

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 AND FILE HISTORY

On November 9, 2016 the Nunavut Impact Review Board (NIRB or Board) received a referral to screen Dunnedin Ventures Inc.’s (Dunnedin) “Kahuna Diamond Project” proposal from the Nunavut Planning Commission (NPC or Commission). The NPC noted within its

correspondence that the modified project proposal conforms to the Keewatin Regional Land Use Plan and that past determinations issued April 28, 2015 and January 7, 2016 (NPC File No. 148166) for associated works and activities continue to apply.

The current project proposal is a modified version of the “Kahuna Diamond Project – 2016” project proposal (NIRB File No. 15EN028), previously referred to the NIRB on January 7, 2016 for screening pursuant to section 87 of the NuPPAA. On April 4, 2016 the NIRB issued a screening decision under NuPPAA subsection 92(1)(c) determining that due to specific concerns, the project should be modified or abandoned. As outlined in the Board’s screening decision report, concerns raised during the NIRB’s assessment of the original project proposal related to the lack of adequate community consultation during the project’s development and corresponding issues with the project’s potential impacts on wildlife and wildlife habitat; soil, water and air; culturally and archaeologically sensitive areas; and the cumulative impacts of past and ongoing mining activity. On August 15, 2016 the Minister of Indigenous and Northern Affairs (the Minister), on behalf of the Responsible Ministers for the proposed project, accepted the Board’s determination and directed the Proponent to clearly indicate any changes made to the project should they choose to submit a modified project proposal in the future which addresses the Board’s concerns.

In accordance with the Minister’s direction, the Proponent has indicated that the modified “Kahuna Diamond Project” proposal contains various updated operational protocols, wildlife and environmental mitigation and monitoring measures, an archaeological assessment, letters of support, records of community consultations, and supplemental information to address concerns raised during the NIRB’s assessment of the original project proposal. The Proponent has also indicated that the modified proposal and associated commitments were developed through consultation with community groups and representative bodies in Rankin Inlet and Chesterfield Inlet, with consideration provided for recommendations received from regulatory authorities during the NIRB’s previous assessment.

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 to section 87 of the NuPPAA, the NIRB commenced screening this project proposal. Due to the proposal being a modified re-submission of the project previously assessed activities under NIRB file number 15EN028, the NIRB assigned this proposal to the previous file number. Please be advised that a summary of the project activities previously assessed by the Board, and approved to proceed, can be found in Appendix A.

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Project Scope

The “Kahuna Diamond Project” is located within the Kivalliq region, approximately 54 kilometres (km) northeast of Rankin Inlet and 37 km southwest of Chesterfield Inlet. The Proponent intends to undertake a diamond exploration program on the Kahuna mineral claim, with periodic operations to take place from March 2017 to March 2019. The scope of activities previously approved for this ongoing mineral exploration program (NIRB File No.: 15EN028) has been included within Appendix A.

As required under subsection 86(1) of the NuPPAA, the Board staff recommend that the Board accept the scope of the “Kahuna Diamond Project” as set out by Dunnedin in the project proposal including the following undertakings, works or activities:

- Diamond exploration activities including:
 - Prospecting, geological mapping, and rock, till, and soil sampling;
 - Geophysical studies including ground magnetic and gravity surveys;
 - Test pit trenching of up to 10 sites/year;
 - Diamond and/or reverse circulation drilling on-ice and on land with hole depths averaging 75 metres (m) for a total drill program of 1,000 m/year to 2,500 m/year;
 - Bulk sampling at three (3) sample sites, including blasting, drilling, and excavation of up to 500 tonnes of sampling material/site, for a total bulk sampling program of up to 1,500 tonnes;
- Use of up to 100 cubic metres per day (m³/day) of water for site operations with disposal in sumps or natural depressions;
- Daily transportation of personnel, equipment, and materials during operational periods via helicopter from Rankin Inlet;
- Seasonal use of a winter trail between the community of Rankin Inlet and the project area to transport personnel, equipment, and materials during winter months using up to four (4) snow machines, a Caterpillar Challenger, a Bombardier Snowcat, and hauling sleighs;
- Use of heavy machinery and equipment, including winter hauling machinery, snow machines, an excavator, mineral exploration drills, generators, water pumps, and a helicopter, to support site and exploration operations;
- Transportation of fuel, oil, and chemicals for temporary storage and use at each bulk sampling site;
- Use of facilities and accommodations for up to 25 personnel in Rankin Inlet;
- Collection and storage of sewage, combustible, non-combustible, and hazardous wastes for transportation and disposal at accredited facilities in Rankin Inlet;
- Incineration of select combustible wastes, such as untreated wood and cardboard, on-site with the use of open-barrel burning;
- Remediation, including backfilling and re-contouring, of exploration sites; and
- Hiring of local residents for various project components including wildlife monitoring.

2. Inclusion or Exclusion to Scoping List

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
November 9, 2016	Receipt of project proposal and positive conformity determination (Keewatin Land Use Plan) from the NPC
November 18, 2016	Information request(s)
November 29, 2016	Proponent responded to information request(s)
November 29, 2016	Scoping pursuant to subsection 86(1) of the NuPPAA

December 8, 2016	Public engagement and comment request
January 13, 2017	Receipt of public comments
January 13, 2017	Ministerial extension requested from the Minister of Indigenous and Northern Affairs
January 31, 2017	Proponent responded to comments/concerns raised by public

4. Public Comments and Concerns

Notice regarding the NIRB's screening of this project proposal was distributed on December 8, 2016 to community organizations in Arviat, Baker Lake, Chesterfield Inlet, Rankin Inlet, and Whale Cove, as well as to relevant federal and territorial government agencies, Inuit organizations, transboundary groups, and other parties. The NIRB requested that interested parties review the proposal and provide the Board with any comments or concerns by January 13, 2017 regarding:

- Whether the *modified* project proposal is likely to arouse significant public concern; and if so, why;
- Whether the *modified* project proposal is likely to cause significant adverse eco-systemic or socio-economic effects; and if so, why;
- Whether the *modified* project proposal is likely to cause significant adverse impacts on wildlife habitat or Inuit harvest activities; if so, why;
- Whether the *modified* 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 (GN)

