



SCREENING DECISION REPORT NIRB FILE No.: 17EN020

NPC File No.: 148482

May 18, 2017

Following the Nunavut Impact Review Board's (NIRB or Board) assessment of all materials provided, the NIRB is recommending that a review of 5530 Nunavut Inc. "Meadowbank Precious Metal Project" 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

- 1) REGULATORY FRAMEWORK
- 2) PROJECT REFERRAL
- 3) PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS
- 4) FACTORS FOR DETERMINING SIGNIFICANCE OF IMPACTS
- 5) VIEWS OF THE BOARD
- 6) RECOMMENDED PROJECT-SPECIFIC TERMS AND CONDITIONS
- 7) MONITORING AND REPORTING REQUIREMENTS
- 8) OTHER NIRB CONCERNS AND RECOMMENDATIONS
- 9) REGULATORY REQUIREMENTS
- 10) CONCLUSION

REGULATORY FRAMEWORK

The primary objectives of the NIRB are set out in Section 12.2.5 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (Nunavut Agreement) 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 February 17, 2017 the Nunavut Impact Review Board (NIRB or Board) received a referral to screen 5530 Nunavut Inc.’s (5530 Nunavut or Proponent) “Meadowbank Precious Metal Project” proposal from the Nunavut Planning Commission (NPC or Commission), with an accompanying positive conformity determination with the Keewatin Regional Land Use Plan. Pursuant to Article 12, Sections 12.4.1 and 12.4.4 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (Nunavut Agreement) and

section 87 of the *Nunavut Planning and Project Assessment Act* (NuPPAA), the NIRB commenced screening this project proposal and assigned it file number 17EN020.

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Project Scope

The proposed “Meadowbank Precious Metal” project is located within the Kivalliq region, approximately 100 kilometres (km) northeast from the community of Baker Lake. The Proponent intends to conduct an early stage exploration program to delineate targets for diamond drilling, and explore for economic gold deposits in three (3) locations along the existing Meadowbank Road. The program is proposed to take place from June to August, 2017.

As required under subsection 86(1) of the NuPPAA, the Board accepts the scope of the Meadowbank Precious Metal Project as set out by 5530 Nunavut in the proposal which includes the following undertakings, works, or activities:

- Establishment of a temporary six (6) to ten (10) person exploration camp to be removed at the end of the program;
- Use of one (1) flatbed truck to transport equipment and personnel along the existing Meadowbank all-weather access road;
- Use of one (1) helicopter to mobilize camp gear, personnel and equipment to project camp sites from Meadowbank all-weather access road, and for daily drop-of and pick-up at each exploration site;
- Use of one (1) diamond drill for core rock samples;
- Conduct prospecting, till sampling and ground geophysical surveys in three (3) locations near the vicinity of the approved Meadowbank mine;
- Transportation, temporary storage (cache) and use of up to 4,000 Litres of gasoline, diesel and aviation fuel;
- Use of two (2) generators to power camp equipment and conduct drilling activities;
- Use of water for domestic and drilling activities;
- Incineration of combustible wastes with the use of a dual-chamber incinerator;
- Removal of non-combustible wastes, including hazardous waste materials to an approved recycling or disposal site;
- Disposal of grey water and sewage into sumps, or excavated pits near camp; and
- Undertake final abandonment and restoration activities at project sites following exploration activities.

2. Inclusion or Exclusion to Scoping List

The NIRB has identified no additional works or activities in relation to the project proposal. As a result, the NIRB proceeded with screening the project based on the scope as described above.

3. Key Stages of the Screening Process

The following key stages were completed:

| Date | Stage |
|-------------------|---|
| February 17, 2017 | Receipt of project proposal and positive conformity determination (Keewatin Land Use Plan) from the NPC |
| February 20, 2017 | Information request(s) |
| March 7, 2017 | Proponent responded to information request(s) |
| March 8, 2017 | Scoping pursuant to subsection 86(1) of the NuPPAA |
| March 15, 2017 | Receipt of updated conformity determination (Keewatin Land Use Plan) from the NPC |
| March 20, 2017 | Public engagement and comment request |
| April 10, 2017 | Receipt of public comments |
| April 13, 2017 | Proponent provided with an opportunity to address comments/concerns raised by public |
| April 28, 2017 | Proponent responded to comments/concerns raised by public |
| April 27, 2017 | Ministerial extension requested from the Minister of Indigenous and Northern Affairs Canada |

4. Public Comments and Concerns

Notice regarding the NIRB's screening of this project proposal was distributed on March 20, 2017 to community organizations in Baker Lake, as well as to relevant federal and territorial government agencies, Inuit organizations and other parties. The NIRB requested that interested parties review the proposal, and provide the Board with any comments or concerns by April 10, 2017 regarding:

- Whether the project proposal is likely to arouse significant public concern; and if so, why;
- Whether the project proposal is likely to cause significant adverse eco-systemic or socio-economic effects; and if so, why;
- Whether the project proposal is likely to cause significant adverse impacts on wildlife habitat or Inuit harvest activities; if so, why;
- Whether the project proposal is of a type where the potential adverse effects are highly predictable and mitigable with known technology, (please provide any recommended mitigation measures); and
- Any matter of importance to the Party related to the project proposal.

