)*. 3) Approaching the nest site near the time of fledgling (where chicks fly	We will ensure ongoing raptor surveys are consistent with the general precautions outlined by DOE. Baffinland is committed to obtaining adequate data to implement conservation and mitigation measures, and is supporting additional data collection through support of a falcon tagging program initiated by independent researchers. To date, there has been no conflict between site activities and nesting raptors.

from the nest) often leads to premature nest departure: *During the last few weeks of nesting, severe disturbance at the nest often causes young raptors to jump out of the nest. This can cause death from exposure, predation, starvation, or trauma from the fall itself. <u>All activity within 100m of a nest site during the latter part of the nest stage (10-20 August for peregrine falcons in this region) must be avoided</u>*.	
g) Polar Bears	
Section 2.5.2 of the *NIRB Screening Part 2 Form*, Marine Mammals, recognizes that Polar bears occur throughout the Mary River project area and indicates the occurrence of bears at the head of Milne Inlet and in close proximity to the Mary River Camp. Polar bears have been assessed as a species of Special Concern by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), and four populations of polar bear exist in the area of north Baffin, specifically, the Gulf of Boothia, Lancaster Sound, Foxe Basin, and Baffin Bay populations. The ecological impact of shipping and geotechncial activities has not been evaluated for Polar Bears and no ecological monitoring or mitigation measures have been proposed. To this end, further assessment is necessary. Notably, the proponent identifies the increase in human/bear interactions and defense killing of bears, as a potential impact of the drilling program. Thus, it is imperative that the proponent implement measures to reduce human-bear interactions and impacts on Polar Bear activities.	The proposed exploration and geotechnical drilling activities involve a single annual sealift of dry cargo to Milne Inlet, and not regular shipping. The presence of Polar Bears is closely monitored; however, consistent use of the Project area by Polar Bears has not been detected to date. It is believed that the Polar Bears in this area den along the north shore of Bylot Island, and are only transient visitors to the Project area. Monitoring of Polar Bears will continue, with appropriate plans implemented as needed. Mitigation measures have been identified and implemented as part of the Health and Safety Plan developed for the project by Knight Piésold. The H&S Plan was prepared with input and review by Andy McMullin of Bearwise. Andy is a long-term northerner, former conservation officer, and recognized expert on bear management who provides consulting services to industry and government. Andy also audits camps and installs bear fencing. Andy provided bear safety training to the Baffinland Project Manager and Knight Piésold's Onsite Coordinator in 2006.
Because potential human-bear encounters can result in injury or death to the bear or the humans, all possible efforts to avoid human-bear encounters must be made. Clean camp standards are essential and deliberate feeding of polar bears or any wildlife is absolutely prohibited. Bear deterrents (cracker shells, thunder flashes and rubber bullets) should be on site and the proponent should consider the use of electric fencing within the camp design, especially around sleeping quarters.	Clean camp standards are very important and are practiced to avoid attraction by all wildlife, including foxes. In accordance with the Health & Safety Plan, field workers are required to carry bear deterrents, and all work near the coast is to be supervised by a bear monitor. The response to bear sightings is prioritized as avoidance, then deterrence, followed by a defense kill as a last resort. An electric fence has always been considered as a possible mitigation option at Mary River, but has not been installed to date. In 2006 a polar bear was identified within several kilometres of Mary River. Other sightings were made later further from the camp, but it was not determined whether this was the same bear from earlier or not. The response was to monitor the bear and have a bear monitor posted at camp 24-hours a day. The bear did not approach camp.

