



## SCREENING DECISION REPORT NIRB FILE No.: 15EN028

NPC File No.: 148649

Associated NPC File Nos.: 148166 and 148367

KIA File No.: KVL315B01 and KVRW16F01

INAC File No.: N2015C0019

NWB File No.: 2BE-KDP1722

**March 2, 2018**

Following the Nunavut Impact Review Board's (NIRB or Board) assessment of all materials provided, the NIRB is recommending that a review of Dunnedin Ventures Inc.'s (Dunnedin or the Proponent) "Kahuna Property Field Camp" project proposal is not required pursuant to paragraph 92(1)(a) of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (NuPPAA).

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

### OUTLINE OF SCREENING DECISION REPORT

- 1) REGULATORY FRAMEWORK
- 2) PROJECT REFERRAL
- 3) PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS
- 4) ASSESSMENT OF THE PROJECT PROPOSAL IN ACCORDANCE WITH PART 3 OF NuPPAA
- 5) VIEWS OF THE BOARD
- 6) RECOMMENDED PROJECT-SPECIFIC TERMS AND CONDITIONS
- 7) MONITORING AND REPORTING REQUIREMENTS
- 8) OTHER NIRB CONCERNS AND RECOMMENDATIONS
- 9) REGULATORY REQUIREMENTS
- 10) CONCLUSION

### REGULATORY FRAMEWORK

The primary objectives of the NIRB are set out in Section 12.2.5 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)* and are confirmed by section 23 of the NuPPAA:

*Nunavut Agreement*, Article 12, Section 12.2.5: In carrying out its functions, the primary objectives of NIRB shall be at all times to protect and promote the existing and future well-being of the residents and communities of the Nunavut Settlement Area, and to protect the ecosystemic integrity of the Nunavut Settlement Area. NIRB shall take into account the well-being of the residents of Canada outside the Nunavut Settlement Area.

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

*NuPPAA*, s. 88: 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*:

*NuPPAA*, s. 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) of the *NuPPAA* provides that the considerations set out in paragraph 89(1)(a) prevail over those set out in paragraph 89(1)(b) of the *NuPPAA*.

As set out under subsection 92(1) of the *NuPPAA*, upon conclusion of the screening process, the Board must provide its written report the Minister:

*NuPPAA*, s. 92(1): The Board must submit a written report to the responsible Minister containing a description of the project that specifies its scope and indicating that:

- (a) a review of the project is not required;
- (b) a review of the project is required; or
- (c) the project should be modified or abandoned.

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 pursuant to paragraph 92(2)(a) of *NuPPAA* as follows:

*NuPPAA*, s. 92(2) In its report, the Board may also

- (a) recommend specific terms and conditions to apply in respect of a project that it determines may be carried out without a review.

#### PROJECT REFERRAL

On November 20, 2017 the Nunavut Impact Review Board (NIRB or Board) received a referral to screen Dunnedin Ventures Inc.'s (Dunnedin or the Proponent) "Kahuna Property Field Camp" project proposal from the Nunavut Planning Commission (NPC or Commission), with an accompanying positive conformity determination with the Keewatin Regional Land Use Plan. The NPC noted that the previous conformity determinations issued on January 7 and November 9, 2016 for the activities associated with the current proposal continue to apply and determined that the project proposal is a significant modification to the project because of the addition of a temporary field camp.

Pursuant to Article 12, Sections 12.4.1 and 12.4.4 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)* and section 87 of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (*NuPPAA*), the NIRB commenced screening this project proposal. Due to the proposal containing activities that were sufficiently related to previously assessed activities under NIRB file number 15EN028, the NIRB viewed this project proposal as an amendment to the previously screened project and assigned this proposal with this previous file number.

#### PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

### 1. Project Scope

The proposed "Kahuna Property Field Camp" project is located within the Kivalliq region, approximately 40 kilometres (km) northeast of Rankin Inlet and 50 km southwest of Chesterfield Inlet. The Proponent intends to establish temporary field facilities to support an ongoing mineral exploration program for kimberlite occurrences at the Kahuna Property site. The program is proposed to take place from February to October 2018. The scope of activities previously approved for this ongoing exploration program (NIRB File No. 15EN028) has been included within **Appendix A**.

As required under subsection 86(1) of the *NuPPAA*, the Board accepts the scope of the "Kahuna Property Field Camp" project as set out by the Proponent in the proposal. The scope of the project proposal includes the following undertakings, works, or activities:

- Mobilization of 20 personnel to the Kahuna Property site;
- Establishment of a temporary 20-person field camp and associated facilities at the Kahuna Property site to support ongoing exploration activities;
- Establishment of a temporary fuel cache or storage facility with secondary containment at the Kahuna Property site for the following:
  - 30,750 litres (150 drums) of diesel fuel;

- 30,750 litres (150 drums) of jet fuel;
- 2050 litres (10 drums) of gasoline;
- 60 litres of hydraulic/motor oil and solvents; and
- 2000 pounds (20 cylinders) of propane;
- Daily withdrawal of water from proximal natural water bodies for camp use and to support ongoing exploration activities;
- Use of portable toilets for human waste;
- Use of a dual-chamber incinerator for domestic waste;
- Disposal of camp greywater in a natural depression;
- Transportation of hazardous, combustible and non-combustible wastes to approved facilities offsite for disposal; and
- Demobilization of field camp and associated facilities, and reclamation and restoration of the site on completion of the exploration program.

