



SCREENING DECISION REPORT NIRB FILE No.: 16FN015

NPC File No.: 148223

July 4, 2016

Following the Nunavut Impact Review Board's (NIRB or Board) assessment of all materials provided, the NIRB is recommending that a review of Federal Institute for Geosciences and Natural Resources' (BGR) "Fuel Depot in 2016 and CASE 19 Pearya Research in 2017" is not required pursuant to paragraph 92(1)(a) of the *Nunavut Planning and Project Assessment Act* (NuPPAA).

Subject to the Proponent's compliance with the terms and conditions as set out in below, the NIRB is of the view that the project proposal is not likely to cause significant public concerns, and it is unlikely to result in significant adverse environmental and social impacts. The NIRB therefore recommends that the responsible Minister(s) accepts this Screening Decision Report.

OUTLINE OF SCREENING DECISION REPORT

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REGULATORY FRAMEWORK

The primary objectives of the NIRB are set out in Section 12.2.5 of the Nunavut Land Claims Agreement (NLCA) as follows:

"In carrying out its functions, the primary objectives of NIRB shall be at all times to protect and promote the existing and future well-being of the residents and communities of the Nunavut Settlement Area, and to protect the ecosystemic integrity of the Nunavut Settlement Area. NIRB shall take into account the well-being of the residents of Canada outside the Nunavut Settlement Area."

These objectives are confirmed under section 23 of the NuPPAA.

The purpose of screening is provided for under section 88 of the NuPPAA:

“The purpose of screening a project is to determine whether the project has the potential to result in significant ecosystemic or socio-economic impacts and, accordingly, whether it requires a review by the Board...”

To determine whether a review of a project is required, the NIRB is guided by the considerations as set out under subsection 89(1) of NuPPAA:

“89. (1) The Board must be guided by the following considerations when it is called on to determine, on the completion of a screening, whether a review of the project is required:

- (a) a review is required if, in the Board’s opinion,*
 - i. the project may have significant adverse ecosystemic or socio-economic impacts or significant adverse impacts on wildlife habitat or Inuit harvest activities,*
 - ii. the project will cause significant public concern, or*
 - iii. the project involves technological innovations, the effects of which are unknown; and*
- (b) a review is not required if, in the Board’s opinion,*
 - i. the project is unlikely to cause significant public concern, and*
 - ii. its adverse ecosystemic and socioeconomic impacts are unlikely to be significant, or are highly predictable and can be adequately mitigated by known technologies.”*

It is noted that subsection 89(2) provides that the considerations set out in paragraph 89(1)(a) prevail over those set out in paragraph 89(1)(b).

Where the NIRB determines that a project may be carried out without a review, the NIRB has the discretion to recommend specific terms and conditions to be attached to any approval of the project proposal. Specifically, paragraph 92(2)(a) of NuPPAA provides:

“92. (2) In its report, the Board may also
(a) recommend specific terms and conditions to apply in respect of a project that it determines may be carried out without a review.”

PROJECT REFERRAL

On March 21, 2016 the Nunavut Impact Review Board (NIRB or Board) received Federal Institute for Geosciences and Natural Resources’ (BGR) “Fuel Depot in 2016 and CASE 19 Pearya Research in 2017” project proposal from the Nunavut Planning Commission (NPC or Commission), with an accompanying positive conformity determination with the North Baffin Regional Land Use Plan.

In addition, on May 13, 2016 the Nunavut Impact Review Board (NIRB or Board) received a referral to screen BGR’s “Fuel Caching at Tanquary Fiord” project proposal directly from Parks Canada pursuant to section 167 of the *Nunavut Planning and Project Assessment Act* (NuPPAA).

The referral was in association to the proposed fuel caching and research activities to take place within Quttinirpaaq National Park.

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Project Description

The proposed “Fuel Depot in 2016 and *CASE 19 Pearya* Research in 2017” project is located within the Qikiqtani region, approximately 240 kilometres (km) northeast from Eureka and 250 km northeast from Grise Fiord and located within Quttinirpaaq National Park. The proponent intends to conduct transportation and storage of fuel at Tanquary Fiord in preparation for field work to be conducted in 2017 named *CASE 19 Pearya* (CASE standing for Circum-Arctic Structural Events). The purpose of the research activities is to conduct geological surveys on land areas around the Arctic Ocean in order to determine how and the Arctic Ocean (especially the Amerasian Basin) formed.

The transportation program of the fuel is proposed to take place from July to October 2016 with storage to take place from October 2016 to October 2017, while the research activities are proposed to take place from June to November 2017.

According to the project proposal, the scope of the project includes the following undertakings, works or activities:

Fuel Caching at Tanquary Fiord

- Establishment of fuel depot at Eureka and/or Tanquary Fiord (preference being Tanquary Fiord) with the use of large portable berms in existing fuel storage areas;
- Transportation and storage of 250 fuel drums for a total of 50,000 litres (L);
- Use of Coast Guard ship to transport fuel to head of Tanquary Fiord;
- Use of helicopter to move fuel drums from the ship to the airstrip at Camp Tanquary Fiord; and
- Removal of empty fuel drums following field work.

Research Activities

- Research studies to include:
 - Structural geological studies;
 - Petrological studies;
 - Geochronological studies;
 - Collection of rock samples for analyses;
- Main research activities to take place at between Disraeli Fiord in the east, northern part of Axel Heiberg in the west, and Greely Fiord/Tanquary Fiord in the south. Second study to be located at Stenkul Fiord;
- Use of twin otter to transport personnel and equipment to and from Resolute Bay to the base camp at Tanquary Fiord;
- Use of helicopter to transport personnel and equipment to and from Tanquary Fiord to research and additional camp sites;
- Establishment of temporary camp sites at Stenkul Fiord and Wootton Peninsula for up to 20 people and would include:

- Two (2) kitchen tents;
- Two (2) mess tents;
- Six (6) medium tents for personnel;
- Ten (10) small tents for researchers;
- Transportation, storage and use of 800 L diesel, 400 L gasoline and propane at the camp sites in addition to the aviation fuel to be stored at Tanquary Fiord;
- Combustible and non-combustible wastes to be collected and disposed of at Resolute Bay;
- Grey water to be disposed in sinkholes (sumps); and
- Use of water for domestic purposes.