The following is a summary of the comments and concerns received by the NIRB:

Government of Nunavut – Department of Environment

- Noted that the Proponent did not provide information on the type or caliber of firearm to be stored for the use as bear deterrents at the site. Recommended that bear monitors be armed with 12 gauge shot guns for the purposes of firing non-lethal deterrents, with lethal rounds only being used in defense of life or property;
- Reminded the Proponent that polar bears are protected under the *Nunavut Wildlife Act* and that no person shall otherwise molest, harm, or destroy a bear without a Government of Nunavut permit except in exceptional circumstances including clear and present threat to human safety;

- Noted concerns with respect to the use of satellite fuel caches in unsuitable locations and that they may be forgotten or abandoned. Recommended that the Proponent only set up fuel caches in locations that are suitable, at level ground at least 30 metres from a water course, which should be decommissioned at the end of activities in a specific location or at the end of the working season;
- Reminded the Proponent that all archaeological and palaeontological sites in Nunavut are protected by law and recommended:
 - The Proponent hire a qualified archaeologist to conduct archaeological assessment and inventory surveys of the three targeted Areas;
 - The Proponent work closely with the project archaeologist to clearly identify and mark the locations of the archaeological sites that might potentially be affected by development activities. Thus, the potential for adverse impact on archaeological resources will be avoided;
 - The Proponent confine transportation activities to the existing road;
 - No activities are conducted in the vicinity (50 m buffer zone) of any archaeological sites. If archaeological sites or features are encountered during the project, activities should immediately be interrupted and moved away from this location. Each site encountered needs to be recorded and reported to the Department of Culture and Heritage;
 - No person shall alter, or otherwise disturb an archaeological site, or remove any artifact from an archaeological site; and
 - The building of inuksuit is not recommended.

Environment and Climate Change Canada (ECCC)

- Noted that the Environmental Management Plan (EMP) lack information and needs to be updated:
 - Include reference to the *Migratory Birds Convention Act (MBCA)* as applicable to the proposed project;
 - Update Section 5.2.3 to include eggs in addition to birds and their nests, and correct all instances of “Red-necked Phalarope” to “Red-necked Phalarope”;
 - Update Section 5.2.3 to include Barren-ground Caribou (Threatened) and Transverse Lady Beetle (Special Concern) in the Committee on the Status of Endangered Wildlife in Canada list in the EMP;
- Noted the Proponent should be aware that the Migratory Bird Regulations do not provide for authorizations or permits regarding incidental take of migratory birds or their nests or eggs in the course of industrial or other project-related activities pursuant to the *Migratory Birds Convention Act*;
- Noted concerns regarding the potential of migratory birds, the nests and/or eggs to be inadvertently harmed or disturbed by the activities;
- Recommended that the Proponent update the Spill Prevention and Response Plan with the appropriate contact information; and
- Noted the Proponent should comply with the *Fisheries Act* during project activities, and ensure that the project do not cause any harm to fish and fish habitat.

Fisheries and Oceans Canada (DFO)

- Reminded the Proponent to comply with the *Fisheries Act* during project activities, and ensure that the project do not cause any harm to fish and fish habitat; and
- Reminded the Proponent to submit a new review form should project plans and activities change with respect to serious harm to fish, or if the Proponent omitted some information in the proposal such that the proposal meets the criteria for a site specific review.

Indigenous and Northern Affairs Canada (INAC)

- Noted that the Proponent did not provide information regarding community engagement/consultation activities undertaken, and any associated community concerns regarding the proposed new activities. Recommended that the Proponent conduct community consultations prior to submitting the project proposal, and at the start of any new project activities.

5. Comments and Concerns with respect to Inuit Qaujimaningit, Traditional, and Community Knowledge

No concerns or comments were received with respect to Inuit Qaujimaningit or traditional and community knowledge 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 April 28, 2017:

- In response to concerns regarding predator deterrence, satellite fuel caches and archaeological and paleontological sites:
 - The Proponent updated Section 5.2.5 of the Environmental Management Plan (EMP) to indicate that firearms at the Property would be 12 gauge shotguns, and that non-lethal deterrents would be used whenever possible to deter problem wildlife, with lethal rounds only being used in defense of life or property;
 - Ensure fuel caches would be established in suitable locations from any watercourses and decommissioned at the end of activities or by the end of the working season;
 - Ensure that that no heritage resource sites within the vicinity of the project sites would be disturbed, and that an archaeological assessment of the project areas would be completed prior to commencement of exploration activities;
 - Ensure that all project personnel are made aware of conditions pertaining to archaeological sites, artifacts and paleontological sites including fossils within the project areas; To use results of the Nunavut Archaeological Sites Database search in conjunction with landscape data provided by satellite imagery and National Topographic System (NTS) maps to evaluate the historical resources potential of the study area;
- In response to concerns with listed legislations, Species at Risk and incidental take of migratory birds, nests or eggs:

- The Proponent updated Section 2.1 of the Environmental Management Plan (EMP) to include the Migratory Birds Convention Act (“MBCA”) in the list of applicable legislation and guidelines and corrected incorrect references;
 - Added Transverse Lady Beetle to the list of species that are of special concern to the Committee on the Status of Endangered Wildlife in Canada (“COSEWIC”);
 - Acknowledged that there is risk for migratory birds, their nests or eggs to be inadvertently harmed or disturbed as a result of activities;
 - The Proponent updated the Spill Prevention and Response Plan;
- In response to concerns of lack of evidence of public consultation:
 - Currently organizing community consultations in order to incorporate any Inuit Qaujimaqatugangit into the project planning and design and to address any outstanding issues or concerns; and
 - Committed to hiring local residents to assist in many aspects of the project.

7. Time of Report Extension

As a result of the time required to allow the Proponent provide a response to the comments, the NIRB was not able to provide its screening decision report to the responsible Minister within 45 days as required by Article 12, Section 12.4.5 of the Nunavut Agreement and subsection 92(3) of the NuPPAA. Therefore, on April 27, 2017 the NIRB wrote to the Minister of Indigenous and Northern Affairs, Government of Canada, seeking an extension to the 45-day timeline for the provision of the Board’s Report.

FACTORS FOR DETERMINING SIGNIFICANCE OF IMPACTS

In determining whether a review of the project is required, the Board considered whether the project proposal had 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 the NuPPAA. The Board took particular care to take into account Inuit Qaujimaningit, traditional and community knowledge 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 proposed area designated for exploration activities is approximately 4,197 square kilometres, and would include the establishment of a temporary exploration camp site. In addition, the project footprint also includes helicopter-assisted travel routes from the existing Meadowbank road to the proposed exploration sites. The project Proponent has indicated that the proposed activities may take place within habitats and seasonal ranges for ungulate species such as caribou and muskox, and habitats for many far-ranging wildlife species, migratory and non-migratory birds including small mammal population. Specifically, the

three (3) locations where mineral exploration activities are designated to take place have been identified by the Proponent to overlap rutting grounds, including migration areas for caribou herds and other wildlife species, as such may potentially affect animal migratory patterns.

2. *The ecosystemic sensitivity of that area.*

The proposed project would take place in an area with identified ecosystemic sensitivity, which would occur within seasonal ranges, migration areas, and post breeding corridors for Beverly and Qamanirjuaq caribou herds. In addition, this area has been identified as having value and priority to the local community for:

- i. Terrestrial wildlife;
- ii. Sport hunting;
- iii. Berry picking; and
- iv. Fishing.

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

The project Proponent has not identified any known areas of historical, cultural and archeological significance associated with the project area; however, during the public commenting period, the Government of Nunavut (GN) specifically indicated that there were approximately 290 recorded sites of archaeological significance along the existing Meadowbank road, and further noted the potential for other unidentified sites to exist within the project area. Should the project be approved to proceed, the Proponent would be required to conduct an archaeological assessment and inventory surveys of project area, and contact the Government of Nunavut-Department of Culture and Heritage if any sites of historical, cultural or archaeological significance are encountered.

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

The proposed project would occur approximately 100 kilometres from the hamlet of Baker Lake, the nearest community; as such, human populations are likely to be affected by project impacts. The Proponent has indicated that the proposed mineral exploration activities at some drill sites (Areas B and C) may likely affect the water supply sources for the community of Baker Lake, and may overlap with seasonal home ranges for caribou herds and other wildlife species. No other specific animal populations have been identified as likely to be affected by potential project impacts.

Although no significant public concerns were raised during the public commenting period, the NIRB notes that the close proximity of the proposed activities to the community of Baker Lake and an area used by residents for recreational/traditional pursuits could potentially contribute to public concerns developing. A term and condition has been recommended to direct engagement with the community, hunters and trappers organization and interested parties, as well as the posting of public notices to ensure residents are aware of the mineral exploration activities being or to be conducted.

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 “Meadowbank Precious Metal” project is a proposed mineral exploration program, as such the nature of potential impacts is considered to be well-known. Potential adverse impacts are likely to be localized, of low magnitude, infrequent and restricted to the short period of project activities in each field season (up to 6 weeks). However, due to the proximity of the mineral exploration areas to seasonal ranges, migration areas, and post-breeding corridors for caribou herds, specific mitigation measures for the protection of critical life stages of the herds may be necessary. Based on past evidence of similar scope of activities, potential adverse impacts will be 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 within a 100 kilometre radius to a number of other projects that are currently active, in addition to other projects proposed and currently undergoing assessment by the Board as listed in Table 1 below. However, it is noted that this project is not likely to result in residual or cumulative impacts. The potential for cumulative impacts to water and soil quality, vegetation health, migratory birds, terrestrial wildlife and wildlife habitats, resulting from mineral exploration activities and other projects occurring in the area have been identified and considered in the development of the NIRB’s recommendations. Terms and conditions recommended for each of these projects are expected to reduce any residual impacts, and as such would limit or eliminate the potential for cumulative effects to occur.