- Noted that past comments submitted related to this proposal did not appear to be addressed in the latest version of modified project application;
- Expressed concerns that the proposed project overlaps with the seasonal ranges of the Qamanirjuaq and Lorillard caribou herds and that project activities, including vehicle movement, blasting, and drilling, could impact caribou migration and habitat selection if impacts are not properly mitigated;
- Noted that the Environment and Wildlife Management Plan (EWMP) does not reflect the vulnerable status of caribou that would interact with the project, as identified by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and the Qamanirjuaq Caribou Management Board. Further noted that the EWMP does not contain sufficient detail pertaining to wildlife protection;
- Noted a lack of information in the project proposal to effectively identify potential impacts to wildlife or Inuit harvesting activities. Requested additional details pertaining to winter trail operations, work schedules, helicopter operations, exploration operations, environmental baseline and wildlife impact data, and information on the EWMP mitigation and monitoring measures;

- Noted that it could not verify whether community consultations were held, whether community input was considered in the development of the EWMP, and recommended that the Proponent conduct meaningful consultations to supplement its EWMP; and
- Acknowledged that the Proponent has conducted an archaeological assessment under a Nunavut Archaeology Permit, however, noted that unidentified sites or cultural features could exist in the area and recommended specific mitigation measures for the protection of archaeological and heritage resources, as well as further studies.

Environment and Climate Change Canada (ECCC)

- Noted that two (2) species of special of concern (Red-necked Phalarope and Short-eared Owl) are missing from the Proponent's EWMP species of concern list and should be added based on their special conservation status under *Species at Risk Act* (SARA) and/or the COSEWIC;
- Noted that project impacts could include species disturbance and attraction to the site;
- Highlighted that bulk sampling conducted during the summer would result in vegetation clearing during the migratory bird nesting period which could result in the unintentional impacts to migratory birds, their eggs, or nests;
- Noted that incidental take can have long-term consequences for migratory bird populations and recommended avoidance measures for the protection of nests encountered during operations;
- Recommended that the Proponent consult ECCC resources for further information on migratory bird protection measures; and
- Recommended that the Proponent not conduct clearing activities during the migratory bird nesting season.

Fisheries and Oceans Canada (DFO)

- Noted that based on the proposal as submitted, a *Fisheries Act* authorization is not required given that serious harm to fish can be avoided through standard measures; and
- Recommended that the Proponent consult the DFO's guidance tools to remain in compliance with the Act and noted that the Proponent should refer to the DFO's criteria for site-specific review should the proposed project change or should additional information be submitted.

Indigenous and Northern Affairs Canada (INAC)

- Noted that, based on the response to community consultations, there appears to be support for the proposed modified project;
- Highlighted that the Proponent did not respond adequately to the request for a community consultation summary, including a summary of issues and resolution strategies; and
- Recommended the Proponent provide the supplemental information as an accompanying document to the Community Consultation Log.

Natural Resources Canada (NRCan)

- Noted that the proposed project may require a licence for the storage of explosives under the *Explosives Act* and requested that the Proponent confirm this requirement.

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 January 31, 2017:

- Acknowledged comments received related to wildlife and caribou protection and provided an updated Environment and Wildlife Management Plan (EWMP) to more clearly illustrate where input from government sources, other existing wildlife management plans, and commenting parties were included. The updated EWMP contained various additions including Species at Risk content, details pertaining to wildlife monitoring, details on caribou and wildlife protection measures, discussions on baseline wildlife and archaeological data, community consultation summary notes, flight paths, and summaries on proposed activities;
- Clarified that its community consultation record was provided in the modified project proposal and noted that it added a consultation summary within the updated version of the EWMP;
- Reiterated findings from the Archaeology Summary Report that was provided as part of the modified project proposal and noted that additional studies would be undertaken if heritage sites or artifacts are uncovered and should operations advance beyond the current scope; and
- Acknowledged that the project may require a licence for the storage of explosives under the *Explosives Act*. Ensured that its blasting contractor would be certified and authorized in accordance with all relevant legislation.

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 exploration project would occur within a geographic area of approximately 115 square kilometres (km²) and, during the winter months, would include a winter trail

connecting the project to the community of Rankin Inlet. The proposed project would not include an exploration camp, but would include helicopter, snow machine, and a cat-train transportation to mobilize personnel and equipment from Rankin Inlet during operational periods. As identified by the Proponent and mapping sources, the proposed activities may take place within the seasonal ranges of the Qamanirjuaq and Lorillard caribou herds and habitats for many far-ranging and local wildlife species including migratory birds, fish, muskox, bear, wolves, and Species at Risk.

The Proponent has provided an Environment and Wildlife Management Plan (EWMP) which has been developed in consultation with interested parties from Rankin Inlet and Chesterfield Inlet, as well as community groups such as the Aqigiq Hunters and Trappers Organization. The EWMP includes mitigation, monitoring, and reporting measures for the protection of the environment and wildlife during proposed project activities. Through the application of proposed mitigation measures, in addition to standard measures recommended in the following section, potential impacts would be considered unlikely, of low magnitude, infrequent in occurrence, and reversible.

2. *The ecosystemic sensitivity of that area.*

The proposed project would occur in an area with no formal designation for wildlife protection; however, during the current and past assessment periods for this file commenting parties have noted that important wildlife habitats occur within the spatial and temporal boundaries of the proposed project. Additionally, during the current commenting period it was noted that caribou herds known to interact seasonally with the project have been identified as vulnerable by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and the Qamanirjuaq Caribou Management Board.

This area has been identified as having value and priority to the local community for:

- i. Terrestrial wildlife including caribou, wolves, and wolverines;
- ii. Fish and fish habitats (including Arctic Char);
- iii. Migratory birds; and
- iv. Polar bears.

To address concerns expressed during past commenting periods regarding ongoing contamination in the area from an abandoned exploration camp (Shear Diamond's "Churchill Diamond Project", NIRB File No. 07EN023), the Proponent offered to collaborate with the Kivalliq Inuit Association (KIA) to remediate the abandoned site. The Proponent identified within its application that the site was remediated by the KIA and that community groups had been informed, and were in support, of the clean-up work undertaken.

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

The Proponent provided an Archaeology Summary Report for the Kahuna Diamond Project which highlighted 10 total sites identified during an archaeological reconnaissance survey conducted under a Nunavut Archaeological Permit (No. 2016-21A). Two (2) of the 10 sites

identified were within current exploration areas, while others were located adjacent to proposed project activity boundaries or near the Josephine Lake area.