2. Scoping

The NIRB has identified no additional works or activities in relation to the project proposal.

3. Key Stages of the Screening Process

The following key stages were completed:

Date	Stage
March 21, 2016	Receipt of project proposal from the NPC
May 13, 2016	Receipt of project proposal from Parks Canada
April 21, 2016; May 13, 2016	Information request(s)
April 28, 2016; May 30, 2016	Proponent responded to information request(s)
May 13, 2016	Scoping pursuant to subsection 86(1) of the NuPPAA
June 1, 2016	Public engagement and comment request
June 13, 2016	Receipt of public comments
June 22, 2016	Proponent responded to comments/concerns raised by public

4. Public Comments and Concerns

From June 1, 2016 to June 13, 2016 the NIRB provided opportunity for the public to provide comments and concerns regarding the project proposal. The following is a summary of the comments and concerns received:

Indigenous and Northern Affairs Canada

- Noted that it is unclear within the proposal whether the Hamlet and Hunters and Trappers Organizations (HTO) from Grise Fiord and Resolute Bay were informed solely on the fuel caching proposal or whether the information included the research related activities.
- Noted that the information provided did not outline any concerns or preferences regarding the proposal that may have been expressed by the Hamlet or the HTOs.
- Recommended the Proponent ensure it has carried out meaningful consultation and that it incorporates relevant recommendations and address any concerns by affected parties prior to commencing project activities.

- Noted that with appropriate management and mitigation, the proposed activities are not likely to lead to significant environmental or socio-economic impacts.
- Information on management and mitigation regarding the contingency fuel cache site at Eureka is lacking.
- Details regarding the geological research component of the project are lacking, however, INAC noted that from communication with the Proponent it is understood that field activities will concentrate on measuring structures, mapping, and sample collection. INAC reminded the Proponent that should changes be made to the work plan, applications would need to be submitted to NPC for an exemption determination.
- Recommended the Proponent familiarize themselves with best practices outlined in INAC's Northern Land Use Guidelines – Camp and Support Facilities.
- Recommended the Proponent ensures that all wastewater discharge sumps/pits are appropriately sized, are located a minimum of 31 metres away from the normal high water mark, and the sump/pit soil cover layer appropriately designed in order to prevent contaminant release or runoff into downstream freshwater bodies, especially during warmer months.

5. Comments and Concerns with respect to Inuit Qaujimaningit

No concerns or comments were received with respect to Inuit Qaujimaningit in relation to the proposed project.

6. Proponent's Response to Public Comments and Concerns

The following is a summary of the Proponent's response to concerns as received on June 22, 2016:

- The hamlets and hunters and trappers organizations (HTOs) from Grise Fiord and Resolute Bay were informed via a letter on February 3, 2016 that BGR is planning to conduct a geoscientific expedition to the northern part of Ellesmere Island in 2017 with a fuel depot either in Eureka or Tanquary Fiord. The letters were included in the application to the NPC.
- Conduct ongoing communication with the hamlets and the HTOs from both communities and will address concerns as raised. To date no concerns have been raised by either community.
- Field work will incorporate management plans to mitigate any potential environmental impacts with a leave no trace approach to be taken in all work.
- Preferred fuel cache site would be Tanquary Fiord with Eureka as the alternate location if serious ice conditions are encountered at the Fiord. The management and mitigation plans for the contingency fuel cache site at Eureka would be the same as for Tanquary Fiord.
- Additional applications will be submitted by the end of February 2017.
- Undertake to follow INAC's *Northern Land Use Guidelines – Camp and Support Facilities*.
- All sumps/pits will be positioned a minimum of 31 metres away from normal high water mark and construction will follow best practices guidelines from INAC.

FACTORS FOR DETERMINING SIGNIFICANCE OF IMPACTS

In determining whether a review of the project is required, the Board considered whether the project proposal had a potential to result in significant ecosystemic or socio-economic impacts.

Accordingly, the assessment of impact significance was based on the analysis of those factors that are set out under section 90 of NuPPAA. The Board took particular attention to take into account traditional knowledge and Inuit Qaujimaningit in carrying out its assessment and determination of the significance of impacts.

The following is a summary of the Board's assessment of the factors that are relevant to the determination of significant impacts with respect of this project proposal:

1. *The size of the geographic area, including the size of wildlife habitats, likely to be affected by the impacts.*

The size of the geographic area for the project proposal ranges to about 43 square km area and would include the Quttinirpaaq National Park, areas between Disraeli Fiord in the east, northern part of Axel Heiberg in the west, Greely Fiord/Tanquary Fiord in the south and Stenkul Fiord. In addition, the proposed project has a physical footprint consisting of the fuel storage site at Tanquary Fiord, use of the Tanquary Fiord base camp and two (2) temporary camp sites for research activities. The activities would also include transportation of personnel to and from the research sites. The proposed activities may take place within habitats for many far-ranging wildlife species such as Peary caribou, muskox, wolves, polar bears, and migratory birds, as identified by mapping sources, and may potentially affect animal migratory patterns

2. *The ecosystemic sensitivity of that area.*

The proposed project would occur in an area with no particular identified ecosystemic sensitivity. However, this area has been identified as having value and priority to the local community for:

- i. Terrestrial wildlife including muskox and Peary caribou,
- ii. Migratory birds and
- iii. Polar bears.

3. *The historical, cultural and archaeological significance of that area.*

The project Proponent has indicated that there are historical sites and graves at the north coast of Ellesmere Island with the potential of historical Inuit settlements and archaeological sites. Should the project be approved to proceed, the Proponent has committed to apply with the Government of Nunavut – Department of Culture and Heritage for proper permits to collect fossils and palaeontological samples.