Table 1: Project List

| NIRB Number | Project | Project Title | Project Type |
|---|----------------|---|---------------------------|
| <i>Proposed Developments – undergoing assessment</i> | | | |
| 16MN056 | | Whale Tail Pit Project | Mine |
| 17EN029 | | Gibson-MacQuoid Project | Exploration (Annual) |
| <i>Active Projects</i> | | | |
| 03MN107 | | Meadowbank Gold Mine | Mine |
| 11EN010 | | Pipe Dream Winter Road and Mining Exploration | Exploration (seasonal) |
| 15EN049 | | Parker Lake temporary exploration camp and airstrips & Cone Hill exploration project | Exploration (seasonal) |
| 16YN037 | | Lithologic and tectonic controls on Paleoproterozoic banded iron formation-hosted/associated gold | Research (seasonal) |
| 16YN067 | | Synthesis of Glacial History and Dynamics in the Rae Geological Province | Research (seasonal) |

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.

Views of the Board

In considering the factors as set out above in the screening of the project proposal, the NIRB has identified a number of issues below and respectfully provide the following views regarding whether or not the proposed project has the potential to result in significant impacts. In addition, the NIRB 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), migratory and non-migratory birds, and their associated habitats due to increased noise generated from exploration activities, daily transport of personnel to project sites by truck and helicopter, and camp set-up.

Board views: As discussed above in the assessment of factors relevant to this project proposal, the potential for impact(s) is applicable to a geographic area of over 4000 square kilometres but may affect terrestrial wildlife species such as migrating caribou, muskox, including migratory and non-migratory birds. Although the proposed project sites are located within seasonal core caribou ranges, migrating routes and post breeding corridors for Beverly and Qamanirjuaq caribou herds, the potential for impacts to ungulate species and other terrestrial wildlife populations are considered to be short-term (up to 6 weeks). The Proponent has committed to suspending all operations within 10 km of any caribou crossing until the caribou have safely crossed, and would ensure that no exploration activities cause diversion to the migration patterns of any caribou. Further, the implementation of minimum flight altitudes and seasonal restrictions are expected to further mitigate potential adverse impacts to caribou and muskox, including migratory birds. In addition, the Proponent has submitted an Environmental Management Plan, which outlines various commitments and wildlife management protocols to be implemented in order to mitigate adverse impacts on caribou and other terrestrial wildlife species.

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

Recommended Mitigation Measures: It is recommended that the potential adverse impacts to wildlife and migratory birds may be mitigated by measures such as requiring the Proponent to maintain minimum flight altitudes, seasonal restrictions, ceasing activities that may interfere with the migration or calving of caribou until caribou have left the area, and not damage wildlife habitats during mineral exploration activities. The following terms and conditions are recommended to mitigate the potential adverse impacts: 7, 10, 16 through 32, and 34.

Issue 2: Potential negative impacts to surface water quality, and fish and fish habitat, vegetation health, and soil quality from drilling activities, camp establishment, fuel transportation, and disposal of hazardous materials.

Board views: There is potential for adverse impacts to surface water quality, fish and fish habitat, vegetation health and soil quality from drilling wastes and fuel spills. The Proponent has committed to ensuring no drilling wastes would be allowed to spread to the surrounding lands or water bodies during project activities, and has further updated its Environmental Management Plan to include measures for preventing adverse impacts to the terrestrial and aquatic ecosystems. The Proponent has also submitted a comprehensive Spill Prevention and Response Plan to address any potential fuel spill incidents within the project area during mineral exploration activities (see Proponent Commitments section). The Proponent would require a water licence from the Nunavut Water Board for water use, and fuel storage. Further, the Proponent would also be required to follow the *Fisheries Act*, the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, the *Transportation of Dangerous Goods Regulations*, the *Transportation of Dangerous Goods Act* the *Canadian Environmental Protection Act* (see Regulatory Requirements section).

Recommended Mitigation Measures: It is recommended that potential adverse impacts to surface water quality, and fish and fish habitat, vegetation health, and soil quality may be mitigated by measures such as requiring the Proponent not to allow any drilling wastes to spread to the surrounding lands or water bodies, and locating all fuel and other hazardous materials a minimum of thirty-one (31) metres away from the high water mark of any water body. The following terms and conditions are recommended to mitigate the potential adverse impacts of drilling, fuel use, and transportation activities on surface water quality and quantity, fish and fish habitat, vegetation health, and soil quality: 5, 6, 11 through 15, 33, 35 through 40, 44 and 45.

Issue 3: Potential negative impacts to ground stability, and permafrost from camp establishment and drilling activities.