The Josephine River and Lake areas were identified in the previous screening as being vital to the cultural identity of nearby communities for traditional land use and harvesting activities. Traditional harvesting practices passed down between generations are taught and practiced in the area and contribute significantly to the cultural identity of the region. Prior to the amendment application being submitted, the Proponent met with community groups to discuss the concerns raised during the previous screening. The Proponent confirmed that exploration activities would not be occurring near the Josephine River or Lake areas, and that activities would generally be occurring in the same footprint previously disturbed by past exploration projects. The Proponent further noted that community input was incorporated within the modified project and was used to identify any potential areas of concern within the identified exploration areas and that ongoing consultation would be undertaken to ensure that the historical, cultural, and archaeological integrity of the area is protected.

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

The proposed project would occur approximately 54 kilometres (km) northeast of Rankin Inlet and 37 km southwest of Chesterfield Inlet, the nearest communities. As the proposed project would include intermittent operations on-site and would be based out of the community of Rankin Inlet, exploration activities and helicopter, snow machine, and cat-train transportation could contribute to increased human and wildlife disturbances in the area. However, wildlife and environmental protection measures proposed with the Proponent's EWMP would be expected to mitigate potential impacts to acceptable levels as they would be intermittent, of low magnitude, and reversible.

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 modified "Kahuna Diamond Project" is a proposed mineral exploration project, the nature of potential impacts is considered to be well-known, with potential for infrequent, localized impacts to the biophysical environment that are low in magnitude, 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 within a 100-kilometre radius of a number of other projects that have been or are currently being assessed by the Board, as listed in Table 1. The potential for cumulative impacts to wildlife and wildlife habitats, human populations, and overall environmental integrity resulting from exploration activities, transportation operations, storage of wastes, and storage and use of fuel and chemicals has been identified and considered in development of the NIRB's recommendations. Further, it has also been

identified that this project proposal could induce additional mineral development activities if the current exploration activities show favourable results for the presence of diamonds or other mineral resources.

Table 1: Project List

NIRB Project No.	Project Title	Project Type
<i>Past Projects</i>		
07EN021	North Country Gold Corp.'s "Committee Bay" project	Fuel
07EN023	Shear Diamond's "Churchill Diamond Project"	Mineral Exploration
11EN016	Canada Nickel Corporation's "Peter Lake" project	Mineral Exploration
16DN031	Canadian Armed Forces' "Operation Nanook 2016" project	Military Exercise
<i>Active Projects</i>		
11MN034 16QN071	Agnico Eagle Mines Ltd.'s "Meliadine Gold Mine Project" and the "Itivia Quarry" project	Gold Mine (<i>year round</i>) Quarry (<i>currently being assessed as an amendment to 11MN043</i>)
15EN049	Agnico Eagle Mines Ltd.'s "Peter, Fox and Parker Lakes" project	Advanced Mineral Exploration (<i>year round</i>)
15EN052	North Arrow Minerals Inc.'s "Luxx Exploration" project	Mineral Exploration (<i>seasonal</i>)
16EN035	John Tugak's "Huckleberry Claim" project	Prospecting and Staking (<i>seasonal</i>)
16YN040	Western Hudson Bay Geoscience for Infrastructure	Research (<i>seasonal</i>)
16EN049	Corrine Tugak's "Tagak" project	Prospecting and Staking (<i>seasonal</i>)

Although the past projects identified (Shear Diamond's "Churchill Diamond Project", NIRB File No.: 07EN023 and Canada Nickel Corporation's "Peter Lake" project, NIRB File No.: 11EN016) are not currently operational, and remediation activities have occurred to remove equipment left by previous Proponents, the proposed project could contribute cumulatively to ongoing soil and water contamination experienced in the area. Dunnedin has noted that the sampling activities proposed within this project proposal would occur within those areas previously disturbed by development, and therefore would reduce disturbance to additional areas.

During the previous screening, significant public concern was raised by parties on the impacts of this project, in addition to the lack of community consultation to inform project design. After the Proponent undertook several meetings in the communities of Rankin Inlet

and Chesterfield Inlet, letters of support were submitted by Dunnedin from local stakeholders as part of this modified project proposal, and no subsequent significant public concerns were raised during the public commenting period for the modified proposal. The NIRB notes that the close proximity of the project activities to the communities of Rankin Inlet and Chesterfield Inlet could potentially contribute to the potential for subsequent concerns to develop, and as a result the NIRB has recommended a term and condition to encourage continued engagement with communities, hunters and trappers organizations, and interested parties, as well as the posting of public notices to ensure residents are aware of the exploration activities being or to be conducted.

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

The Board notes that to address concerns expressed during the previous assessment for this proposal, which resulted in its recommendation that the project be modified, the Proponent submitted items and provided specific details to address concerns outlined in the Board's previous decision. This included:

- Conducting various consultation sessions in the communities of Rankin Inlet and Chesterfield Inlet and providing details where community input was considered in the current application and providing letters and motions of support from the Kivalliq Inuit Association, the Hamlet of Chesterfield Inlet, and the Aqigiq Hunters and Trappers Organization. As a result of these sessions and the subsequent letters of support, it is recognized that community concerns were generally addressed and that parties generally support the project as modified and informed by community feedback.
- The Board further notes that the Proponent has highlighted, within its proposed operational plans, where community input has been incorporated and considered in the proposed undertaking of the project and where the Proponent intends to hire local residents for specific project tasks, such as wildlife monitoring.

It is further noted that the proposed project would occur in an area that has been proposed to the Nunavut Planning Commission (NPC) to be designated as a protected area for its environmental sensitivity and cultural significance under the NPC's *Draft Nunavut Land Use Plan*. Though this designation has not yet been formalized, and any such designation would be enforced with additional direction on how previous developments would be handled with that designation, the Board acknowledges the Proponent's efforts to engage with local communities and interested stakeholders to ensure that areas of particular cultural and environmental sensitivity would be protected throughout the duration of the proposed project.

IEWS 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 Board has previously recommended terms and conditions 1 through 4 which continue to apply to the current project proposal. The Board also previously recommended in its July 15, 2015 decision term and condition 22 to clarify that any changes to the proposed project outside of the scope of assessment, would be considered a new project, and would be subject to further screening by the NIRB. Additional term and condition 23 is being recommended to ensure compliance with all updated project proposal documents and operational plans.