## 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 20, 2017                      | Receipt of project proposal and positive conformity determination (Keewatin Regional Land Use Plan) from the NPC                   |
| November 20, 2017 and January 26, 2018 | Information requests                                                                                                               |
| November 24, 2017 and February 6, 2018 | Proponent responded to information requests                                                                                        |
| November 24, 2017                      | Scoping pursuant to subsection 86(1) of the <i>NuPPAA</i>                                                                          |
| November 29, 2017                      | Public engagement and comment request                                                                                              |
| December 20, 2017 <sup>1</sup>         | Receipt of public comments                                                                                                         |
| January 19, 2018                       | Receipt of additional comments, following NIRB extension                                                                           |
| January 26, 2018                       | Proponent provided with an opportunity to address comments/concerns raised by public and the NIRB's additional Information Request |
| February 6, 2018                       | Proponent responded to comments/concerns raised by public                                                                          |
| January 5, 2018 <sup>2</sup>           | Ministerial extension requested from the Minister of Crown-Indigenous Relations and Northern Affairs, Government of Canada         |

<sup>1</sup> The NIRB subsequently extended commenting deadline to January 19, 2018 based on a request by the Kangiqliniq Hunters and Trappers Organization.

<sup>2</sup> On February 1, 2018 The NIRB provided a file update to the responsible Minister regarding the Board's request that the Proponent provide a response to interested parties' concerns and the NIRB's **additional** information request pursuant to subsection 144(1) of the *NuPPAA*.

#### **4. Public Comments and Concerns**

Notice regarding the NIRB's screening of this project proposal was distributed on November 29, 2018 to community organizations in Arviat, Whale Cove, Rankin Inlet, Chesterfield Inlet, Nauyasat and Baker Lake, as well as to relevant federal and territorial government agencies, Inuit organizations and other parties. The NIRB requested that interested parties review the proposal and provide the Board with any comments or concerns by December 20, 2017<sup>1</sup> regarding:

- Whether the project proposal is likely to arouse significant public concern; and if so, why;
- Whether the project proposal is likely to cause significant adverse eco-systemic or socio-economic effects; and if so, why;
- Whether the project proposal is likely to cause significant adverse impacts on wildlife habitat or Inuit harvest activities; and if so, why;
- Whether the project proposal is of a type where the potential adverse effects are highly predictable and mitigable with known technology, (and providing 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 information was lacking on mitigation measures to address potential impacts to archaeological resources within and in proximity to the project footprint.
- Expressed concern regarding potential impacts to caribou, including the Qamanirjuaq herd, from the project and recommended that the Proponent commit to avoid operating in areas where caribou are likely to take refuge from insect harassment between July 4 and September 16.
- Noted that information was lacking in the Proponent's Environment and Wildlife Management Plan and that the Plan should be revised to include enhanced mitigation of potential impacts to caribou such as measures to prevent diversion of movement, or disruption of feeding to groups of 25 or more caribou, and phased shutdowns or cessation of activities until caribou have passed the project area.
- Noted that information was lacking on proposed buffer distances for denning Polar Bears to prevent impacts to these mammals and their habitat within and in proximity to the project footprint.
- Indicated that the Proponent's Spill Prevention and Response Plan should be revised to include measures to ensure adequate capacity for temporary storage or containment of contaminated materials from spills on soil, snow, or ice during operations.

##### **Government of Nunavut - Department of Health (GN-DoH)**

- Noted that the proposed camp food and water services would require a review by the Government of Nunavut Department of Health Officer in Rankin Inlet.

##### **Fisheries and Oceans Canada (DFO)**

- Noted no concerns regarding the project proposal at this time.

### **Indigenous and Northern Affairs Canada (INAC)**

- Recommended that the Proponent conduct community consultation with potentially impacted stakeholders in Rankin Inlet to address any concerns prior to the commencement of the proposed project activities.

### **Kangiqliniq Hunters and Trappers Organization (Kangiqliniq HTO)**

- Expressed concerns regarding potential impacts of helicopter traffic on wildlife, especially caribou, in the vicinity of the project area and the potential contribution of the proposed exploration activities to cumulative effects on caribou in the region.

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

The following is a summary of the comments and concerns received with respect to Inuit Qaujimaningit, traditional and community knowledge:

### **Kangiqliniq Hunters and Trappers Organization (Kangiqliniq HTO)**

- Expressed concerns regarding the proximity of the proposed camp site to caribou migration routes and recommended that the Proponent identify alternate camp location(s) to reduce the potential for disruption of caribou migration.
- Recommended that exploration activities, including drilling and helicopter operations, to the south of the proposed camp location should cease from June 23 to October 1 to reduce the potential for disruption of caribou migration in the project area.