The applicant is encouraged to obtain and read, government publications such as 'Safety in Polar Bear Country'	Showing of this video is part of the camp's regular health and safety meetings. Efforts are made to ensure that every person on site has seen the video.
The applicant is strongly encouraged to meet with the Wildlife Officer in Pond Inlet in order to receive a briefing on proper procedures to avoid bear encounters, proper procedures should a bear be encountered, and proper procedures to follow should any kind of an incident related to such an encounter occur	Baffinland will seek out the local Wildlife Officer as suggested. As mentioned, Baffinland has received briefings and input from a qualified bear expert. This is the same bear expert used by Parks Canada staff at Sirmilik National Park.
The proponent should be made aware that any polar bears killed during the trip (defense kill) would come off the quota of the nearest community. As such, the proponent will be expected to compensate the community. If they do not, future applications may not be supported by DOE on the grounds of there being unacceptable impacts from this venture.	This is understood.
Also, if a defense kill does occur, the proponent must record the location of the carcass, sex of the bear and ensure the hide does not spoil. This means they may have to skin the bear if assistance is not readily available. Other specimens such as the jaw, Baculum (penis bone), ear tags and lip tattoos must be submitted to the Wildlife Officer. This information must be reported to the Wildlife Officer in Pond Inletas soon as possible.	We would notify the HTO and local Wildlife Officer in the event of a defense kill, to ensure that all procedures are carried out.
All defense kills are investigated by an Officer to determine the nature of the incident.	The Wildlife Officer will be notified in the event of a defense polar bear kill.
The applicant should be made aware that it is contrary to the *Wildlife Act* to harass wildlife in any manner.	Understood. Site personnel are instructed to avoid all wildlife.
The applicant is strongly encouraged to negotiate in advance the amount to be compensated, in the event that a defense kill of a polar bear occurs	Acknowledged. Baffinland will initiate discussions with the Mittimatalik Hunters and Trappers Organization and Igloolik Hunters and Trappers Association regarding compensation for any future defense kills of polar bear.
The applicant should be made aware that any defense kills of polar bears might jeopardize approval of applications to conduct trips in future.	Acknowledged.

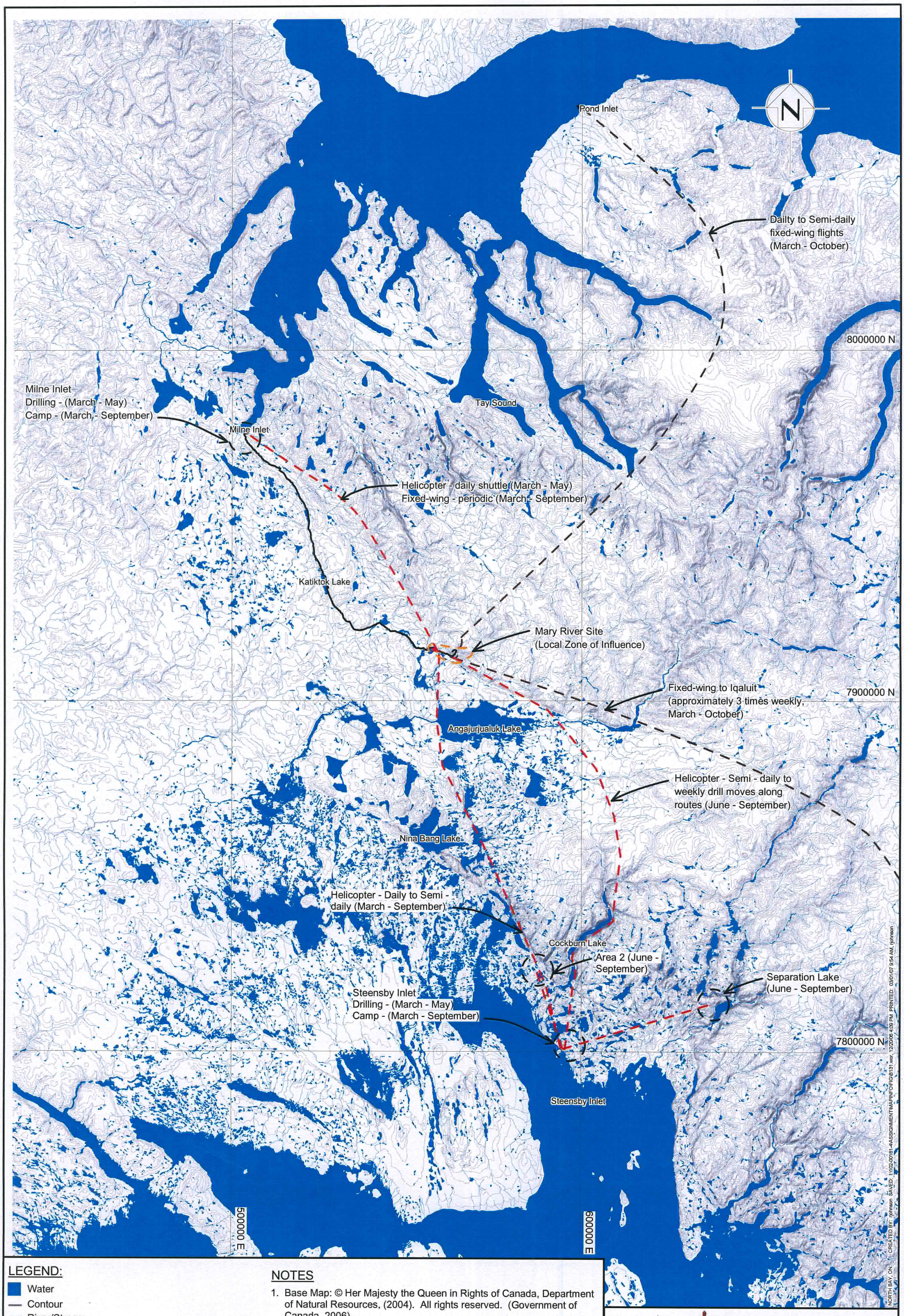
Table 4
Response to Comments/Recommendations from Department of Environment – Part 2