Ecosystem, wildlife habitat and Inuit harvesting activities:

Issue 1: Potential adverse impacts to terrestrial wildlife, including caribou (Qamanirjuaq and Lorillard herds) and muskox, migratory birds, and their respective habitats, from mineral exploration operations, transportation of personnel and equipment to and from the community of Rankin Inlet, and increased noise from the associated exploration activities.

Board views: As discussed above in the assessment of factors relevant to this project proposal, potential impact(s) are generally confined to specific geographic areas and may impact several terrestrial wildlife species including the Qamanirjuaq and Lorillard caribou herds, muskox, wolves, wolverines and migratory birds. The potential impacts to terrestrial wildlife and migratory birds are associated with disturbance and disruption of movement from project-related noise generated by drilling, bulk sample trenching, blasting, and vehicle movement. The potential for impacts is limited due to the intermittent nature of the proposed activities and the commitments made by the Proponent to employ mitigation and monitoring measures, and the commitment to remediate project areas following operations.

In addition, the Proponent has submitted an Environment and Wildlife Management Plan (EWMP) which has been developed in consultation with local communities and concerned stakeholders to address issues raised during past assessment periods for this file and other concerns raised during the Proponent's community consultation sessions (Community Consultation Log provided). The Proponent also submitted a comprehensive Abandonment and Restoration Plan which contains progressive and final reclamation measures to be undertaken throughout and following the proposed project. It is expected that through the application of the proposed mitigation and monitoring measures, along with the standard measures recommended in the following section, potential impacts would be low magnitude, temporary, and reversible should they occur.

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

Recommended Mitigation Measures: It is recommended that potential adverse impacts may be mitigated by requiring the Proponent to adhere to measures such as minimum flight

altitudes, work stoppages in proximity to specific wildlife and during sensitive wildlife periods, wildlife awareness training for project personnel, and waste management protocols. The Board has previously recommended terms and conditions to mitigate potential adverse impacts to wildlife and wildlife habitats, specifically: 6 through 17, which continue to apply to the current project proposal. In addition, the NIRB also recommends the following additional terms and conditions: 27, 34 through 37, and 39.

Issue 2: Potential adverse impacts to surface water quality and quantity, and fish and fish habitat from mineral exploration operations, storage and use of fuel and chemicals, waste storage and disposal, winter trail development and use, and transportation of equipment and personnel to and from the community of Rankin Inlet.

Board views: There is the potential for the project to adversely impact surface water quality, fish and fish habitat from fuel spills during establishment and/or operation of the winter access, movement of machinery, fuel, and supplies, particularly in sections of the alignment that overlap frozen water bodies that support fish. In addition, there is potential for impacts from the exploration activities at each of the drill sites with the use of chemical additives and the potential for fuel spills. The potential for impacts is applicable to small geographic areas within the project footprint and the probability of impacts occurring is considered to be low, with potential adverse effects anticipated to be low in magnitude, infrequent in occurrence and reversible in nature.

The Proponent has provided a comprehensive Spill Prevention and Response Plan which includes storage measures, spill response measures, equipment requirements, and overall handling procedures for the management of fuel and chemicals. Additionally, the Proponent has provided an Abandonment and Restoration Plan which includes details relating to restoration and closure measures for exploration sites and fuel caches, as well as details around equipment requirements, site inspections, and final restoration operations. In addition to the Proponent's proposed mitigation measures, it is expected that standard operational considerations would mitigate any potential adverse impacts to surface water quality and quantity, and fish and fish habitat in the direct project area and areas adjacent to the proposed project.

The Board acknowledges the Proponent's efforts to collaborate with the Kivalliq Inuit Association (KIA) to remediate the abandoned Shear Diamond camp (Shear Diamond's "Churchill Diamond Project", NIRB File No.: 07EN023) and to restore the environmental integrity of areas adjacent to the proposed project. The Board also recognizes the letters of support received as part of the project application from the KIA, the Aqigiq Hunters and Trappers Organization, and the Hamlet of Chesterfield Inlet resulting from the meaningful community consultations conducted.

The Proponent would require a water licence from the Nunavut Water Board for the water usage activities and fuel storage. In addition, the Proponent would also 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). The Proponent has also been

referred to Fisheries and Oceans Canada's (DFO) *Guidelines for the use of Explosives in or near Canadian Fisheries Waters* to ensure that it is in regulatory compliance during all blasting operations.

Recommended Mitigation Measures: The Board previously issued terms and conditions to mitigate impacts to surface water quality and quantity and fish and fish habitat by issuing term and condition 5 which continues to apply to the project. The following additional terms and conditions are being recommended to mitigate potential impacts from water use; fuel use and storage; waste disposal; exploration activities including drilling, stripping, trenching, and blasting; winter trail development and use; and site closure and remediation: 24, 28 through 30, 40 through 47, 49, 50, 53 through 55, and 57 through 62.

Issue 3: Potential adverse impacts to ground stability, vegetation health, soil quality, terrain, and permafrost from winter trail development and use, mineral exploration operations, storage and use of fuel and chemicals, waste storage and disposal, and transportation of equipment and personnel to and from the community of Rankin Inlet.

Board Views: There is potential for adverse impacts to ground stability, vegetation health and soil quality from the use of vehicles on portions of the winter access route with exposed soil. Specifically, the use of heavy equipment on exposed soil may result in soil compaction or rutting, which could contribute to soil erosion during snow melt in late spring and early summer. In addition, fuel spills may result in soil contamination. Further, there is potential for impacts to vegetation health and soil quality from the exploration activities including the test pit trenching, drilling, and bulk sampling activities at each of the sites and the use of chemical additives.

However, the Proponent has committed to establishing the winter access on land suitable for use of heavy equipment and has provided a comprehensive Spill Prevention and Response Plan which includes storage measures, spill response measures, equipment requirements, and overall handling procedures for the management of fuel and chemicals. Additionally, the Proponent has provided an Abandonment and Restoration Plan which includes details relating to restoration and closure measures for exploration sites and fuel caches, as well as details around equipment requirements, site inspections, and final restoration operations. The potential adverse impacts to ground stability, vegetation health, soil quality, terrain, and permafrost are considered to be of low magnitude and reversible.