Board Views: The Proponent has identified that heat radiating from camp buildings may thaw permafrost, and impact ground stability during project activities, and has further provided mitigation measures within its updated Environmental Management Plan to prevent disturbance and damage to permafrost within the project area. The potential negative impacts to ground stability and permafrost are considered to be of low magnitude and reversible.

Recommended Mitigation Measures: It is recommended that the potential adverse impacts to ground stability and permafrost would be mitigated by measures requiring the Proponent to backfill drill holes and sumps prior to the end of each field season, and complete restoration of the lands used prior to the end of each field season and/or upon abandonment of site. The Board recommends terms and conditions 39, 41 through 43 and 45.

Issue 4: Potential negative impacts to air quality from engine exhaust and emissions from helicopter, drilling equipment, diesel generators and incinerator activities.

Board views: There is potential for adverse impacts to air quality from emissions generated from drill equipment, helicopter, diesel generators and incineration of combustible wastes, which would be limited to a small geographical area within the project footprint and with a low probability of extending beyond the project area. The potential adverse impacts to air quality are considered to be of low magnitude, short-term, and reversible.

Recommended Mitigation Measures: The Board recommends the following terms and conditions to mitigate the potential adverse impacts to air quality: 8 and 9.

Issue 5: Potential negative impacts to public and traditional land use activities in the area due to transportation of personnel and equipment to the exploration sites and camping activities.

Board Views: The Proponent has indicated that the proposed mineral exploration activities would take place near the water supply for Baker Lake, and would include potential visits to the community of Baker Lake. Due to the site's close proximity to seasonal home ranges and migration routes of caribou and other terrestrial wildlife species, it is possible that wildlife avoidance may temporarily change the distribution of wildlife species commonly harvested in the area, which may in turn affect personal enjoyment of the land, and the social and cultural activities practiced in the community. Terms and conditions have been recommended to avoid disturbance to key wildlife species, birds, and humans, to minimize negative impacts to traditional land use activities by ensuring ongoing consultation with the community and community organizations.

Recommended Mitigation Measures: Term and condition 46 is recommended to ensure that the affected communities and organizations are informed about the project proposal and term and condition 48 has been recommended to ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities in the area. In addition terms and conditions 16 through 32 have been recommended to minimize interference with the movements of terrestrial wildlife and nesting/breeding birds.

Socio-economic effects on northerners:

Issue 6: Potential negative impacts to historical, cultural and archaeological sites from ground-based exploration activities and establishment of a temporary camp.

Board Views: During the public commenting period, the Government of Nunavut indicated that there were approximately 290 recorded sites of archaeological significance along the existing Meadowbank road, and that there is potential for other unidentified sites to occur within the vicinity of the mineral exploration areas. The GN has recommended that no activities be conducted in the vicinity (50 m buffer zone) of any archaeological sites. The Proponent has committed to using results of the Nunavut Archaeological Sites Database search in conjunction with landscape data provided by satellite imagery and NTS topographic maps to evaluate the historical resources potential of the study area prior to exploration drilling, and ceasing activities that may disturb any archaeological or paleontological sites if encountered during operation.

The Proponent has further committed to ensuring that no heritage resource sites within the project sites would be disturbed, and that an archaeological assessment of the project area would be completed prior to exploration activities. The Proponent is required to contact the Culture and Heritage Department when encountering any historical sites and would be required to follow the *Nunavut Act* (as recommended in Regulatory Requirements section).

Recommended Mitigation Measures: Term and condition 46 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 7: Potential positive impacts to the local community from hiring of local residents to assist with the proposed project activities.

Board Views: It is noted that the Proponent has committed to work with the community of Baker Lake to provide hiring and employment opportunities, and consult with local stakeholders in order gather extensive knowledge of the land and wildlife during exploration activities.

Recommended Mitigation Measures: Terms and conditions 46 and 47 have been recommended to ensure that the Proponent continues to inform the community of mineral exploration activities, as well as provide community members with information to ensure a successful local hiring opportunity.

Significant public concern:

Issue 8: 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 adhere to its commitment of hiring local people during project activities.

Recommended Mitigation Measures: Term and condition 46 is recommended to ensure that the affected community and organizations are informed about the project proposal, and to

provide the Proponent with an opportunity to proactively address or mitigate any concerns that may arise from the project activities findings.

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. 5530 Nunavut Inc. (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, February 17, 2017 and March 15, 2017), and the NIRB (Online Application Form, March 6, 2017; Non-technical Project Summaries in English and Inuktitut, Abandonment and Restoration Plan, Environmental Management Plan, Fuel Management Plan; Waste Management Plan, and Spill Prevention and Response Plan, March 7, 2017).
4. The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines.

Water Use

5. The Proponent shall not extract water from any fish-bearing waterbody unless the water intake hose is equipped with a screen of appropriate mesh size to ensure that there is no entrapment of fish. Small lakes or streams should not be used for water withdrawal unless approved by the Nunavut Water Board.
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 the Nunavut Water Board.