COMMENT	RESPONSE	FURTHER ACTION (IF REQUIRED)
Spill Contingency Plan		
DOE has undertaken review on the proponents Spill Contingency Plan against requirements of the GN *Spill Contingency and Reporting Regulations* and has the following comments. The name, job title and 24 hour telephone number for the persons responsible for activating the contingency plan. This ensures the employee discovering the spill can activate a response and provides a 24 hour point of contact for the authority investigating the spill.	Page 7 of the Spill Contingency Plan provides the name, title and 24-hour contact information for the persons responsible for executing the plan. The 24-hour spill line is included on Page 8, and additional government contacts are listed on Page 15.	
The proponent should describe the type of training given to their employees. Was this provided in-house or by an outside firm? A copy of the course curriculum or a description of the training program, if available, should be provided with the plan. Without knowing anything about the exact nature of the training provided, it is hard to determine if it will be of practical value to first responders.	In-house training has been provided on an annual basis to key site personnel, but with no set curriculum.	
Heavy equipment should be made available on site in the event that major excavations need to be undertaken to control spills.	Baffinland has sufficient heavy equipment on-site to respond to spills, including an excavator, dozer, two skid-steers (mini front-end loaders) and two tandem haul trucks.	
All fuel tanks, connectors and associated plumbing should be installed in a manner that meets current acceptable codes for the installation of such appliances. Fuel tanks should be situated on solid platforms, on a stable base, and should be inspected on a regular basis for leaks and movement (shifting). Flex connectors, if used, should be installed as per manufacturer's instructions and should be inspected regularly.	Understood.	
The spill plan indicates that spilled materials (it is assumed that they are referring to fuel-contaminated soil and snow) will be put	The text of the Spill Plan has been revised to indicate that contaminated materials will be sent to an	Amend text.