The Proponent would also be required to follow the *Transportation of Dangerous Goods Regulations*, *Transportation of Dangerous Goods Act*, and the *Canadian Environmental Protection Act*.

Recommended Mitigation Measures: It is recommended that the potential adverse impacts to the terrestrial environment, particularly for ground stability, vegetation and surface soils would be mitigated by measures requiring the Proponent to follow appropriate refueling procedures, ensure drill wastes to not spread to surrounding lands, ensure sumps are

stable, remove all garbage, undertake restoration of the site to a stable state upon completion of project activities, and implementing erosion prevention measures prior to land disturbance. The Board has previously recommended the following term and condition to ensure the land use area is restored: 18 through 20, which continue to apply to the current project proposal. In addition, the Board recommends terms and conditions 24 through 33, 38, 44, 46 through 48, 50 through 52, 54 through 59 and 63 to mitigate potential adverse impacts to ground stability, vegetation health and soil quality.

Issue 4: Potential adverse impacts to air quality from the winter trail development and use, mineral exploration operations, use of heavy equipment, and incineration of combustible wastes.

Board views: There is potential for adverse impacts to air quality from site preparation, use of heavy equipment and machinery, drilling activities associated with the project, and incineration of select combustible wastes which would be limited to within the project footprint with a low probability of extending beyond the geographic area. The Proponent has committed to employing various mitigation and reclamation measures for the protection of the surrounding environment during project operations, and has committed to properly managing all project wastes. The potential adverse impacts to air quality are considered to be of low magnitude, short-term, and reversible.

Recommended Mitigation Measures: It is recommended that the potential adverse impacts may be mitigated by measures such as ensuring that the Proponent review the Canadian Council of Ministers of the Environment guidance document on open-air burning. In addition, the Board recommends the following terms and conditions to mitigate the potential adverse impacts to air quality: 25 and 26.

Issue 5: Potential adverse impacts to traditional land use activities in the area due mineral exploration operations, transportation of personnel and equipment to and from the community of Rankin Inlet via helicopter, and the development and use of the winter trail between the community of Rankin Inlet and the project area to transport personnel, equipment, and materials.

Board Views: The Proponent has indicated that the proposed project would take place near the communities of Rankin Inlet and Chesterfield Inlet. Due to the proximity of project operations to these communities, known seasonal wildlife ranges, and areas of traditional land use activities, project operations may temporarily alter the distribution of harvested species through avoidance and may affect personal enjoyment of the land and the social and cultural activities practiced in the region. To address concerns expressed by community groups and organizations during past assessment periods for this file, and to proactively address any concerns that may develop during the proposed undertaking of this project, the Proponent conducted community consultations to supplement its operational plans and proposed mitigation and monitoring measures (Community Consultation Log provided). The Board acknowledges the Proponent's recognition of the Josephine River and Lake areas as areas of significant cultural importance for traditional land use activities and Inuit harvesting, as well as the letter of

support from the Aqigiq Hunters and Trappers Organization who noted that it supported the proposed project following meetings conducted in August, 2016.

In addition to the Proponent's commitments to continue community consultations, to comply with INAC's Caribou Protection Measures and providing wildlife, including caribou, with the right of way on the winter access to prevent disruptions to caribou movement, standard terms and conditions have been recommended in the following section to ensure that impacts to traditional land use activities are minimized.

Recommended Mitigation Measures: The Board previously issued term and condition 21, which continues to apply, to encourage community consultation throughout project activities. In addition, the Board recommends terms and conditions 64 and 65 to further encourage the Proponent to solicit available Inuit Qaujimajatuqangit, which in turn would inform project activities and to ensure that project operations do not impact Inuit wildlife harvesting and traditional land use.

Socio-economic effects on northerners:

Issue 6: Potential adverse impacts to historical, cultural and archaeological sites from mineral exploration activities and the development and use of the winter trail between the community or Rankin Inlet and the project area to transport personnel, equipment, and materials.

Board Views: Within the project application the Proponent provided an Archaeology Summary Report detailing results from an archaeological reconnaissance study conducted within select main project areas. Of the 10 sites identified through the study, only two (2) were within the proposed exploration areas and the Proponent acknowledged its responsibility to protect sites of archaeological and historical significance under relevant legislation. Additionally, within the Proponent's EWMP it detailed mitigation measures to eliminate any disturbance of the identified archaeological sites, as well as reporting and protection measures for any additional sites that may be discovered during operations. It is expected that through the application of the proposed mitigation and reporting measures, in addition to standard measures recommended in the next section, potential impacts to historical, cultural, and archaeological sites from the project would be mitigable, and low magnitude with due care.

The Proponent is required to follow the *Nunavut Act* and would be required to contact the Government of Nunavut – Department of Culture and Heritage when encountering historical sites (as recommended in *Regulatory Requirements* section).

Recommended Mitigation Measures: Term and condition 64 is recommended to ensure that available Inuit Qaujimaningit can inform project activities, and reduce the potential for negative impacts occurring to additional historical sites, cultural, and archaeological sites.

Issue 7: Potential positive benefits to the local economy as the Proponent would be operating out of the community of Rankin Inlet where accommodations and other facilities would be

sourced. Further, the Proponent has committed to purchasing goods and services within the community and has committed to hiring wildlife monitors through the Aqigiq Hunters and Trappers Organization.

Board Views: The Proponent has committed to consulting local communities throughout and following the proposed project which would be expected to act as a forum for additional economic opportunities. Terms and conditions have been recommended to ensure that the Proponent considers local hiring during the proposed undertaking.

Recommended Mitigation Measures: Term and condition 21, which continues to apply, was previously recommended to ensure the Proponent informs local communities of project operations and considers local employment opportunities.

Significant public concern:

Issue 8: No significant public concern was expressed during the most recent public commenting period for this file.

Board Views: Although no significant public concerns were expressed during the most recent public commenting period for this file, the Board notes that the original *modified* project proposal assessed by the NIRB generated substantial concerns from various community groups in the project area (Screening Decision Report, NIRB File No.: 15EN028, April 4, 2016).