Waste Disposal/Incineration

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.

8. The Proponent shall incinerate all combustible wastes daily, and remove the ash from incineration activities and non-combustible wastes from the project site to an approved facility for disposal.
9. The Proponent shall ensure that no waste oil/grease is incinerated on site.

Fuel and Chemical Storage

10. The Proponent shall store all fuel and chemicals in such a manner that they are inaccessible to wildlife.
11. Unless otherwise authorized by the Nunavut Water Board, 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 their release into the environment.
12. 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, unless otherwise authorized by the Nunavut Water Board.
13. 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.
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, at all fuel storage sites, at all refuelling stations, at vehicle maintenance areas and at drill 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 circling, chasing, hovering over pursuing or in any other way harass wildlife, or disturbing large groups of animals.
18. The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired.
19. 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

20. 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.

21. The Proponent shall minimize activities during periods when birds are particularly sensitive to disturbance such as migration, nesting and moulting.
22. The Proponent shall avoid the seaward site of seabird colonies and areas used by flocks of migrating waterfowl by three (3) kilometres.
23. The Proponent shall ensure its aircraft avoid excessive hovering or circling over areas where bird presence is likely.

Aircraft Flight Restrictions

24. The Proponent shall not alter flight paths to approach wildlife, and avoid flying directly over animals.
25. The Proponent shall restrict aircraft/helicopter activity related to the project to a minimum flight altitude of 610 metres above ground level unless except during landing, take-off or if there is a specific requirement for low-level flying, which does not disturb wildlife or migratory birds.
26. 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.
27. The Proponent shall ensure that aircraft/helicopter do not, unless for emergency, touch-down in areas where wildlife are present.
28. The Proponent shall advise all pilots of relevant flight restrictions and enforce their application over the project area, including flight paths to/from the project area.

Caribou and Muskox Disturbance

29. 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.
30. The Proponent shall not block or cause any diversion to caribou or muskox migration, and shall cease activities likely to interfere with migration such as airborne geophysics surveys, drilling or movement of equipment or personnel until such time as the caribou or muskox have passed.
31. The Proponent shall not construct or operate any camp, cache any fuel or conduct blasting within ten (10) kilometres, or conduct any drilling operation within five (5) kilometres of any paths or crossings known to be frequented by caribou (e.g., designated caribou crossings).
32. During the period of May 15 to July 15, when caribou are observed within one (1) kilometre of project operations, the Proponent shall suspend all operations, including low-level over flights, blasting, and use of snow mobiles and all-terrain vehicles outside the immediate vicinity of the camps. Should pregnant caribou cows or cows with young calves be observed within one (1) kilometre of project operations, the Proponent shall also suspend all operations in the vicinity, including low-level over flights, blasting, and use of snow mobiles and all-terrain vehicles, until caribou are no longer in the immediate area.

Ground Disturbance

- 33. The Proponent shall implement suitable erosion and sediment suppression measures on all areas before, during and after conducting activities in order to prevent sediment from entering any waterbody.
- 34. All construction and road vehicles must be fitted with standard and well-maintained noise suppression devices and engine idling is to be minimized.

Drilling on Land

- 35. The Proponent shall not conduct any land based drilling or mechanized clearing within thirty-one (31) metres of the normal high water mark of a water body.
- 36. The Proponent shall not allow any drilling wastes to spread to the surrounding lands or water bodies.
- 37. If an artesian flow is encountered, the Proponent shall ensure the drill hole is immediately plugged and permanently sealed.
- 38. The Proponent shall ensure that all drill areas are constructed to facilitate minimizing the environmental footprint of the project area. Drill areas should be kept orderly with garbage removed daily to an approved disposal site.
- 39. The Proponent shall ensure that all sump/depression capacities are sufficient to accommodate the volume of waste water and any fines that are produced. The sumps shall only be used for inert drilling fluids, and not any other materials or substances.
- 40. The Proponent shall not locate any sump within thirty-one (31) metres of the normal high water mark of any water body. Sumps and areas designated for waste disposal shall be sufficiently bermed or otherwise contained to ensure that substances do not enter a waterway unless otherwise authorized.
- 41. The Proponent shall ensure all drill holes are backfilled or capped prior to the end of each field season. All sumps must be backfilled and restored to original or stable profile prior to the end of each field season.

Temporary Camps

- 42. The Proponent shall ensure that all camps are located on gravel, sand or other durable land.
- 43. The Proponent shall ensure that the land use area is kept clean and tidy at all times.

Restoration of Disturbed Areas

- 44. The Proponent shall remove all garbage, fuel and equipment upon abandonment.
- 45. The Proponent shall complete all clean-up and restoration of the lands used prior to the end of each field season and/or upon abandonment of site.

Other

- 46. 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.
- 47. The Proponent should, to the extent possible, hire local people.

48. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.