4. *The size of the human and the animal populations likely to be affected by the impacts.*

The proposed project would occur approximately 240 kilometres (km) northeast from Eureka and 250 km northeast from Grise Fiord, the nearest communities; as such no human populations are likely to be affected by project impacts. No specific animal populations have been identified as likely to be affected by potential project impacts.

5. *The nature, magnitude and complexity of the impacts; the probability of the impacts occurring; the frequency and duration of the impacts; and the reversibility or irreversibility of the impacts.*

As the “Fuel Depot and CASE 19 Pearya Research” project is a proposed fuel caching and research project, the nature of potential impacts is considered to be well-known, with potential for infrequent, localized impacts to the biophysical environment that are temporary in nature, reversible and mitigable with due care.

6. *The cumulative impacts that could result from the impacts of the project combined with those of any other project that has been carried out, is being carried out or is likely to be carried out.*

The proposed project would take place in proximity to other active research proposals that have been assessed or is currently being assessed. This includes the “Ice Dynamics and Cryospheric Changes in Northern Canada” (NIRB File No. 08YN010); the “Arctic Carbonates, Sandstones and Volcanic Rocks, Northern Axel Heiberg Island” (NIRB File No. 10YN009); the “High Arctic Large Ingenious Province Geological Study” (NIRB File No. 15YN006); the “Tanquary Fiord Recapitalization” (NIRB File No. 16XN012); “Operation Nevus 2016” (NIRB File No. 16DN017); and “Quttinirpaaq UAV Project” (NIRB File No. 16UN030).

Potential for cumulative impacts to caribou migration, muskox and general wildlife resulting from research activities (noise and presence of people and equipment), and transportation of equipment, fuel and personnel to Tanquary Fiord and to research sites has been identified and considered in development of the recommended mitigation measures set out in the following section. Further, this project proposal could induce additional research activities in the area.

7. *Any other factor that the Board considers relevant to the assessment of the significance of impacts.*

No other specific factors have been identified as relevant to the assessment of this project proposal.

In considering the factors as set out above in the screening of the project proposal, the NIRB has identified a number of issues and provides the following views regarding whether or not the proposed project has the potential to result in significant impacts, and has proposed terms and conditions that would mitigate the potential adverse impacts identified.

Administrative Conditions:

To encourage compliance with applicable regulatory requirements and assist the Board and responsible authorities with compliance and effects monitoring for project activities, the following project-specific terms and conditions have been recommended: 1-4.

Ecosystem, wildlife habitat and Inuit harvesting activities:

Issue 1: Potential negative impacts to terrestrial wildlife (including caribou and muskox), polar bears, migratory birds, and their associated habitat due to project activities. This includes potential impacts from increased noise generated from transportation of personnel and equipment via aircraft to the proposed camp and research sites, set-up and use of the temporary field camps, storage and use of fuel and undertakings in support of research activities.

Board views: As discussed above in the assessment of factors relevant to this project proposal, the potential for impact(s) is applicable to the fuel caching area, set-up and use of the temporary field camps, the transportation of personnel to and from research locations, and related research activities, and is limited due to the seasonal undertaking of storage of the fuel and related research activities. The probability of impacts occurring is considered to be low, with potential adverse effects anticipated to be low in magnitude and it is unlikely that the proposed activities would interact significantly with identified wildlife and wildlife habitat. The proposed activities may take place within areas that overlap for many far-ranging wildlife species such as caribou, muskox, wolves, polar bears and migratory birds, and may potentially affect animal migratory patterns. However, it is expected that standard operational considerations would mitigate any potential adverse impacts to wildlife (including caribou) and migratory birds. In addition, Parks Canada has developed a new fuel cache protocol and spill response plan that parties would have to follow in order to cache fuel at Tanquary Fiord, Quttinirpaaq National Park.

The Proponent would also be required to follow the *Migratory Birds Convention Act*, *Migratory Birds Regulations*, *Species at Risk Act*, the *Nunavut Wildlife Act* and the *Canada National Parks Act* (see Regulatory Requirements section).

Recommended Mitigation Measures: It is recommended that the potential negative impacts may be mitigated by measures such as requiring the Proponent to maintain minimum flight altitudes and seasonal restrictions, to avoid interaction and disturbance to wildlife, and to provide wildlife training to project personnel. The following terms and conditions are recommended to mitigate the potential adverse impacts: 7, 13, and 16 through 27.

Issue 2: Potential negative impacts to surface and ground water quality, fish and fish habitat, soils, vegetation and land from the project activities; including set-up and use of the temporary field camps; use of water for domestic purposes; waste production; and transportation, storage and use of fuel and hazardous chemicals.

Board views: The potential for negative impacts is applicable to the fuel caching area at Tanquary Fiord and the temporary field camp facilities related to the research activities,

with a low probability of impacts occurring, and the impacts being reversible in nature. The Proponent has committed to properly store and manage fuel for this project, disposal of greywater in sumps, and removal of all wastes and empty fuel barrels upon abandonment of the research sites. As such, the magnitude of potential impacts is considered to be low and would also have a low probability of extending beyond the immediate project area.

The Proponent would require a water licence from the Nunavut Water Board for the use of water for the project activities and for the storage of fuel and would be required to follow the *Fisheries Act*, the *Transportation of Dangerous Goods Regulations*, *Transportation of Dangerous Goods Act* and the *Canadian Environmental Protection Act* (see Regulatory Requirements section).

Recommended Mitigation Measures: It is recommended that the potential negative impacts would be mitigated by measures requiring the Proponent to remove all garbage, use secondary containment, ensuring spill response equipment are in place, ensure the Proponent follow the new fuel cache protocol and spill response plan set out by Parks Canada, and undertake restoration of any disturbed areas to reduce impacts to the land from camping and research activities. The following terms and conditions are recommended to mitigate the potential negative impacts from the proposal: 5 through 12, 14, 15, and 28 through 32.

Issue 3: Potential negative impacts to public and traditional land use activities in the area due to transportation of personnel and equipment to the research sites and camping activities.