## **6. The NIRB's Additional Information Request**

On January 26, 2018, the NIRB requested **additional** information from the Proponent for this file as follows:<sup>2</sup>

- A record of consultation conducted with the Community of Rankin Inlet, including the Kangiqliniq HTO as committed to by the Proponent in correspondence to the NIRB.<sup>3</sup>  
The record of consultation should include the following:
  - Date(s) and location(s) of consultations with parties;
  - Concerns raised by parties regarding the proposed project; and
  - Commitments made by the Proponent to address parties' concerns.

## **7. Proponent's Response to Public Comments and Concerns**

The following is a summary of the Proponent's response to concerns as received on February 6, 2018:

- In response to concerns regarding the lack of information on proposed measures to mitigate potential impacts to archaeological resources, the Proponent noted that although no archaeological sites were identified in the project area during previous surveys in 2016 and 2017, it plans to flag and avoid any archaeological sites that are identified in the project area to reduce the potential for impacts to archaeological resources.

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<sup>3</sup> Dunnedin Ventures Inc.'s letter to the NIRB *Re: Response to NIRB and Kangiqliniq HTO Comments for the Kahuna Field Camp Proposal*, December 8, 2017.

- In response to concerns regarding the potential impacts to caribou herds due to the proposed timing of project activities and the effectiveness of the proposed Environmental and Wildlife Management Plan (EWMP) with respect to caribou protection, the Proponent indicated that:
  - It plans to avoid areas where caribou take refuge from July 4 to September 16 of each year of operations.
  - It plans to implement phased shutdown procedures when migrating caribou approach areas of the project operations, including cessation of all activities until the caribou have safely moved away from the area of operations. A threshold of 50 caribou would be used as reflected in the Proponent's current Land Use Permit issued by Indigenous and Northern Affairs Canada (INAC).
  - It has revised its EWMP with detailed steps to be undertaken for phased shutdowns when caribou are observed in or in the vicinity of the project area.
  - The caribou protection period cited in terms and conditions of its Land Use Permit issued by INAC, which cover calving and post-calving period from May 15 to July 15 (8 weeks), are more conservative than the caribou protection period recommended by the Government of Nunavut.
- In response to concerns regarding the potential for impacts to polar bear habitat, the Proponent noted that its EWMP included the following mitigation measures for potential human-Polar Bear interactions:
  - Implementation of a one (1) kilometre radius exclusion zone around any known Polar Bear dens from September 15 to April 15, or until it is documented that the Polar Bear family has left the den.
  - Reporting of all interactions and sightings of Polar Bears to the Government of Nunavut Wildlife Deterrent Specialist.
- In response to concerns regarding the temporary storage of contaminated materials from spills, the Proponent indicated that it would provide sufficient bulk containment bags at the project site for the temporary storage of any contaminated material, and that its Spill Prevention and Response Plan has been updated to reflect this commitment.
- In response to a request that the proposed field camp operations be subjected to a review by the Government of Nunavut Department of Health prior to the commencement of operations, the Proponent noted that the camp water sources will be analyzed by a certified testing facility to confirm that camp water is potable prior to use.
- In response to recommendations that the Proponent conduct community consultations prior to Project commencement, Dunnedin detailed the community consultations it had conducted, including meetings with various groups in Rankin Inlet in January 2018.
- In response to concerns regarding helicopter traffic and wildlife harassment, particularly caribou, the Proponent indicated that it has not been the subject of any investigations of low flying helicopter incidents in the region, that the helicopter it uses for its operations is different from that cited by the Kangiqliniq HTO, and that it had provided the Kivalliq Inuit Association with flight-paths for its operations as proof that it was not responsible for the incident referenced by the Kangiqliniq HTO.
- In response to concerns about the proximity of the proposed camp to caribou migration and recommendations that the Proponent cease mineral exploration activities to the south of the proposed camp from June 23 to October 1, the Proponent noted the following:

- It investigated ten (10) different sites in September 2017 using a drone, satellite imagery and a field inspection with the support of two members of the Aqigiq (Chesterfield Inlet) Hunters and Trappers Organization in advance of the selection of the currently proposed site for the field camp.
- The proposed site for the field camp will minimize aircraft use over its mineral claims and reduce the potential for interactions with caribou.
- The areas planned for mineral exploration activities have already been screened and authorized by the NIRB, INAC and the Nunavut Water Board.
- Its current authorizations include the requirement for Dunnedin to follow an approved caribou protection plan, which includes caribou protection measures such as helicopter restrictions and phased cease work procedures.
- It will review the field camp location in spring of 2018 with the assistance of traditional knowledge holders in Rankin Inlet and Chesterfield Inlet and community members with cabins in the general project.