into containers and shipped to "the approved disposal facility in Pond Inlet". The proponent should outline the name of the facility, the treatment to be received, and whether or the facility has been approved by the appropriate regulatory agency.	approved disposal facility in the south.	
A list of petroleum products is provided on page 6 of the spill plan. Under "Jet A", the quantity is listed as "150", and it is not clear if this refers to drums. The proponent should clarify this.	Yes, 150 drums of Jet A. We have amended the text accordingly.	Amend text.
A list of other hazardous materials other than petroleum products falling under the *Transportation of Dangerous Goods Regulations* (TDGR) Classes 1 through 9, should be provided.	MSDS of all hazardous materials on-site have been included as an Attachment to the Spill Contingency Plan.	Attach relevant MSDS to the Spill Contingency Plan.
The site maps of the three temporary camps should be provided once the exact locations of the camps are determined. The maps should be to scale and be large enough to include the location of your facility, nearby buildings or facilities, roads, culverts, drainage patterns and any nearby bodies of water.	The layouts of the temporary camps will be included in the revised Spill Contingency Plan.	Include temporary camp layouts in the plan revision.
The proponent is recommended to utilize the newly developed spill report form in the case of spills, and to enter spill information via a computer so it is legible to recipients such as government agencies. The proponent should contact the Spill Line to obtain the form and instructions.	The new PDF spill report form will be included in the updated spill plan. Baffinland site managers have electronic copies of the new form.	Include new spill report form.
Abandonment and Restoration Plan		
DOE has undertaken review on the proponents Abandonment and Restoration Plan and has the following comments. Air strips should be reclaimed to their original conditions and be contoured to match the surrounding landscape unless there is an agreement between the land owner and the proponent that the air strips can be left as they are for future usage.	Decommissioning of the airstrips has not been proposed. As a 'Brownfield' exploration site, current and future mineral exploration both at Mary River and in the region, depend upon the airstrip(s) in this area. Since the land owner (Qikiqtani Inuit Association) is responsible for issuing the Inuit Land Use License covering the airstrips, they will dictate in the licensing if the airstrips are to be decommissioned or left for future use.	
Final inspections of the entire site should be conducted by the proponent and a lead agency to make sure that all areas of the site have been reclaimed as much as possible to its previous condition. Soil samples and pictures before and after the project	Final inspections of the site by lead agencies and/or the land owner is within their discretion, but we agree that it would be beneficial to conduct joint inspections of site conditions following final closure.	

would facilitate this process.		
All hazardous wastes such as waste fuel when removed offsite, should be accompanied by Waste Manifest documents with the appropriate information (Generator Number, Carrier Number and Receiver Number). This procedure can be accomplished at DOE by contacting Rob Eno at (867) 975-7748 or reno@gov.nu.ca.	Baffinland is making contact with Robert Eno at DOE, to ensure it complies with the requirements for management and transport of wastes.	
Water Quality		
Section 54 of the *NIRB Screening Part 2 Form* indicates the location and volume of both surface and groundwater sources for the proposed activities. Although the proposed quantities of water are large, the impact of the proposed taking on source water and down gradient resources has not been evaluated.	Baffinland's recently issued water license requires that the licensee obtain approval for water taking by submitting a hydrological review, impact assessment and mitigation, where water is required in sufficient volume that the water body may be drawn down.	Comply with water license.
Baffinland states that '*The water contained a high SpC and chloride and calcium concentrations because of the addition of CaCl salt to drill process water'*. Additionally, during a site visit by a DOE biologist in the summer of 2006, it was noted that there was an excessive run-off and erosion at drill sites above the Mary River, where calcium chloride was being used as a drill additive. The erosion had destroyed the surrounding vegetation and run-off flowing into nearby water bodies. Based on our observations and the statement made by the proponent, this issue remains as a concern to DOE and has not been adequately addressed in the current proposal. DOE therefore recommends that the drill water be diverted to sumps located at least 30 meters from the high water mark, and be treated to an approved standard before the water can be released to the environment. These sumps should be used only for inert drill cuttings, not any other materials or substances. Sumps should also be contoured and backfilled after use to match the surroundings.	Baffinland will improve drilling practices through the use of in-ground sumps, and where this is not effective, alternative methods of containment will be identified and employed. A weekly water quality monitoring program, implemented in mid-2006, will continue through 2007 and 2008, to provide additional indication of performance. Additionally, Baffinland will be submitting a site water management plan to the Nuanvut Water Board by mid-May, as required by the water license.	Comply with water license; Improve drilling practices; monitor downstream water quality; prepare and submit site water management plan.
During the above mentioned visit by DOE staff, it was also noted, that grey water sumps at the camp were overflowing. DOE recommends that if sumps are used, that they be adequately sized to meet the demand of the waste water at the site. However, DOE feels that for camp of this size and lifespan, the proponent should be considering alternative long-term mechanical means of treating their waste water.	Baffinland is making plans to install a package sewage treatment system to meet the requirements of the full capacity camp in 2007. Sumps will be enlarged if required.	Seek approval from the water board for a sewage treatment plant, and enlarge sumps as required.