Board Views: The Proponent has indicated that the proposed project would take place in the northern Baffin region approximately 250 km northeast from Grise Fiord. Due to the distance it is unlikely that the area would be used for traditional activities. However, noise from the research activities may temporarily change distribution of harvested species through avoidance and may affect personal enjoyment of the land. A term and condition has been recommended to ensure minimal impacts to traditional land use activities.

Recommended Mitigation Measures: Term and condition 35 has been recommended to ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities in the area.

Socio-economic effects on northerners:

Issue 4: Potential negative impacts to historical, cultural and archaeological sites. The Proponent is proposing to work in an area of known historical significance, which may cause potential negative impacts.

Board Views: The Proponent has identified known historical significant sites in the project area. It is noted that the Proponent would be required to contact the Culture and Heritage Department of the Government of Nunavut when encountering historical sites (see Regulatory Requirements section).

Recommended Mitigation Measures: The Proponent is required to follow the *Nunavut Act* and the *Canada National Parks Act* (as recommended in Regulatory Requirements section). Further, term and condition 33 is recommended to ensure that available Inuit Qaujimaningit can inform project activities, and reduce the potential for negative impacts occurring to any additional historical sites.

Issue 5: Potential positive socio-economic effect on northerners from employment as the Proponent has committed to hiring local residents as field assistants and wildlife monitors.

Board Views: It is noted that the Proponent has committed to continue to consult with local community members from Grise Fiord and Resolute Bay on the research activities, which is considered a continued positive impact.

Recommended Mitigation Measures: Terms and conditions 33 and 34 have been recommended to ensure the Proponent continues to inform the community of the research activities and findings as well as provide community members with information to ensure a successful local hiring opportunity.

Significant public concern:

Issue 6: No significant public concern was expressed during the public commenting period for this file.

Board Views: Follow up consultation and involvement of local community members is expected to mitigate any potential for public concern resulting from project activities. In addition, it is recommended that the Proponent considers hiring local people for the project activities.

Recommended Mitigation Measures: Terms and conditions 33 and 34 are recommended to ensure that the affected community and organizations are informed about the project proposal, to provide the Proponent with an opportunity to proactively address or mitigate any concerns that may arise from the project activities findings and to provide community members with information to ensure a successful local hiring opportunity.

Technological innovations for which the effects are unknown:

No specific issues have been identified associated with this project proposal.

In considering the above factors and subject to the Proponent's compliance with the terms and conditions necessary to mitigate against the potential adverse environmental and social effects, the Board is of the view that the proposed project is unlikely to cause significant public concern and its adverse ecosystemic and socioeconomic impacts are unlikely to be significant, or are highly predictable and can be adequately mitigated by known technologies.

RECOMMENDED PROJECT-SPECIFIC TERMS AND CONDITIONS

The Board is recommending the following specific terms and conditions to apply in respect of the project:

General

1. Federal Institute for Geosciences and Natural Resources' (BGR) (the Proponent) shall maintain a copy of the Project Terms and Conditions at the site of operation at all times.
2. The Proponent shall forward copies of all permits obtained and required for this project to the Nunavut Impact Review Board (NIRB) prior to the commencement of the project.
3. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (Application to Determine Conformity, March 21, 2016), the NIRB (Online Application Form, April 28, 2016 and May 18, 2016), to the Natural Resources Canada (Arctic Logistics Request, March 21, 2016 and May 18, 2016), to the Nunavut Research Institute (Scientific Research Licence, March 21, 2016 and May 18, 2016), and to the Qikiqtani Inuit Association (Application to Access Inuit Owned Lands, March, 21, 2016 and May 18, 2016).
4. The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines.

Water Use

5. The Proponent shall ensure that water extraction from any fish-bearing waterbody is done with appropriate care and caution. Small lakes or streams should not be used for water withdrawal unless approved by either Parks Canada or the Nunavut Water Board as appropriate.
6. The Proponent shall not use water, including constructing or disturbing any stream, lakebed or the banks of any definable water course unless approved by either Parks Canada or the Nunavut Water Board as appropriate.

Waste Disposal

7. The Proponent shall keep all garbage and debris in bags placed in a covered metal container or equivalent until disposed of at an approved facility. All such wastes shall be kept inaccessible to wildlife at all times.

Fuel and Chemical Storage

8. The Proponent shall follow Parks Canada's fuel cache protocol and spill response plan.
9. The Proponent shall use adequate secondary containment or a surface liner (e.g., self-supporting insta-berms and fold-a-tanks), when storing barreled fuel and chemicals at all locations.
10. The Proponent shall locate all fuel and other hazardous materials a minimum of thirty-one (31) metres away from the high water mark of any water body and in such a manner as to prevent any release into the environment for activities outside the National Park boundaries, unless otherwise authorized by the Nunavut Water Board.
11. The Proponent shall ensure that re-fueling of all equipment occurs a minimum of thirty-one (31) metres away from the high water mark of any water body for activities outside the National Park boundaries, unless otherwise authorized by the Nunavut Water Board.

12. The Proponent shall ensure that re-fueling of all equipment occurs a minimum of 100 metres away from the high water mark of any water body for activities inside the National Park boundaries, unless otherwise authorized by Parks Canada.
13. The Proponent shall store all fuel and chemicals in such a manner that they are inaccessible to wildlife.
14. The Proponent shall ensure that appropriate spill response equipment and clean-up materials (e.g., shovels, pumps, barrels, drip pans, and absorbents) are readily available during any transfer of fuel or hazardous substances, and at all fuel storage sites.
15. The Proponent shall ensure that all personnel are properly trained in fuel and hazardous waste handling procedures, as well as spill response procedures. All spills of fuel or other deleterious materials of any amount must be reported immediately to the 24 hour Spill Line at (867) 920-8130.

Wildlife - General

16. The Proponent shall ensure that there is no damage to wildlife habitat in conducting this operation.
17. The Proponent shall not harass wildlife. This includes persistently worrying or chasing animals, or disturbing large groups of animals. The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired.
18. The Proponent shall ensure that all project personnel are made aware of the measures to protect wildlife and are provided with training and/or advice on how to implement these measures.