MONITORING AND REPORTING REQUIREMENTS

Archaeology

1. The Proponent should prepare a Heritage Resource Impact Assessment (HRIA) in order to prevent or minimize potential project-related effects on known heritage areas, and unidentified archaeological sites. The assessment should be conducted prior to commencing exploration activities and include locations (i.e. latitude and longitude) of where any archaeological sites and features are encountered relative to the project development area, and where possible should include information regarding the participation of the community of Baker Lake in the HRIA. The results of the HRIA should be submitted to the Government of Nunavut-Department of Culture and Heritage.

Consultation Report

2. Prior to operations occurring, the Proponent should submit a comprehensive consultation report to inform the NIRB of any consultation conducted with Agnico Eagle Mines (AEM) regarding use of its All-Weather Access Road (AWAR), and include any possible safety concerns raised and how they were addressed.

Final Report

3. The Proponent shall submit a comprehensive final report to the Nunavut Impact Review Board (NIRB) on or before December 31, 2017. The final report must contain, but is not limited to, the following information:
 - a. A detailed summary of activities undertaken, including any reclamation work for drilling activities, and provide site photos where relevant;
 - b. A log of wildlife observations including locations (i.e., latitude and longitude), species, number of animals, and a description of animal activity;
 - i. A discussion of impacts to caribou, and how mitigation and monitoring was expected to address the impacts;
 - ii. A summary of impacts from the project observed during operations, the number of times work was ceased due to wildlife being in proximity to the project, and a description of how the Proponent ensured that operational activities were managed and modified to avoid impacts on wildlife and sensitive areas. Should mitigation measures be triggered, include details should include how mitigation and monitoring measures within the exploration areas were implemented and the results of the measures as implemented.
 - c. The results of any environmental studies undertaken by or in coordination with the project, or any plans for future studies;
 - d. A detailed summary of air and ground traffic volumes and description of the restrictions adopted to avoid wildlife disturbance by aircraft flight and road traffic noise;
 - e. A summary of consultations undertaken with the Baker Lake Hunters and Trappers Organization and the Kivalliq Inuit Association, providing copy of materials presented for discussion, a description of issues and concerns raised,

advice offered to the company as well as any follow-up actions that were required or taken to resolve any concerns expressed about the project proposal including updated versions of plans highlighting commitments; and

- f. A summary of how the company has complied with NIRB conditions contained within the Screening Decision Report.

OTHER NIRB CONCERNS AND RECOMMENDATIONS

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

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.
3. 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.
4. 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 Baker Lake, phone: (867) 793-2940).

Species at Risk

5. 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://www.sararegistry.gc.ca/virtual_sara/files/policies/EA%20Best%20Practices%202004.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

6. 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.

7. 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/>.

Incineration of Wastes

8. The Proponent review Environment and Climate Change Canada’s “Technical Document for Batch Waste Incineration”, available at the following link: <http://www.ec.gc.ca/gdd-mw/default.asp?lang=En&n=F53EDE13-1>. The technical document provides information on appropriate incineration technologies, best management and operational practices, monitoring and reporting.

Transport of Dangerous Goods and Waste Management

9. Environment and Climate Change Canada recommends that all hazardous wastes, including waste oil, receive proper treatment and disposal at an approved facility.
10. The Proponent shall ensure that proper shipping documents (waste manifests, transportation of dangerous goods, etc.) accompany all movements of dangerous goods. Further, the Proponent shall ensure that the shipment of all dangerous goods is registered with the Government of Nunavut Department of Environment, Department of Environment Manager. Contact the Manager (867) 975-7748 to obtain a manifest if dangerous goods including hazardous wastes will be transported.

Aircraft Identification

11. The Proponent shall provide the community of Iqaluit and Kimmirut the planned helicopter activities, including photo(s) of the helicopter to be used, approximate flight paths, plans and times as available prior to commencement of activities to ensure community members are aware of the planned activities.

Caribou Management

12. Territorial and federal government agencies in Nunavut should work together with Regional Inuit Associations, co-management boards and industry to develop an action plan to identify and mitigate potential cumulative effects of human land use activities, including mineral exploration, on barren-ground caribou. This assessment of cumulative effects should occur at a regional scale (i.e., larger than individual project areas).
13. Territorial and federal government agencies update the Caribou Protection Map with updated data and information from the Beverly Qamanirjuaq Caribou Management Board.

REGULATORY REQUIREMENTS

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 (Nunavut)* and its corresponding regulations (<http://www.canlii.org/en/nu/laws/stat/snu-2003-c-26/latest/snu-2003-c-26.html>) 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 *Transportation of Dangerous Goods Regulations* (<http://www.tc.gc.ca/eng/tdg/clear-tofc-211.htm>), *Transportation of Dangerous Goods Act* (<http://laws-lois.justice.gc.ca/eng/acts/t-19.01/>), and the *Canadian Environmental Protection Act* (<http://laws-lois.justice.gc.ca/eng/acts/C-15.31/>).
8. 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 5530 Nunavut "Meadowbank Precious Metal Project". The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated May 18, 2017 at Whale Cove, 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

Due to the requirements of Section 79(2) of the Species At Risk Act (SARA), and the potential for project-specific adverse effects on listed wildlife species and its critical habitat, measures should be taken as appropriate to avoid or lessen those effects, and the effects need to be monitored. Project effects could include species disturbance, attraction to operations and destruction of habitat. This section applies to all species listed on Schedule 1 of SARA, as listed in the table below, or have been assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), which may be encountered in the project area. This list may not include all species identified as at risk by the Territorial Government. The following points provide clarification on the applicability of the species outlined in the table.