The main concerns expressed by commenting parties during the Board's previous assessment of the proposed modified project included the Proponent's lack of community consultation and incorporation of Inuit Qaujimagatuqangit into the project proposal; the proposed project's temporal and spatial overlap with sensitive wildlife areas; potential impacts to areas of traditional land use, Inuit harvesting, and archaeological sites; lack of environmental remediation of past exploration projects in the area; and potential impacts to the overall environmental integrity of the area. These concerns resulted in a noted lack of support from community groups during the previous assessment and led to the Board's recommendation to the Minister of Indigenous and Northern Affairs (the Minister) that the project proposal should be modified or abandoned in accordance with paragraph 91 of the *Nunavut Planning and Project Assessment Act*. On August 15, 2016 the Minister, on behalf of the Responsible Ministers for the proposed project, accepted the Board's determination and directed the Proponent to clearly indicate any changes made to the project should they choose to submit a modified project proposal (see *Project Referral and File History* section above).

The Board acknowledges that prior to the current *modified* project proposal, the Proponent conducted community consultations with local stakeholders and interested parties on several occasions to address concerns pursuant to the NIRB's, and the Minister's, direction. The Board notes that the Proponent has incorporated community input into project planning and has modified several operational plans, including its Environment and Wildlife Management Plan, to address stakeholder concerns (see

Issues 1, 2, 3, 4 and 5 above). Additionally, the Board also recognizes that the Proponent contracted an archaeological study of the proposed project area to identify potential areas of historical and archaeological sensitivity. In addition, the Proponent offered to collaborate on the remediation of an abandoned exploration site adjacent to the project area. As such, the NIRB notes that it received a number of letters of support for the current proposed *modified* Kahuna Diamond project, including letters from the Aqigiq Hunters and Trappers Organization, the Hamlet of Chesterfield Inlet, and a support document from the Kivalliq Inuit Association, as part of the project application. The Proponent has also committed to consulting with local communities throughout, and following, the proposed project which would be expected to address any developing concerns.

Recommended Mitigation Measures: Previously-issued term and condition 21, and the new recommended term and condition 64 would be expected to help mitigate any community concerns from developing through ongoing community consultation.

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 following terms and conditions were previously issued by the NIRB in the July 15, 2015 Screening Decision Report for File No.: 15EN028, **and continue to apply to the Kahuna Diamond project:**

General

1. Dunnedin Ventures 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 NIRB (NIRB Part 1 Form, May 26, 2015); Aboriginal Affairs and Northern Development Canada (Land Use Permit Application, May 5, 2015); and the Nunavut Planning Commission (Conformity Determination and Questionnaire, May 7, 2015).
4. The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines.

Water

5. 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

6. 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.

Wildlife - General

7. The Proponent shall ensure that there is no damage to wildlife habitat in conducting this operation.
8. 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.
9. The Proponent shall not touch, feed or entice wildlife to approach by holding out or setting out decoys or any such devices, foodstuffs or bait of any kind.
10. 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.
11. The Proponent shall ensure all project staff are trained in appropriate bear/carnivore detection and deterrent techniques.

Migratory Birds and Raptors Disturbance

12. 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 metre 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.

Aircraft Flight Restrictions

13. 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.
14. 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.
15. The Proponent shall ensure that aircraft/helicopter do not, unless for emergency, touch-down in areas where wildlife are present.
16. 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 Muskozen Disturbance

17. 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.

Temporary Land Use

18. The Proponent shall ensure that the land use area is kept clean and tidy at all times.

Restoration of Disturbed Areas

19. The Proponent shall remove all garbage, fuel and equipment upon abandonment.
20. 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

21. The Proponent should, to the extent possible, hire local people and to consult with local residents regarding their activities in the region.
22. Any activity related to this application, and outside the original scope of the project as described in the application, will be considered a new project and should be submitted to the NIRB for Screening.

In addition to the previously issued terms and conditions, the Board recommends the following project-specific terms and conditions:

General

23. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (Application to Determine Conformity, November 9, 2016), and the NIRB (Online Application Form, November 29, 2016; *updated* Environment and Wildlife Management Plan, January 31, 2017).

Water Use

24. 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.

Waste Disposal/Incineration

25. 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.
26. The Proponent shall ensure that no waste oil/grease is incinerated on site.

Fuel and Chemical Storage

27. The Proponent shall store all fuel and chemicals in such a manner that they are inaccessible to wildlife.

28. 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.
29. 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.
30. 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.
31. 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.
32. The Proponent shall remove and treat hydrocarbon contaminated soils on site or transport them to an approved disposal site for treatment.
33. 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.

Migratory Birds and Raptors Disturbance

34. The Proponent shall minimize activities during periods when birds are particularly sensitive to disturbance such as migration, nesting and moulting.
35. The Proponent shall ensure its aircraft avoid excessive hovering or circling over areas where bird presence is likely.

Caribou and Muskoxen Disturbance

36. 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).
37. 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. Following July 15, if caribou cows or calves are 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

38. The Proponent shall not move any equipment or vehicles unless the ground surface is in a state capable of fully supporting the equipment or vehicles without rutting or gouging. Overland travel of equipment or vehicles must be suspended if rutting occurs.

39. All construction and transportation vehicles must be fitted with standard and well-maintained noise suppression devices and engine idling is to be minimized.

Winter Trail

40. The Proponent shall select a winter route that maximizes the use of frozen water bodies.
41. The Proponent shall not erect camps or store materials on the surface ice of lakes or streams, except that which is for immediate use.
42. The Proponent shall ensure that no disturbance of the stream bed or banks of any definable watercourse be permitted, except where deemed necessary for maintaining project-specific operational commitments or by a responsible authority in cases of spill management.
43. The Proponent shall not move any equipment or vehicles without prior testing the thickness of the ice to ensure the lake is in a state capable of fully supporting the equipment or vehicles.
44. The Proponent shall ensure that bank disturbances are avoided and no mechanized clearing is carried out immediately adjacent to any watercourse.
45. The Proponent shall ensure that stream crossings and/or temporary crossings constructed from ice and snow, which may cause jams, flooding or impede fish passage and or water flow, are removed or notched prior to spring break-up.
46. The Proponent shall avoid disturbance on slopes prone to natural erosion, and alternative locations shall be utilized.
47. 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. This includes ensuring that a sufficient thickness of snow and ice is present on the winter trail to prevent unnecessary erosion of the underlying ground surface and impact on underneath vegetation.
48. The Proponent shall implement a clean-up and reclamation stabilization plan which should include, but is not limited to, re-vegetation and/or stabilization of exposed soil in trail bed.