Migratory Birds and Raptors Disturbance

19. The Proponent shall not disturb or destroy the nests or eggs of any birds. If nests are encountered and/or identified, the Proponent shall take precaution to avoid further interaction and or disturbance (e.g., a 100 metres buffer around the nests). If active nests of any birds are discovered (i.e., with eggs or young), the Proponent shall avoid these areas until nesting is complete and the young have left the nest.
20. The Proponent shall minimize activities during periods when birds are particularly sensitive to disturbance such as migration, nesting and moulting.
21. The Proponent shall avoid the seaward site of seabird colonies and areas used by flocks of migrating waterfowl by three (3) kilometres.
22. The Proponent shall ensure its aircraft avoid excessive hovering or circling over areas where bird presence is likely.

Aircraft Flight Restrictions

23. The Proponent shall restrict aircraft/helicopter activity related to the project to a minimum altitude of 610 metres above ground level unless there is a specific requirement for low-level flying, which does not disturb wildlife and migratory birds.
24. The Proponent shall ensure that aircraft maintain a vertical distance of 1000 metres and a horizontal distance of 1500 metres from any observed groups (colonies) of migratory birds.

Aircraft should avoid critical and sensitive wildlife areas at all times by choosing alternate flight corridors.

25. The Proponent shall ensure that aircraft/helicopter do not, unless for emergency, touch-down in areas where wildlife are present.

Caribou and Muskoxen Disturbance

26. The Proponent shall cease activities that may interfere with the migration or calving of caribou or muskox, until the caribou or muskox have passed or left the area.
27. The Proponent shall not block or cause any diversion to caribou migration, and shall cease activities likely to interfere with migration such as movement of equipment or personnel until such time as the caribou have passed.

Temporary Camps and Land Use

28. The Proponent shall ensure that all camps are located on gravel, sand or other durable land.
29. The Proponent shall not erect camps or store material on the surface ice of lakes or streams.
30. The Proponent shall ensure that the land use area is kept clean and tidy at all times.

Restoration of Disturbed Areas

31. The Proponent shall remove all garbage, fuel and equipment upon abandonment.
32. The Proponent shall ensure that all disturbed areas are restored to a stable or pre-disturbed state as practical as possible upon completion of field work.

Other

33. The Proponent should consult with local residents regarding their activities in the area and solicit available Inuit Qaujimaningit and information that can inform project activities.
34. The Proponent should, to the extent possible, hire local people.
35. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.

OTHER NIRB CONCERNS AND RECOMMENDATIONS

In addition to the project-specific terms and conditions, the Board is recommending the following:

It is also recommended that:

Change in Project Scope

1. Responsible authorities or Proponent shall notify the Nunavut Planning Commission (NPC) and the NIRB of any changes in operating plans or conditions, including phase advancement, associated with this project prior to any such change.

Bear and Carnivore Safety

2. The Proponent should review the Government of Nunavut's booklet on Bear Safety which can be downloaded from this link: http://gov.nu.ca/sites/default/files/bear_safety_-_reducing_bear-people_conflicts_in_nunavut.pdf. Further information on bear/carnivore

detection and deterrent techniques can be found in the “*Safety in Grizzly and Black Bear Country*” pamphlet, which can be downloaded from this link: http://www.enr.gov.nt.ca/sites/default/files/web_pdf_wd_bear_safety_brochure_1_may_2015.pdf.

There are polar bear and grizzly bear safety resources available from the Bear Smart Society with videos on polar bear safety available in English, French and Inuktitut at <http://www.bearsmart.com/play/safety-in-polar-bear-country/>. Information can also be obtained from Parks Canada’s website on bear safety at the following link: <http://www.pc.gc.ca/eng/pn-np/nu/quttinirpaaq/visit/visit6/d.aspx> or in reviewing the “*Safety in Polar Bear Country*” pamphlet, which can be downloaded from the following link: http://www.pc.gc.ca/eng/pn-np/nu/quttinirpaaq/visit/visit6/~media/pn-np/nu/auyuittuq/pdf/shared/PolarBearSafety_English.ashx.

3. Any problem wildlife or any interaction with carnivores should be reported immediately to the local Government of Nunavut, Department of Environment Conservation Office (Conservation Officer of Resolute Bay, phone: (867) 252-3879).

Species at Risk

4. The Proponent review Environment and Climate Change Canada’s “Environment Assessment Best Practice Guide for Wildlife at Risk in Canada”, available at the following link: http://epe.lac-bac.gc.ca/100/200/301/environment_can/cws-scf/environmental_assessment-ef/ea_best_practices_2004_e.pdf. The guide provides information to the Proponent on what is required when Wildlife at Risk, including *Species at Risk*, are encountered or affected by the project.

Migratory Birds

5. The Proponent review Canadian Wildlife Services’ “Key migratory bird terrestrial habitat sites in the Northwest Territories and Nunavut”, available at the following link: <http://publications.gc.ca/site/eng/317630/publication.html> and “Key marine habitat sites for migratory birds in Nunavut and the Northwest Territories”, available at the following link: <http://publications.gc.ca/site/eng/392824/publication.html>. The guide provides information to the Proponent on key terrestrial and marine habitat areas that are essential to the welfare of various migratory bird species in Canada.
6. For further information on how to protect migratory birds, their nests and eggs when planning or carrying out project activities, consult Environment and Climate Change Canada’s Incidental Take web page and the fact sheet “Planning Ahead to Reduce the Risk of Detrimental Effects to Migratory Birds, and their Nests and Eggs” available at <http://www.ec.gc.ca/paom-itmb/>.

Transport of Waste/Dangerous Goods and Waste Management

7. Environment and Climate Change Canada recommends that all hazardous wastes, including waste oil, receive proper treatment and disposal at an approved facility.
8. The Proponent shall ensure that a waste manifest or the appropriate transportation of dangerous goods (TDG) documentation accompany all potential hazardous samples and/or materials that are transported off site.