## 8. Proponent's Response to the NIRB's Additional Information Request

The following is a summary of the Proponent's response to the NIRB's **additional** information request as received on February 6, 2018:

- Provided details regarding its community consultation meetings between January 11-12, 2018 in Rankin Inlet with the Hunters and Trappers Organization, the Kivalliq Inuit Association, and the general public to discuss the proposed project.
- Presented concerns raised by parties at the meetings, including:
  - Potential for overlap of the proposed field camp and caribou migration routes;
  - Potential for impacts to cabin owners from proposed field camp operations; and
  - Frequency of helicopter flights from Rankin Inlet and potential impacts on caribou harvest success.

## 9. Time of Report Extension

As a result of the time required to allow parties to comment on the project as well as to let the Proponent provide a response to the comments, the NIRB was not able to provide its screening decision report to the responsible Minister within 45 days as required by Article 12, Section 12.4.5 of the *Nunavut Agreement* and subsection 92(3) of the *NuPPAA*. Therefore, on January 5, 2018 the NIRB wrote to the Minister of Crown-Indigenous Relations and Northern Affairs, Government of Canada (the responsible Minister), seeking an extension to the 45-day timeline for the provision of the Board's Report. On February 1, 2018 the NIRB provided a file update to the responsible Minister regarding the Board's request that the Proponent provide a response to interested parties' concerns and the NIRB's **additional** information request pursuant to subsection 144(1) of the *NuPPAA*.<sup>4</sup>

### ASSESSMENT OF THE PROJECT PROPOSAL IN ACCORDANCE WITH PART 3 OF *NuPPAA*

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.

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<sup>4</sup> NIRB letter to Dunnedin Ventures Inc. Re: *Opportunity to address comments received and Additional Information Required regarding Dunnedin Ventures Inc.'s "Kahuna Property Field Camp" project proposal*, January 26, 2018.

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 field camp to support mineral exploration will occur in an area approximately 40 kilometres (km) northeast of Rankin Inlet and 50 km southwest of Chesterfield Inlet. The project footprint will include a land parcel for the establishment of a 20-person field camp and associated facilities at the Kahuna Property site and helicopter-assisted travel routes from the field camp site to prospecting and exploration drilling areas on the mineral claims. The proposed project activities may take place within habitat for caribou (Qamanirjuaq and Lorillard herds), muskox, wolf, wolverine, Arctic fox, Arctic hare, migratory and non-migratory birds, fish, and Species at Risk such as Polar Bear, as identified by the Proponent, the Government of Nunavut and the Nunavut Planning Commission mapping sources. The project may potentially affect animal migratory patterns.

2. *The ecosystemic sensitivity of that area.*

The proposed project may occur in an area with ecosystemic sensitivity, including the potential for overlap of portions of the project footprint with habitat for caribou and other wildlife. Specifically, the footprint of the proposed project may overlap areas identified as having value and priority to local communities for:

- i. Abundance of caribou, muskox, wolves, and wolverine;
- ii. Caribou migration routes; and
- iii. Arctic char and lake trout.

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

The Proponent has not identified any known areas of historical, cultural and archaeological significance associated with the project; however, the Government of Nunavut indicated that ten (10) archaeological sites have been identified in the vicinity of an overland winter trail associated with the Kahuna Property and that additional unidentified archaeological resources may be present in proximity to the location for the field camp. Should the project be approved to proceed, the Proponent would be required to conduct an archaeological assessment of the project area, and contact the Government of Nunavut-Department of Culture and Heritage if any sites of historical, cultural or archaeological significance are encountered.

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

The proposed project would occur at locations approximately 40 km northeast of Rankin Inlet and 50 km southwest of Chesterfield Inlet, the two (2) nearest communities; as such, human populations are likely to be affected by project impacts. There is the potential for impacts to community members in the Kivalliq region that may use areas in proximity to the proposed project area for traditional activities such as hunting, fishing and camping as noted by the Proponent in community consultation records for the Project. Further, the establishment of the field camp and the associated exploration activities could contribute to increased wildlife disturbances in the area. However, wildlife and environmental protection measures proposed within 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 "Kahuna Property Field Camp" is a proposed establishment of a camp site to support the ongoing exploration program previously approved, the nature of potential impacts is considered to be well-known. Potential adverse impacts are likely to be localized, of medium magnitude, and restricted to seasonal (February to October) project activities. Due to the proximity of the proposed field camp to caribou habitat, including migration routes, specific mitigation measures for the protection of critical life stages of caribou herds in the area may be necessary. Based on past evidence of similar scope of activities, potential adverse impacts would be reversible and mitigable with due care.

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

The proposed project would take place within a 100 kilometre (km) radius of other projects that have been or are being assessed by the Board as listed in Table 1 below.