Stripping and Trenching

49. The Proponent shall not conduct any trenching activities within thirty-one (31) metres of the high water mark of any water body.
50. The Proponent shall implement sediment and erosion control measures by employing erosion prevention measures (e.g., berms or silt fence) in the trenching area during the project operation.
51. The Proponent shall stockpile all overburden/topsoil generated during trenching using proper erosion prevention measures. Upon completion of operation, the Proponent shall back fill, reclaim/re-contour and re-vegetate all disturbed areas.
52. The Proponent shall pump accumulated water in blast trenches to a natural depression sump, with berms build if necessary. Water should be analyzed in accordance with the Nunavut Water Board water license discharge criteria before discharging into the environment.

Drilling on Land

53. 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.
54. The Proponent shall not allow any drilling wastes to spread to the surrounding lands or water bodies.
55. If an artesian flow is encountered, the Proponent shall ensure the drill hole is immediately plugged and permanently sealed.
56. 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.
57. 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.
58. 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.
59. 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.

Drilling on Ice

60. If drilling is conducted on lake ice, the Proponent shall ensure that any return water is non-toxic, and will not result in an increase in total suspended solids in the immediate receiving waters above the Canadian Council of Ministers for the Environment (CCME) Guidelines for the Protection of Freshwater Aquatic Life.
61. The Proponent shall ensure that drill muds and additives are not used in connection with holes drilled through lake ice unless they are re-circulated or contained such that they do not enter the water, or are demonstrated to be non-toxic.
62. The Proponent shall ensure that all drill cuttings are removed from ice surfaces daily.

Restoration of Disturbed Areas

63. The Proponent shall complete all clean-up and restoration of the lands used prior to the end of each field season.

Other

64. The Proponent should engage with local residents regarding planned activities in the area and should solicit available Inuit Qaujimaningit and information regarding current recreational and traditional usage of the project area which may inform project activities. Posting of translated public notices and direct engagement with potentially interested groups and individuals prior to undertaking project activities is strongly encouraged.
65. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.

The Board has previously recommended the following on July 15, 2015, which continue to apply to the Project:

Annual Report (updated)

1. The Proponent shall submit a comprehensive annual report at the end of the operational season to the Nunavut Impact Review Board (NIRB) and the following Government of Nunavut contacts:
 - a) Denise Baikie, A/ Manager of Land Use & Environmental Assessment, dbaikie@gov.nu.ca
 - b) Mitch Campbell, Wildlife Biologist, mcampbell@gov.nu.ca
 - c) Johanne Coute-Autut, Conservation Officer, jcouteautut@gov.nu.ca

The annual report must contain, but not limited to, the following information:

- a. A detailed summary of activities undertaken for the year, including any progressive reclamation work undertaken, include 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. Prior to conducting project activities, the Proponent should map the location of any sensitive wildlife sites such as denning sites, calving areas, caribou crossing sites, and raptor nests in the project area, and identify the timing of critical life history events (i.e., calving, mating, denning and nesting).
- c. The results of any environmental studies undertaken by or in coordination with the project, or any plans for future studies;
- d. A summary of any community consultations undertaken and the results; and
- e. A summary of how the company has complied with NIRB conditions contained within the Screening Decision Report.

In addition to the previously recommended monitoring and reporting requirements, the Board is recommending the following:

- f. A brief summary of EWMP results as well as any mitigation actions that were undertaken during the reporting year. The summary of results should include the following:
 - i. A summary of potential impacts from the project observed during operations and an analysis of the effectiveness of mitigation measures for wildlife;
 - ii. A summary of how the Proponent ensured that operational activities were managed and modified to avoid impacts on wildlife and sensitive areas. Details should include how mitigation and monitoring measures within the EWMP were adjusted based on findings revealed through operations or community consultations.

- g. Summary of any heritage sites encountered during project operations, any follow-up action or reporting required as a result, and how project activities were modified to mitigate impacts on the heritage sites.

OTHER NIRB CONCERNS AND RECOMMENDATIONS

In addition to the project-specific terms and conditions, the Board previously recommended the following recommendations on July 15, 2015, which continue to apply:

Bear and Carnivore Safety

1. (*updated*) 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..

2. 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 the Kivalliq Region in Rankin Inlet, Johanne Coute-Autut, phone: (867) 645-8084, email: jcouteautut@gov.nu.ca).

Species at Risk

3. (*updated*) 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

4. 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.

Caribou Management

5. 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).
6. Territorial and federal government agencies update the Caribou Protection Map with updated data and information from the Beverly Qamanirjuaq Caribou Management Board (BQCMB).

Indigenous and Northern Affairs Canada (*updated*)

7. Indigenous and Northern Affairs (INAC, *updated*) impose mitigation measures, conditions and monitoring requirements pursuant to the Federal Land Use Permit, which require the Proponent to respect the sensitivities and importance of the area. These mitigation measures, conditions and monitoring requirements should be in regard to the location and area; type, location, capacity and operation of facilities; use, storage, handling and disposal of chemical or toxic material; wildlife and fisheries habitat; and petroleum fuel storage.
8. INAC (*updated*) consider the importance of conducting regular Land Use Inspections, pursuant to the authority of the Federal Land Use Permit, while the project is in operation. The Land Use Inspections should be focused on ensuring the Proponent is in compliance with the conditions imposed through the Federal Land Use Permit.

The Board is currently also recommending the following:

Incineration of Wastes

9. The Proponent review the Canadian Council of Ministers of the Environment's "Guidance Document for Canadian Jurisdictions on Open-Air Burning", available at the following link: http://www.ccme.ca/files/Resources/air/wood_burning/pn_1548_CCME%20Guidance%20Document%20on%20Open%20Air%20Burning%20FINAL.pdf as a guidance document for best practices associated with open-air burning .

Migratory Birds

10. 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

11. Environment and Climate Change Canada recommends that all hazardous wastes, including waste oil, receive proper treatment and disposal at an approved facility.
12. 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. Further, the Proponent shall ensure that the shipment of waste is registered with the Government of Nunavut Department of Environment (GN-

DoE). Contact the Manager of Pollution Control and Air Quality at (867) 975-7748 to obtain a manifest if hazardous waste will be generated during project activities.