The Proponent is also advised that the following legislation may apply to the project:

Acts and Regulations

1. The *Fisheries Act* (<http://laws-lois.justice.gc.ca/eng/acts/F-14/index.html>).
2. The *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (<http://laws-lois.justice.gc.ca/eng/acts/n-28.8/>).
3. The *Migratory Birds Convention Act* and *Migratory Birds Regulations* (<http://laws-lois.justice.gc.ca/eng/acts/M-7.01/>).
4. The *Species at Risk Act* (<http://laws-lois.justice.gc.ca/eng/acts/S-15.3/index.html>). Attached in **Appendix A** is a list of Species at Risk in Nunavut.
5. The *Wildlife Act* (<http://www.canlii.org/en/nu/laws/stat/snu-2003-c-26/latest/snu-2003-c-26.html>) which contains provisions to protect and conserve wildlife and wildlife habitat, including specific protection measures for wildlife habitat and species at risk.
6. The *Nunavut Act* (<http://laws-lois.justice.gc.ca/eng/acts/N-28.6/>). The Proponent must comply with the proposed terms and conditions listed in the attached **Appendix B**.
7. The *Canada National Parks Act* (<http://laws-lois.justice.gc.ca/eng/acts/n-14.01/>).
8. The *Transportation of Dangerous Goods Regulations*, *Transportation of Dangerous Goods Act* (<http://www.tc.gc.ca/eng/tdg/safety-menu.htm>), and the *Canadian Environmental Protection Act* (<http://laws-lois.justice.gc.ca/eng/acts/C-15.31/>). The Proponent must ensure that proper shipping documents accompany all movements of dangerous goods. The Proponent must register with the Government of Nunavut, Department of Environment Manager of Pollution Control and Air Quality at 867-975-7748.
9. The *Aeronautics Act* (<http://laws-lois.justice.gc.ca/eng/acts/A-2/>).

CONCLUSION

The foregoing constitutes the Board's screening decision with respect to the Federal Institute for Geosciences and Natural Resources' "Fuel Depot in 2016 and *CASE 19 Pearya* Research in 2017".

Dated July 4, 2016 at Arviat, NU.



Elizabeth Copland, Chairperson

Attachments: Appendix A: Species at Risk in Nunavut
 Appendix B: Archaeological and Palaeontological Resources Terms and Conditions for Land Use
 Permit Holders

Appendix A

Species at Risk in Nunavut

This list includes species listed on one of the Schedules of SARA (*Species at Risk Act*) and under consideration for listing on Schedule 1 of SARA. These species have been designated as at risk by COSEWIC (Committee on the Status of Endangered Wildlife in Canada). This list may not include all species identified as at risk by the Territorial Government.

- Schedule 1 is the official legal list of Species at Risk for SARA. SARA applies to all species on Schedule 1. The term “listed” species refers to species on Schedule 1.
- Schedule 2 and 3 of SARA identify species that were designated at risk by the COSEWIC prior to October 1999 and must be reassessed using revised criteria before they can be considered for addition to Schedule 1.
- Some species identified at risk by COSEWIC are “pending” addition to Schedule 1 of SARA. These species are under consideration for addition to Schedule 1, subject to further consultation or assessment.

Schedules of SARA are amended on a regular basis so it is important to check the SARA registry (www.sararegistry.gc.ca) to get the current status of a species.

Updated: June 2015

Species at Risk ¹	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility ²
Eskimo Curlew	Endangered	Schedule 1	Environment Canada (EC)
Ivory Gull	Endangered	Schedule 1	EC
Ross's Gull	Threatened	Schedule 1	EC
Harlequin Duck (Eastern population)	Special Concern	Schedule 1	EC
Rusty Blackbird	Special Concern	Schedule 1	Government of Nunavut (GN)
Peregrine Falcon	Special Concern (<i>anatum-tundrius</i> complex ³)	Schedule 1 - Threatened (<i>anatum</i>) Schedule 3 – Special Concern (<i>tundrius</i>)	GN
Short-eared Owl	Special Concern	Schedule 3	GN
Red Knot (<i>rufa</i> subspecies)	Endangered	Schedule 1	EC
Red Knot (<i>islandica</i> subspecies)	Special Concern	Schedule 1	EC
Horned Grebe (Western population)	Special Concern	Pending	EC
Red-necked Phalarope	Special concern	Pending	EC
Buff-breasted Sandpiper	Special concern	Pending	EC
Felt-leaf Willow	Special Concern	Schedule 1	GN
Porsild's Bryum	Threatened	Schedule 1	GN
Peary Caribou	Endangered	Schedule 1	GN
Barren-ground Caribou	Special Concern	Schedule 1	GN

Species at Risk ¹	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility ²
(Dolphin and Union population)			
Polar Bear	Special Concern	Schedule 1	GN/Fisheries and Oceans Canada (DFO)
Grizzly Bear	Special Concern	Pending	GN
Wolverine	Special Concern	Pending	GN
Atlantic Cod, Arctic Lakes	Special Concern	Pending	DFO
Atlantic Walrus	Special Concern	Pending	DFO
Beluga Whale (Cumberland Sound population)	Threatened	Schedule 2	DFO
Beluga Whale (Eastern Hudson Bay population)	Endangered	Pending	DFO
Beluga Whale (Western Hudson Bay population)	Special Concern	Pending	DFO
Beluga Whale (Eastern High Arctic – Baffin Bay population)	Special Concern	Pending	DFO
Bowhead Whale (Eastern Canada – West Greenland population)	Special Concern	Pending	DFO
Bowhead Whale (Eastern Arctic population)		Schedule 2	DFO
Killer Whale (Northwest Atlantic / Eastern Arctic populations)	Special Concern	Pending	DFO
Narwhal	Special Concern	Pending	DFO

¹ The Department of Fisheries and Oceans has responsibility for aquatic species.

² Environment Canada (EC) has a national role to play in the conservation and recovery of Species at Risk in Canada, as well as responsibility for management of birds described in the Migratory Birds Convention Act (MBCA). Day-to-day management of terrestrial species not covered in the MBCA is the responsibility of the Territorial Government. Populations that exist in National Parks are also managed under the authority of the Parks Canada Agency.