However, it is noted that this project is not likely to result in significant residual cumulative impacts. The potential for cumulative impacts to terrestrial wildlife and habitat, fish and fish habitat, water quality, cultural and archaeological resources, ground stability, soil quality, air quality and traditional wildlife harvesting pursuits from the proposed field camp operations and other projects occurring in the region has been identified and considered in the development of the NIRB's recommendations. Terms and conditions recommended for each of these projects are expected to reduce any residual impacts, and as such would limit or reduce the potential for cumulative effects to occur.

**Table 1: Project List**

| <b>NIRB Project Number</b>               | <b>Project Title</b>                                   | <b>Project Type</b>                                                                                            |
|------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| <b>Active Projects</b>                   |                                                        |                                                                                                                |
| 15EN049                                  | Parker, Peter, and Fox Lakes and Cone Hill Exploration | Mineral exploration and field camp operations ( <i>year round</i> ) and winter road access ( <i>seasonal</i> ) |
| 15EN052                                  | Luxx Exploration                                       | Mineral Exploration ( <i>seasonal</i> )                                                                        |
| 16QN071                                  | Itivia Quarry                                          | Quarry ( <i>year round</i> )                                                                                   |
| 11EN031                                  | Maguse River                                           | Mineral Exploration ( <i>seasonal</i> )                                                                        |
| 11MN034<br>(Project Certificate No. 006) | Meliadine Gold Mine                                    | Gold Mine ( <i>year round</i> )                                                                                |
| 07EN023                                  | Churchill Diamond                                      | Mineral Exploration ( <i>seasonal</i> )                                                                        |

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

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

#### Views of the Board

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

#### **Administrative Conditions:**

To encourage compliance with applicable regulatory requirements and assist the Board and responsible authorities with compliance and effects monitoring for project activities, the Board has previously recommended terms and conditions 1 through 4, and 23 which continue to apply to the current project proposal. The Board is also recommending term and condition 66 to ensure complete reference to applicable regulatory requirements.

The Board would also note that, as justified in its previous decisions (NIRB File No. 15EN028 dated July 15, 2015 and February 28, 2017), terms and conditions 5 through 65 remain applicable to the “Kahuna Diamond” project, while the additional impacts identified for the new

components of the “Kahuna Property Field Camp” project warrant mitigation measures as justified below.

**Ecosystem, wildlife habitat and Inuit harvesting activities:**

**Issue 1:** Potential adverse impacts to caribou and caribou habitat from the development and operations of the temporary camp site including increased noise and traffic generated by on land and helicopter transportation to/from the camp and to/from exploration sites.

**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 caribou and caribou habitat. The activities associated with the project include the development and operation of a 20-person temporary field camp, helicopter-assisted travel, and overland travel to conduct prospecting and exploration drilling activities from the camp site. Although some components of the proposed project activities may be in proximity to habitat of importance to caribou (including migration routes), the potential impacts to caribou are considered to be limited due to the seasonal (February to October) and temporary nature of the field camp operations and the mitigation measures proposed by the Proponent to protect caribou and caribou habitat. Specifically, the Proponent has committed to implementing an Environment and Wildlife Management Plan, including protocols for avoiding work areas until any migrating caribou, including caribou cows and calves, have moved a distance of 2 to 5 kilometres from the project site, initiating phased shutdown procedures to prevent disruptions to caribou migration, and employing wildlife monitors from local communities to supervise field operations. The Proponent also intends to implement a Waste Management Plan at the field camp site to manage domestic waste and has committed to remediate the project areas following operations. As a result of the mitigation measures presented by the Proponent, the adverse impacts to caribou and caribou habitat are considered to be of low magnitude, temporary and reversible.

The Proponent would also be required to follow the *Wildlife Act* (see Regulatory Requirements section).

**Noted Inuit Qaujimaningit, traditional or community knowledge:** The Kangiqliniq Hunters and Trappers Organization indicated that the proposed project area is in proximity to caribou calving migration routes and that the Proponent should mitigate potential impacts to wildlife and hunting practices in the area.

**Recommended Mitigation Measures:** It is recommended that the potential adverse impacts to caribou may be mitigated by measures such as requiring the Proponent to cease activities that may interfere with the migration or calving of caribou until the caribou have left the area. The Board has previously recommended terms and conditions to mitigate potential adverse impacts to caribou and caribou habitat, specifically: 6 through 10, 13, 16, 17, 36 and 37, which continue to apply to the current project proposal.

**Issue 2:** Potential adverse impacts to terrestrial wildlife, migratory and non-migratory birds, and their respective habitats from the increased noise associated with the establishment and operation of the field camp.

**Board views:** There is potential for disturbance of terrestrial wildlife, including muskoxen, wolves, and migratory and non-migratory birds from air and on land transport of field personnel to and from the field camp, and noise from general field camp operations. There is also the potential for impacts to denning sites, especially for Polar Bears that may be in the vicinity of the location proposed for the field camp operations. However, the potential adverse impact(s) of the proposed project activities to terrestrial wildlife and birds is considered to be of low magnitude due to the scale and seasonal and temporary nature of the field camp operations. The Proponent has committed to implementing an Environment Wildlife Management Plan, including protocols for avoiding low-level aircraft and helicopter flights in areas which are crucial nesting and denning habitats; and maintaining buffer zones between active dens for wildlife and activities associated with the field camp operations. As a result of the mitigation measures proposed by the Proponent, the adverse impacts to terrestrial wildlife, including Polar Bears and migratory and non-migratory birds are considered to be of low magnitude and reversible.