13. The Proponent shall provide an authorization or letter of conformation of disposal be obtained from the owner/operator of the landfill to be used for disposal of project-related wastes.

Winter Trails

14. If ice bridges are constructed, the Proponent follow the mitigation measures outlined in Fisheries and Oceans Canada's Operational Statement for Ice Bridges, available at the following internet address: now <http://www.dfo-mpo.gc.ca/pnw-ppe/fpp-ppp/guide-eng.html>.
15. Cutting or filling of crossing approaches below the high water mark will require prior review and approval by Fisheries and Oceans Canada - Fish Habitat Management Branch.

Aircraft Identification

16. The Proponent shall provide the communities of Rankin Inlet and Chesterfield Inlet details regarding 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 project operations.

Caribou Management

17. As a result of expressed concerns regarding mineral exploration and the associated potential for cumulative effects on caribou and caribou habitat within the Kivalliq region, the NPC, territorial and federal government agencies should work together with Regional Inuit Associations, co-management boards, the public, and industry to develop a plan that identifies appropriate land use in these areas prior to potential mineral exploration. The plan should identify and mitigate potential cumulative effects of human land use activities on barren-ground caribou on both localized and regional scales.
18. The NPC should be aware of the public concerns regarding a perceived lack of protection for caribou and caribou habitat within the Kivalliq region of Nunavut. In developing a Nunavut-wide land use plan, the NPC may wish to consider formalized protection of important caribou habitat, and seasonal restrictions on potentially disruptive activities in these areas to minimize disturbance to caribou lifecycles and Inuit harvesting activities.

Indigenous and Northern Affairs Canada

19. INAC forward to the NIRB copies of any decisions by Inspectors which allow project activities to continue in areas of caribou presence between dates indicating work stoppages are necessary (exemptions from Caribou Protection Measures).
20. It is recommended to INAC that no extension be issued to the Land Use Permit until the Proponent's completed Annual Report is received.

Kivalliq Inuit Association

21. The Kivalliq Inuit Association impose strict mitigation measures and/or conditions upon the Proponent pursuant to the Inuit Owned Lands License in regard to fuel and chemical storage, drilling, water conditions, ground disturbance and wildlife on Inuit owned land.

Nunavut Water Board

22. The Nunavut Water Board impose mitigation measures, conditions and monitoring requirements pursuant to the Water Licence, which require the Proponent to respect the sensitivities and importance of water in the area. These mitigation measures, conditions and monitoring requirements should be in regard to use of water, snow and ice; waste disposal; access infrastructure; drilling operations; spill contingency planning; abandonment and restoration planning; and monitoring programs.
23. In particular, mitigation measures, conditions and monitoring requirements should be considered for the use of water, snow and ice for the development and maintenance of the winter trail for this project.

Indigenous and Northern Affairs Canada – Water Resources Division

24. INAC – Water Resources Division should consider the importance of conducting regular inspections, pursuant to the authority of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, while the project is in operation. Inspectors should focus on ensuring the Proponent is in compliance with the conditions imposed through the Water Licence.

REGULATORY REQUIREMENTS

The Board previously recommended in the July 15, 2015 Screening Decision Report for the Kahuna Diamond project the following legislation, which continues to apply to the current proposal:

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://www.canlii.org/ca/sta/n-28.8/whole.html>).
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 B** 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 C**.
7. The *Aeronautics Act* (<http://laws-lois.justice.gc.ca/eng/acts/A-2/>).

In addition, the Proponent is also advised that the following legislation may apply to the project:

Acts and Regulations

8. The Proponent is advised that the *Canadian Environmental Protection Act* (<http://laws.justice.gc.ca/en/C-15.31/>) lists calcium chloride (CaCl) as a toxic substance. The

Proponent should assess alternatives to the use of CaCl as a drill additive, including biodegradable and non-toxic additives.

9. 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/>). 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.

Other Applicable Guidelines

10. The Proponent shall follow the Fisheries and Oceans Canada (DFO) *Guidelines for the use of Explosives in or near Canadian Fisheries Waters* (<http://publications.gc.ca/site/eng/82558/publication.html>) and shall not conduct blasting if wildlife is within sight or hearing distance of the project area.

CONCLUSION

The foregoing constitutes the Board's screening decision with respect to Dunnedin Ventures Inc.'s "Kahuna Diamond Project". The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated February 28, 2017 at Arviat, NU.



Elizabeth Copland, Chairperson

Attachments: Appendix A: Previously-Screened Project Activities Approved to Proceed Under Section 12.4.4(a) of the Nunavut Agreement
Appendix B: Species at Risk in Nunavut
Appendix C: Archaeological and Palaeontological Resources Terms and Conditions for Land Use Permit Holders

**APPENDIX A: PREVIOUSLY-SCREENED PROJECT ACTIVITIES APPROVED TO PROCEED UNDER
SECTION 12.4.4(A) OF THE NUNAVUT AGREEMENT**

NIRB File No.: 15EN028

The original project proposal was received by the Nunavut Impact Review Board (NIRB) from Aboriginal Affairs and Northern Development Canada on May 5, 2015 and screened in accordance with Part 4, Article 12 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (Nunavut Agreement). On July 15, 2015 the NIRB issued a decision under section 12.4.4(a) of the Nunavut Agreement to the Minister of Aboriginal Affairs and Northern Development which indicated that the proposed project could proceed subject to the NIRB's recommended project-specific terms and conditions.

Dunedin Ventures Inc.'s (the Proponent) original "Kahuna Diamond" project was located in the Kivalliq region, approximately 54 kilometres (km) northeast of Rankin Inlet and 37 km southwest of Chesterfield Inlet. The Proponent indicated that it intended to conduct a prospecting exploration program to continue assessing the potential for diamond deposits by evaluating kimberlite occurrences discovered during prior exploration studies. The program was proposed to take place from June 1 to August 31, 2015.

The activities and components associated with the previously screened proposal included:

- Daily transport of up to six personnel to sample sites via helicopter from Rankin Inlet;
- Logistic support and personnel accommodations in Rankin Inlet;
- Collection of rock and soil samples to evaluate geology;
- Document additional information where rock and soil samples collected, specifically outcrop density, proximity to water, topography, plant species and local wildlife;
- Combustible and non-combustible wastes removed daily from project site for disposal in Rankin Inlet; and
- Burial of sewage.

Appendix B

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 C
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.