³ The *anatum* subspecies of Peregrine Falcon is listed on Schedule 1 of SARA as threatened. The *anatum* and *tundrius* subspecies of Peregrine Falcon were reassessed by COSEWIC in 2007 and combined into one subpopulation complex. This subpopulation complex was assessed by COSEWIC as Special Concern.

Appendix B:
Archaeological and Palaeontological Resources Terms and Conditions for Land Use Permit Holders



INTRODUCTION

The Department of Culture and Heritage (CH) routinely reviews land use applications sent to the Nunavut Water Board, Nunavut Impact Review Board and the Indigenous and Northern Affairs Canada. These terms and conditions provide general direction to the permittee/proponent regarding the appropriate actions to be taken to ensure the permittee/proponent carries out its role in the protection of Nunavut's archaeological and palaeontological resources.

TERMS AND CONDITIONS

- 1) The permittee/proponent shall have a professional archaeologist and/or palaeontologist perform the following **Functions** associated with the **Types of Development** listed below or similar development activities:

	Types of Development (See Guidelines below)	Function (See Guidelines below)
a)	Large scale prospecting	Archaeological/Palaeontological Overview Assessment
b)	Diamond drilling for exploration or geotechnical purpose or planning of linear disturbances	Archaeological/ Palaeontological Inventory
c)	Construction of linear disturbances, Extractive disturbances, Impounding disturbances and other land disturbance activities	Archaeological/ Palaeontological Inventory or Assessment or Mitigation

Note that the above-mentioned functions require either a Nunavut Archaeologist Permit or a Nunavut Palaeontologist Permit. CH is authorized by way of the *Nunavut and Archaeological and Palaeontological Site Regulations*¹ to issue such permits.

- 2) The permittee/proponent shall not operate any vehicle over a known or suspected archaeological or palaeontological site.

¹ P.C. 2001-1111 14 June, 2001

- 3) The permittee/proponent shall not remove, disturb, or displace any archaeological artifact or site, or any fossil or palaeontological site.
- 4) The permittee/proponent shall immediately contact CH at (867) 934-2046 or (867) 975-5500 should an archaeological site or specimen, or a palaeontological site or fossil, be encountered or disturbed by any land use activity.
- 5) The permittee/proponent shall immediately cease any activity that disturbs an archaeological or palaeontological site encountered during the course of a land use operation until permitted to proceed with the authorization of CH.
- 6) The permittee/proponent shall follow the direction of CH in restoring disturbed archaeological or palaeontological sites to an acceptable condition. If these conditions are attached to either a Class A or B Permit under the Territorial Lands Act Indigenous and Northern Affairs Canada directions will also be followed.
- 7) The permittee/proponent shall provide all information requested by CH concerning all archaeological sites or artifacts and all palaeontological sites and fossils encountered in the course of any land use activity.
- 8) The permittee/proponent shall make best efforts to ensure that all persons working under its authority are aware of these conditions concerning archaeological sites and artifacts and palaeontological sites and fossils.
- 9) If a list of recorded archaeological and/or palaeontological sites is provided to the permittee/proponent by CH as part of the review of the land use application the permittee/proponent shall avoid the archaeological and/or palaeontological sites listed.
- 10) Should a list of recorded sites be provided to the permittee/proponent, the information is provided solely for the purpose of the proponent's land use activities as described in the land use application, and must otherwise be treated confidentially by the proponent.

Legal Framework

As stated in Article 33 of the *Nunavut Land Claims Agreement*:

Where an application is made for a land use permit in the Nunavut Settlement Area, and there are reasonable grounds to believe that there could be sites of archaeological importance on the lands affected, no land use permit shall be issued without written consent of the Designated Agency. Such consent shall not be unreasonably withheld. [33.5.12]

Each land use permit referred to in Section 33.5.12 shall specify the plans and methods of archeological site protection and restoration to be followed by the permit holder, and any other conditions the Designated Agency may deem fit. [33.5.13]

Palaeontology and Archaeology

Under the *Nunavut Act*², the federal government can make regulations for the protection, care and preservation of palaeontological and archaeological sites and specimens in Nunavut. Under

² s. 51(1)

the *Nunavut Archaeological and Palaeontological Sites Regulations*³, it is illegal to alter or disturb any palaeontological or archaeological site in Nunavut unless permission is first granted through the permitting process.

Definitions

As defined in the *Nunavut Archaeological and Palaeontological Sites Regulations*, the following definitions apply:

“archaeological site” means a place where an archaeological artifact is found.

“archaeological artifact” means any tangible evidence of human activity that is more than 50 years old and in respect of which an unbroken chain of possession or regular pattern of usage cannot be demonstrated, and includes a Denesuline archaeological specimen referred to in section 40.4.9 of the Nunavut Land Claims Agreement.

“palaeontological site” means a site where a fossil is found.

“fossil” includes:

Fossil means the hardened or preserved remains or impression of previously living organisms or vegetation and includes:

- (a) natural casts;*
- (b) preserved tracks, coprolites and plant remains; and*
- (c) the preserved shells and exoskeletons of invertebrates and the preserved eggs, teeth and bones of vertebrates.*

³ P.C. 2001-1111 14 June, 2001

Guidelines for Developers for the Protection of Archaeological Resources in the Nunavut Territory

(**Note:** Partial document only, complete document at: www.ch.gov.nu.ca/en/Archaeology.aspx)

Introduction

The following guidelines have been formulated to ensure that the impacts of proposed developments upon heritage resources are assessed and mitigated before ground surface altering activities occur. Heritage resources are defined as, but not limited to, archaeological and historical sites, burial grounds, palaeontological sites, historic buildings and cairns. Effective collaboration between the developer, the Department of Culture, Language, Elders and Youth (CH), and the contract archaeologist(s) will ensure proper preservation of heritage resources in the Nunavut Territory. The roles of each are briefly described.