The Proponent would be required to follow the *Wildlife Act*, the *Migratory Birds Convention Act*, the *Species at Risk Act*, the *Transportation of Dangerous Goods Act* and the *Canadian Environmental Protection Act* (see Regulatory Requirements section).

**Recommended Mitigation Measures:** It is recommended that the potential adverse impacts to terrestrial wildlife, including Polar Bears, and migratory and non-migratory birds, may be mitigated by measures such as minimizing activities when wildlife and birds are particularly sensitive to disturbance especially during denning periods, migration, nesting and moulting. The Board has previously recommended terms and conditions to mitigate potential adverse impacts to terrestrial wildlife, specifically: 6 through 16, 27, 34 and 35, which continue to apply to the current project proposal.

**Issue 3:** Potential adverse impacts on surface water quality, and fish and fish habitat, from the establishment and operation of the field camp including water withdrawal for camp use and possible accidents or malfunctions resulting in fuel or chemical spills.

**Board Views:** The project may adversely impact surface water quality and fish and fish habitat from water withdrawal, fuel and hazardous material storage and potential spills, erosion, and deposition of contaminated soil into or in proximity to the aquatic environment, including fish-bearing waterbodies. However, the potential for adverse impacts on fish and fish habitat, including water quality from water withdrawal and grey water deposition are likely to be limited to the footprint of the proposed temporary field camp. The Proponent has committed to using grease traps and screens to ensure food grease and solids do not enter waste water sumps. The Proponent has also committed to implementing a Fuel Management Plan for the project, to storing all fuel storage containers in secondary containment structures to prevent the spread of any fuel spill

incidents, and to notify Fisheries and Oceans Canada of any project-related actions that cause serious harm to fish that are part of or support commercial, recreational or Aboriginal fishery. As a result, the potential adverse impacts to water quality, fish and fish habitat are considered to be of low magnitude, infrequent and reversible.

The Proponent would require a water licence from the Nunavut Water Board for the camp water use 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).

**Recommended Mitigation Measures:** It is recommended that the potential adverse impacts to surface water quality and fish and fish habitat may be mitigated by measures such as requiring the Proponent to ensure all project personnel are properly trained in fuel and hazardous waste handling procedures, as well as spill response and waste management. The Board previously recommended the following terms and conditions to mitigate potential impacts to surface water quality and fish and fish habitat: 5, 8, 24, and 28 through 33, which continue to apply to the current project proposal. In addition, the NIRB recommends the following term and condition to mitigate potential adverse impacts to surface water quality, and fish and fish habitat from proposed construction and operation of a temporary field camp: 69.

**Issue 4:** Potential adverse impacts to ground stability, soil quality, and vegetation health from the establishment of a temporary field camp and from accidents and malfunctions associated with fuel storage facilities.

**Board views:** The activities proposed for the project, including establishment of temporary camp and fuel caches, may result in degradation of permafrost which would negatively affect ground stability. Also, buildup of waste from field operations on site may have adverse impacts to vegetation health and soil quality. However, the potential for impacts is limited to the footprint of camp area and fuel caches, which are temporary in nature. To mitigate potential impacts to ground stability, soil quality, and vegetation health, the Proponent has committed to elevating field camp structures to prevent ground disturbance and permafrost thaw; conducting regular inspection of fuel storage facilities for leaks and providing spill kits at the project site; providing adequate temporary storage for any contaminated materials from project operations; and reclaiming and restoring the project site to its original state upon final closure. As a result, the potential adverse impacts to ground stability, soil quality, and vegetation health are considered to be of low magnitude, short-term 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* (see Regulatory Requirements section).

**Recommended Mitigation Measures:** It is recommended that potential adverse impacts to ground stability, vegetation health and soil quality be mitigated by such measures as requiring

the Proponent to 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, to establish the camp on durable land and to ensure that the fuel and chemicals are stored properly. The Board has previously recommended the following terms and conditions to mitigate potential impacts to ground stability, soil quality, and vegetation health: 18 through 20, 30 through 33, 38, 39, and 63, which continue to apply to the current project proposal. In addition, the NIRB recommends the following terms and conditions to mitigate potential adverse impacts to ground stability, soil quality, and vegetation health from proposed construction and operation of a temporary field camp: 68 and 69.