- 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.

If species at risk are encountered or affected, the primary mitigation measure should be avoidance. The Proponent should avoid contact with or disturbance to each species, its habitat and/or its residence. All direct, indirect, and cumulative effects should be considered. Refer to species status reports and other information on the species at risk Registry at <http://www.sararegistry.gc.ca> for information on specific species.

Monitoring should be undertaken by the Proponent to determine the effectiveness of mitigation and/or identify where further mitigation is required. As a minimum, this monitoring should include recording the locations and dates of any observations of species at risk, behaviour or actions taken by the animals when project activities were encountered, and any actions taken by the proponent to avoid contact or disturbance to the species, its habitat, and/or its residence. This information should be submitted to the appropriate regulators and organizations with management responsibility for that species, as requested.

For species primarily managed by the Territorial Government, the Territorial Government should be consulted to identify other appropriate mitigation and/or monitoring measures to minimize effects to these species from the project.

Mitigation and monitoring measures must be undertaken in a way that is consistent with applicable recovery strategies and action/management plans.

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: October 2016

| Species at Risk ¹ | COSEWIC Designation | Schedule of SARA | Government Organization with Primary Management Responsibility ² |
|--|---|---|---|
| Migratory Birds | | | |
| Eskimo Curlew | Endangered | Schedule 1 | ECCC |
| Buff-breasted Sandpiper | Special concern | Pending | ECCC |
| Ivory Gull | Endangered | Schedule 1 | ECCC |
| Ross's Gull | Threatened | Schedule 1 | ECCC |
| Harlequin Duck (Eastern population) | Special Concern | Schedule 1 | ECCC |
| Rusty Blackbird | Special Concern | Schedule 1 | 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 | ECCC |
| Red Knot (<i>islandica</i> subspecies) | Special Concern | Schedule 1 | ECCC |
| Horned Grebe (Western population) | Special Concern | Pending | ECCC |
| Red-necked Phalarope | Special concern | Pending | ECCC |
| Vegetation | | | |
| Felt-leaf Willow | Special Concern | Schedule 1 | GN |
| Blanket-leafed Willow | Special Concern | Schedule 1 | GN |
| Porsild's Bryum | Threatened | Schedule 1 | GN |
| Terrestrial Wildlife | | | |
| Peary Caribou | Endangered | Schedule 1 | GN |
| Peary Caribou (High Arctic Population) | Endangered | Schedule 2 | GN |
| Peary Caribou (Low Arctic Population) | Threatened | Schedule 2 | GN |
| Barren-ground Caribou (Dolphin and Union population) | Special Concern | Schedule 1 | GN |
| Marine Wildlife | | | |
| Polar Bear | Special Concern | Schedule 1 | GN/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 | Pending | 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) | Special Concern | Schedule 2 | DFO |
| Killer Whale (Northwest Atlantic / Eastern Arctic populations) | Special Concern | Pending | DFO |
| Grey Whale (Eastern North Pacific population) | Special Concern | Schedule 1 | DFO |

| Species at Risk ¹ | COSEWIC Designation | Schedule of SARA | Government Organization with Primary Management Responsibility ² |
|--|---------------------|------------------|---|
| Humpback Whale (Western North Atlantic population) | Special Concern | Schedule 3 | DFO |
| Narwhal | Special Concern | Pending | DFO |
| Fish | | | |
| Northern Wolffish | Threatened | Schedule 1 | DFO |
| Atlantic Wolffish | Special Concern | Schedule 1 | DFO |
| Bering Wolffish | Special Concern | Schedule 3 | DFO |
| Fourhorn Sculpin | Special Concern | Schedule 3 | DFO |
| Roundnose Grenadier | Endangered | Pending | DFO |
| Spotted Wolffish | Threatened | Schedule 1 | DFO |
| Thorny Skate | Special Concern | Pending | DFO |
| Atlantic Cod, Arctic Lakes | Special Concern | Pending | DFO |
| Blackline Prickleback | Special Concern | Schedule 3 | DFO |

Notes: DFO: Fisheries and Oceans Canada; ECCC: Environment and Climate Change Canada; GN: Government of Nunavut

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

²Environment and Climate Change Canada 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.

³The *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 *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (Nunavut 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 Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut 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.*

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, and Heritage (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

³ P.C. 2001-1111 14 June, 2001

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 *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (Nunavut 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 Palaeontological Sites Regulations*.

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.