CH is the Nunavut Government agency which oversees the protection and management of heritage resources in Nunavut, in partnership with land claim authorities, regulatory agencies, and the federal government. Its role in mitigating impacts of developments on heritage resources is as follows: to identify the need for an impact assessment and make recommendations to the appropriate regulatory agency; set the terms of reference for the study depending upon the scope of the development; suggest the names of qualified individuals prepared to undertake the study to the developer; issue an archaeologist or palaeontologist permit authorizing field work; assess the completeness of the study and its recommendations; and ensure that the developer complies with the recommendations.

The primary regulatory agencies that CH provides information and assistance to are the Nunavut Impact Review Board, for development activities proposed for Inuit Owned Lands (as defined in Section 1.1.1 of the Nunavut Land Claims Agreement), and the Indigenous and Northern Affairs Canada, for development activities proposed for federal Crown Lands.

A developer is the initiator of a land use activity. It is the obligation of the developer to ensure that a qualified archaeologist or palaeontologist is hired to perform the required study and that provisions of the contract with the archaeologist or palaeontologist allow permit requirements to be met; i.e. fieldwork, collections management, artifact and specimen conservation, and report preparation. On the recommendation of the contract archaeologist or palaeontologist in the field and the Government of Nunavut, the developer shall implement avoidance or mitigative measures to protect heritage resources or to salvage the information they contain through excavation, analysis, and report writing. The developer assumes all costs associated with the study in its entirety.

Through his or her active participation and supervision of the study, the contract archaeologist or palaeontologist is accountable for the quality of work undertaken and the quality of the report produced. Facilities to conduct fieldwork, analysis, and report preparation should be available to this individual through institutional, agency, or company affiliations. Responsibility for the curation of objects recovered during field work while under study and for documents generated in the course of the study as well as remittance of artifacts, specimens and documents to the repository specified on the permit accrue to the contract archaeologist or palaeontologist. This individual is also bound by the legal requirements of the *Nunavut Archaeological and*

Types of Development

In general, those developments that cause concern for the safety of heritage resources will include one or more of the following kinds of surface disturbances. These categories, in combination, are comprehensive of the major kinds of developments commonly proposed in Nunavut. For any single development proposal, several kinds of these disturbances may be involved

- *Linear disturbances: including the construction of highways, roads, winter roads, transmission lines, and pipelines;*
- *Extractive disturbances: including mining, gravel removal, quarrying, and land filling;*
- *Impoundment disturbances: including dams, reservoirs, and tailings ponds;*
- *Intensive land use disturbances: including industrial, residential, commercial, recreational, and land reclamation work, and use of heritage resources as tourist developments.*
- *Mineral, oil and gas exploration: establishment of camps, temporary airstrips, access routes, well sites, or quarries all have potential for impacting heritage resources.*

Types of Studies Undertaken to Preserve Heritage Resources

Overview: An overview study of heritage resources should be conducted at the same time as the development project is being designed or its feasibility addressed. They usually lack specificity with regard to the exact location(s) and form(s) of impact and involve limited, if any, field surveys. Their main aim is to accumulate, evaluate, and synthesize the existing knowledge of the heritage of the known area of impact. The overview study provides managers with baseline data from which recommendations for future research and forecasts of potential impacts can be made. A Class I Permit is required for this type of study if field surveys are undertaken.

Reconnaissance: This is done to provide a judgmental appraisal of a region sufficient to provide the developer, the consultant, and government managers with recommendations for further development planning. This study may be implemented as a preliminary step to inventory and assessment investigations except in cases where a reconnaissance may indicate a very low or negligible heritage resource potential. Alternately, in the case of small-scale or linear developments, an inventory study may be recommended and obviate the need for a reconnaissance.

The main goal of a reconnaissance study is to provide baseline data for the verification of the presence of potential heritage resources, the determination of impacts to these resources, the generation of terms of reference for further studies and, if required, the advancement of preliminary mitigative and compensatory plans. The results of reconnaissance studies are primarily useful for the selection of alternatives and secondarily as a means of identifying impacts that must be mitigated after the final siting and design of the development project.

Depending on the scope of the study, a Class 1 or Class 2 Permit is required for this type of investigation.

Inventory: A resource inventory is generally conducted at that stage in a project's development at which the geographical area(s) likely to sustain direct, indirect, and perceived impacts can be well defined. This requires systematic and intensive fieldwork to ascertain the effects of all possible and alternate construction components on heritage resources. All heritage sites must be recorded on Government of Nunavut Site Survey forms. Sufficient information must be amassed from field, library and archival components of the study to generate a predictive model of the heritage resource base that will:

- allow the identification of research and conservation opportunities;
- enable the developer to make planning decisions and recognize their likely effects on the known or predicted resources; and
- make the developer aware of the expenditures, which may be required for subsequent studies and mitigation. A Class 1 or 2 permit is required.

Assessment: At this stage, sufficient information concerning the numbers and locations of heritage resources will be available, as well as data to predict the forms and magnitude of impacts. Assessments provide information on the size, volume, complexity and content of a heritage resource, which is used to rank the values of different sites or site types given current archaeological knowledge. As this information will shape subsequent mitigation program(s), great care is necessary during this phase.

Mitigation: This refers to the amelioration of adverse impacts to heritage resources and involves the avoidance of impact through the redesign or relocation of a development or its components; the protection of the resource by constructing physical facilities; or, the scientific investigation and recovery of information from the resource by excavation or other method. The type(s) of appropriate mitigative measures are dictated by their viability in the context of the development project. Mitigation strategies must be developed in consultation with, and approved by, the Department of Culture and Heritage. It is important to note that mitigation activities should be initiated as far in advance of the construction of the development as possible.

Surveillance and monitoring: These may be required as part of the mitigation program.

Surveillance may be conducted during the construction phase of a project to ensure that the developer has complied with the recommendations.

Monitoring involves identification and inspection of residual and long-term impacts of a development (i.e. shoreline stability of a reservoir); or the use of impacts to disclose the presence of heritage resources, for example, the uncovering of buried sites during the construction of a pipeline.