**Issue 5:** Potential adverse impacts to air quality from incinerator activities associated with field camp operations.

**Board views:** There is potential for adverse impacts to air quality from emissions associated with the combustion of waste generated at the field camp site. The Proponent has committed to using a dual chamber incinerator for the disposal of combustible solid wastes in accordance with the Nunavut Environmental Guideline for the Burning and Incineration of Solid Waste and the Canada-Wide Standards for Dioxins and Furans. As a result, 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 requiring the Proponent to not allow the incineration of waste oil/grease on site. The Board has previously recommended the following terms and conditions to mitigate potential impacts to air quality: 25, 26 and 39, which continue to apply to the current project proposal. In addition, the Board recommends the following term and condition to mitigate the potential adverse impacts to air quality from the emission of Dioxins and Furans: 67.

**Issue 6:** Potential adverse impacts to public and traditional land use pursuits in the area from caribou migration disruptions and other wildlife disturbances from increased noise associated with the development and operations of the field camp, and transportation of personnel and equipment to and from the field camp.

**Board Views:** The Proponent is proposing to work in an area in proximity to caribou habitat and caribou migration routes. There is potential for disruption of this critical caribou event as a result of noise generated from activities associated with the field camp operations, which may reduce local caribou populations and availability of caribou as country food. Further, due to the proximity of project operations to the communities of Rankin Inlet and Chesterfield Inlet, 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. The Proponent has committed to conducting follow-up consultations with potentially impacted communities and groups regarding its ongoing mineral exploration activities in the general project area. Such additional

community engagement may help identify potential resource use conflicts and inform the execution of the project. As a result of concerns raised during the public commenting period regarding disturbance to caribou habitat and caribou movement, the NIRB has included recommendations that the Proponent conduct the operations outside of May 15 to July 15 in project areas in proximity to natural ranges for caribou migration to calving and post-calving areas. In addition, terms and conditions have been recommended so that the Proponent plans operations to avoid disturbance to key wildlife, birds, and humans, and to minimize negative impacts to traditional land use activities by ensuring ongoing consultation with the community and community organizations.

Noted Inuit Qaujimaningit, traditional or community knowledge: The Kangiqliniq Hunters and Trappers Organization recommended that the Proponent should mitigate potential impacts to caribou migration and hunting practices in the vicinity of the project area.

Recommended Mitigation Measures: The Board previously issued terms and conditions 6 through 16, 27, 34, and 35 to minimize potential interference with the movement of, and other effects to, birds and wildlife; 65 to mitigate impacts to public and traditional land use activities from project activities; and 64 to ensure that affected communities and organizations are informed about the project proposal. These terms and conditions continue to apply to the current project proposal.

**Socio-economic effects on northerners:**

**Issue 7:** Potential adverse impacts to historical, cultural, and archaeological sites from ground disturbance associated with the establishment of a field camp and on land travel.

Board Views: The Proponent is proposing to work in an area of known archaeological importance, which may result in adverse impacts to these resources. To mitigate potential adverse impacts to archaeological resources in the project area, the Proponent has committed to undertaking a systematic ground archaeological assessment of the field camp site and associated facilities when the ground is free of snow, and flagging any identified archaeological sites to prevent damage to these resources during operations.

The Proponent is required to follow the *Nunavut Act* (as recommended in the Regulatory Requirements section) and would be required to contact the Government of Nunavut-Department of Culture and Heritage if sites of historical, cultural and archaeological importance are encountered.

Recommended Mitigation Measures: The Board previously issued term and condition 64, to ensure that the affected communities and organizations are informed about the project proposal and that available Inuit Qaujimaningit can inform project activities and reduce the potential for adverse impacts occurring to any historical, cultural, and archaeological sites. This term and condition continues to apply to the current project proposal.

**Issue 8:** Potential positive impacts to the local communities from the sourcing of local goods and services, and hiring locally in support of field camp operations.

**Board Views:** It is noted that the Proponent has committed to creating employment opportunities for Inuit and sourcing project-support services from local communities including the hiring of designated wildlife monitors from the Aqigiq Hunters and Trappers Organization, which may result in positive impacts to the local communities.

**Recommended Mitigation Measures:** Term and condition 21 previously recommended by the Board to ensure the Proponent meets its commitments to support the local economy in executing its mineral exploration program in the general project area continues to apply for this project.

**Significant public concern:**

**Issue 9:** No significant public concern was expressed during the public commenting period for this file.

**Board Views:** It is noted that there is potential for public concern developing due to the proximity of the proposed project activities to areas that may be used for traditional activities, such as hunting and camping, by communities in the Kivalliq region, particularly Rankin Inlet and Chesterfield Inlet. Follow up consultation and involvement of the local communities and groups in the Kivalliq region, including Rankin Inlet and Chesterfield Inlet, is expected to mitigate any potential for public concern resulting from project activities. The Proponent has committed to seek further community input by holding additional consultations with potentially impacted communities and groups regarding its exploration program and proposed field camp operations in the region.

**Recommended Mitigation Measures:** The Board previously recommended term and condition 64 to ensure that the affected communities and organizations are informed about the project proposal and to provide the Proponent with an opportunity to proactively address or mitigate any concerns that may arise from the project activities. This term and condition continues to apply to the current project proposal.