Air Quality		
The Government of Nunavut is a signatory to *Canada-wide Standard* (CWS) for dioxins and furans and the CWS for Mercury. DOE therefore recommends the following be implemented at the main camp and three temporary camps, to ensure CWS compliance. **Medium Camps (10-50 people)** The proponent shall apply appropriate technologies to ensure complete combustion of wastes, and the use of a dual chamber, forced-air incinerator is recommended. In addition, the proponent is recommended to implement a comprehensive waste management strategy (especially waste segregation) to reduce and control the volumes of wastes produced, transported, and disposed of. Furthermore, emission from incineration of hazardous wastes such as waste oil as proposed in the project proposal should comply with the CWS, and the compliance should be demonstrated to the regulators before the operation. **Large Camps (over 50 people)** The proponent shall apply appropriate technologies to ensure complete combustion of wastes, and the use of a dual chamber, controlled-air flow incinerator is recommended. Compliance with the Standards shall be demonstrated with an initial stack test upon commission of the incinerator on site. During the course of operations, the proponent shall make determined efforts to achieve CWS compliance. Determined efforts shall include but not be limited to appropriate record management, including maintenance reports, operator training logs, and the submission of an annual report that outlines the efforts made to achieve compliance with the Standards. Furthermore, emission from incineration of hazardous wastes such as waste oil as proposed in the project proposal should comply with the CWS, and the compliance should be demonstrated to the regulators before the operation.	A new incinerator is being mobilized to the Mary River camp. Specifications for this incinerator are forthcoming. The vendor is CJS Combustion Products in Edmonton, and the unit is a Pyrox VC-10. The unit is dual-chambered and forced-air equipped, with combustion in the first chamber occurring at 850ºC and at 750ºC in the second chamber. This unit will replace the current incinerator at the Mary River site. A stack test will be conducted early in the season to determine compliance with the Canada-wide Standards. Baffinland has initiated discussions with the Environmental Protection Service of the Department of Environment regarding the disposal of waste oil and off-specification fuel. The small volume of these materials generated on site to date have been incinerated, as this avoids the requirement for on-site storage of these materials at Mary River, backhaul by winter road to Milne Inlet, temporary storage at Milne Inlet, and transport by sealift to an approved waste disposal facility in the south. Baffinland will comply with the requirements of the Department of Environment in its operations in 2007.	Install new incinerator and complete a stack test. Establish the appropriate method(s) of managing waste oil through discussions with DOE.



LEGEND:

- Water
- Contour
- River/Stream
- Existing Tote Road
- Mary River Camp
- Area with Semi-daily to weekly drill moves locally (March - May, or June - September)

NOTES

1. Base Map: © Her Majesty the Queen in Rights of Canada, Department of Natural Resources, (2004). All rights reserved. (Government of Canada, 2006)
2. Coordinate grid is shown in UTM (NAD83) Zone 17 and is in metres.

Scale 0 20 40 Km

1:1000000

Baffinland Iron Mines Corporation

MARY RIVER PROJECT

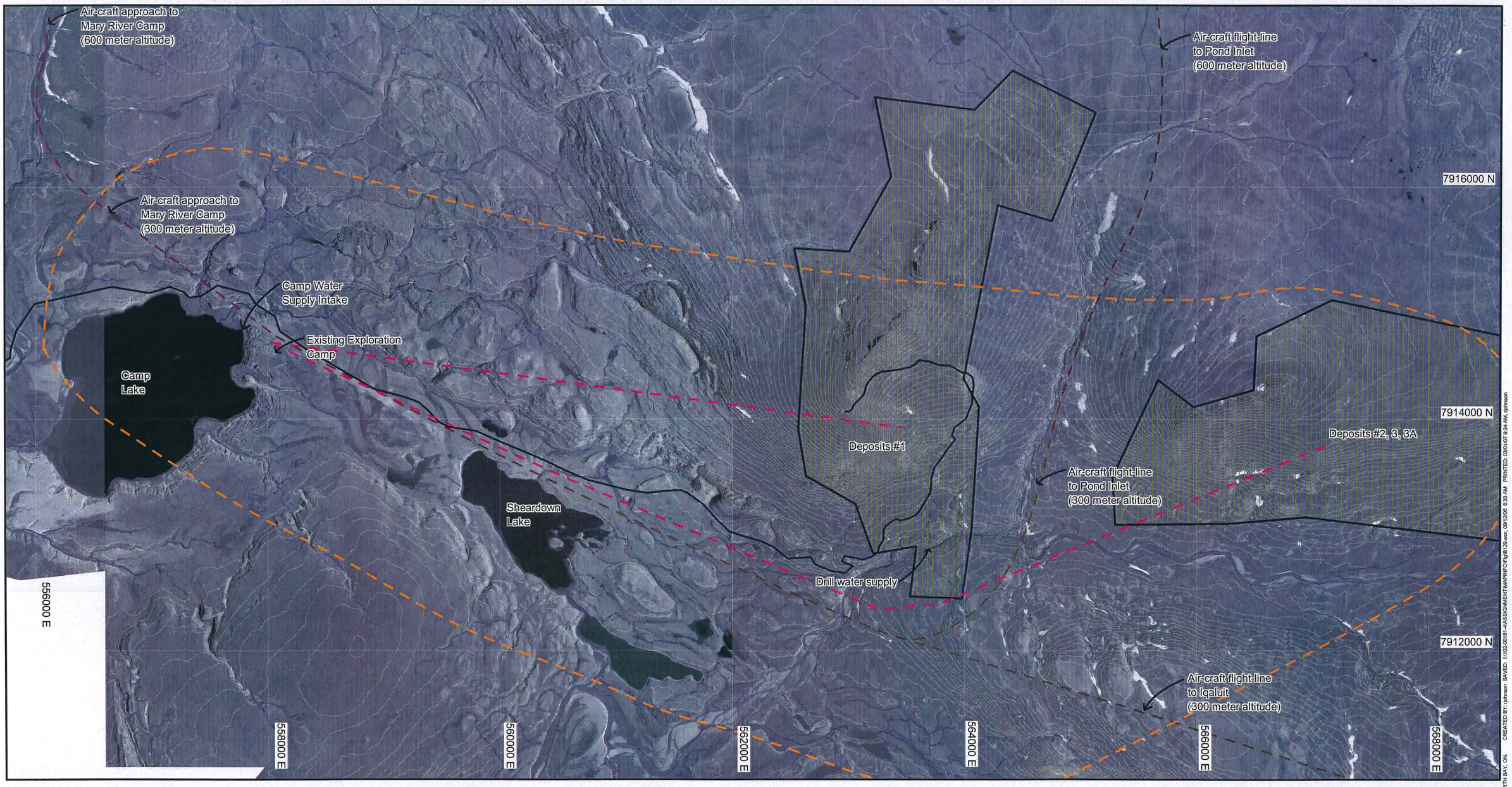
REGIONAL AIR TRAFFIC PATTERNS

Knight Piésold CONSULTING

P/A NO.	REF.	REV.
NB102-00181/4	NB07-00199	A

FIGURE 1

NORTH BAY, ON. CREATED BY: rjohnson SAVED: I:\102-00181-4\ASSIGNMENTMAPINFO\FIG\B131.wor, 12/20/06 4:39 PM PRINTED: 03/01/07 9:54 AM, rjohnson



LEGEND:

- *Existing Tote Road*
- *River/Stream*
- *Mining Lease Boundary*
- *Routes of constant helicopter traffic*
- *Aircraft approach to Mary River*
- *Aircraft flight-line to Pond Inlet and Iqaluit*
- *Approximate Zone of Influence*

NOTES:

1. *Airphotos and topography provided by Eagle Mapping (2005).*
2. *Contour interval is 10 metres.*
3. *Coordinate grid is shown in UTM (NAD83) Zone 17 and is in metres.*
4. *Mining lease boundaries from Indian and Northern Affairs (2006).*

Scale 0 500 1,000 Metres
1:32500

Baffinland Iron Mines Corporation

MARY RIVER PROJECT

MARY RIVER SITE AIR TRAFFIC

Knight Piésold CONSULTING

P/A NO.	REF.	REV.
NB102-00181/4	NB07-00199	A

FIGURE 2

Attachment 1

Appendix I
DIAND Caribou Protection Measures

From the North Baffin Regional Land Use Plan

1. (a) The Permittee shall not, without approval, conduct any activity between May 15 and July 15 within the Caribou Protection Areas depicted on the map certified by the Engineer as the "Caribou Protection Map" and annexed to this Land Use Permit.
(b) A Permittee may, upon approval by the Land Use Inspector, operate within the said Caribou Protection Areas beyond the May 15 deadline set out in 1(a), provided that, when monitoring information indicates that caribou cows are approaching the area of operation, the Permittee will implement 1(c).
(c) On cessation of activities pursuant to 1(a) or 1(b), the Permittee will remove from the zone all personnel who are not required for the maintenance and protection of the camp facilities and equipment, unless otherwise directed by the Land Use Inspector.
(d) The Permittee may commence or resume activities prior to July 15 within those parts of the Caribou Protection Areas released by the Land Use Inspector for the reason that caribou cows are not expected to use those parts for calving or post-calving (note 1).
2. (a) In the event that caribou cows calve outside of the Caribou Protection Areas, the Permittee shall suspend operations within the area(s) occupied by cows and/or calves between May 15 and July 15.
(b) In the event that caribou cows and calves are present the permittee shall suspend:
(i) blasting;
(ii) overflights by aircraft at any altitude of less that 300 meters above ground level; and
(iii) the use of snowmobiles and ATVs (all-terrain vehicles) outside the immediate vicinity of the camp.
3. (a) During migration of caribou, the Permittee shall not locate any operation so as to block or cause substantial diversion to migration.
(b) The Permittee shall cease activities that may interfere with migration, such as airborne geophysics surveys or movement of equipment, until the migrating caribou have passed.
4. (a) The Permittee shall not, between May 15 and September 1, construct any camp, cache any fuel, or conduct any blasting within 10 kilometres of any "Designated Crossing" as outlined on the map certified by the Engineer as the "Caribou Protection Map" and annexed to this Land Use Permit.
(b) The Permittee shall not, between May 15 and September 1, conduct any diamond drilling operation within 5 kilometres of any "Designated Crossing" as outlined on the map certified by the Engineer as the "Caribou Protection Map" and annexed to this Land Use Permit.

Notes
1. The Land Use Inspector's decision will be based on the existing caribou information.
2. Concentrations of caribou should be avoided by low-level aircraft at all times.