**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 and the February 28, 2017 Screening Decision Reports for File No. 15EN028, **and continue to apply to the “Kahuna Property Field Camp” 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 Muskoxen 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.

### **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.

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

#### **General**

66. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (NPC File No.: 148649) and the NIRB (Online Application Form, November 24, 2017; Proponent's supplementary application information, November 27, 2017 and February 7, 2018; and Proponent's Response to Interested Parties' Comments and to the NIRB's **additional** information request, February 6, 2018).

#### **Waste Disposal/Incineration**

67. The Proponent shall ensure that the incineration of combustible camp wastes comply with the *Canadian Wide Standards for Dioxins and Furans, and the Canadian Wide Standards for Mercury*.

#### **Temporary Camps**

68. The Proponent shall ensure that all camps are located on gravel, sand or other durable land.
69. The Proponent shall not erect camps or store material on the surface ice of lakes or streams.

### **MONITORING AND REPORTING REQUIREMENTS**

***The Board has previously recommended the following on July 15, 2015 and February 28, 2017, which continue to apply to the "Kahuna Property Field Camp" 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 Government of Nunavut –

Department of Environment, by March 31<sup>st</sup> of each year of permitted activities beginning March 31, 2017. 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.
- f. A brief summary of results of the implementation of the Environment and Wildlife Management Plan (EWMP), including 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 has previously recommended the following on July 15, 2015 and February 28, 2017, which continue to apply:***

##### **Bear and Carnivore Safety**

1. The Proponent review the bear/carnivore detection and deterrent techniques outlined in “Safety in Grizzly and Black Bear Country” which can be down-loaded from this link: [http://www.enr.gov.nt.ca/sites/default/files/web\\_pdf\\_wd\\_bear\\_safety\\_brochure\\_1\\_may\\_2015.pdf](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 Government of Nunavut at the following link: <http://env.gov.nu.ca/wildlife/resources/polarbearsafety> and a “You are in Polar Bear Country” pamphlet from Parks Canada at the following link <http://www.pc.gc.ca/eng/lhn-nhs/mb/prince/securite-safety/ours-bear.asp>.

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](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](mailto:jcouteautut@gov.nu.ca)).

### **Species at Risk**

3. The Proponent review Environment Canada's "Environment Assessment Best Practice Guide for Wildlife at Risk in Canada", available at the following link: [http://epe.lac-bac.gc.ca/100/200/301/environment\\_can/cws-scf/environmental\\_assessment-ef/ea\\_best\\_practices\\_2004\\_e.pdf](http://epe.lac-bac.gc.ca/100/200/301/environment_can/cws-scf/environmental_assessment-ef/ea_best_practices_2004_e.pdf). The guide provides information to the Proponent on what is required when Wildlife at Risk, including *Species at Risk*, are encountered or affected by the project.

### **Migratory Birds**

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**

7. Indigenous and Northern Affairs (INAC) 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 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.

### **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](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](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.

***The Board is currently also recommending the following:***

#### **Incineration of Wastes**

26. The Proponent review Environment and Climate Change Canada's "Technical Document for Batch Waste Incineration", available at the following link: <http://www.ec.gc.ca/gdd-mw/default.asp?lang=En&n=F53EDE13-1>. The technical document provides information on

appropriate incineration technologies, best management and operational practices, monitoring and reporting.

## REGULATORY REQUIREMENTS

***The Board previously recommended in the July 15, 2015 and February 28, 2017 Screening Decision Reports for the Kahuna Diamond project the following legislation, which continues to apply to the “Kahuna Property Field Camp” 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/>).
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 Property Field Camp". The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated March 2, 2018 at Whale Cove, NU.



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Elizabeth Copland, Chairperson

Attachments:   Appendix A: Previously-Screened Project Proposals  
                    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 PROPOSALS

The original project proposal NIRB (File No. 15EN028) was received by the NIRB from Aboriginal Affairs and Northern Development Canada (*now* Indigenous and Northern Affairs Canada; INAC) on May 5, 2015 and was screened by the Board 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 Nunavut Agreement 12.4.4(a) screening decision 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.

Dunnedin 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 to August, 2015.

According to the previously screened project proposal, the scope of the project included the following undertakings, works or activities:

- Daily transport of up to six (6) 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.

On January 7, 2016 the NIRB received a referral to screen the Proponent's "Kahuna Diamond Project – 2016" project proposal from the Nunavut Planning Commission (NPC). On April 4, 2016 the NIRB issued a screening decision under *Nunavut Planning and Project Assessment Act* (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.

On February 28, 2017, after receiving an application for additional project activities in response to the NIRB's April 4, 2016 screening decision, the NIRB issued its Screening Decision Report with additional terms and conditions for the "Kahuna Diamond Project" as per paragraph 92(2)(a) of the NuPPAA.

The following is a summary of the scope of project activities associated with the NIRB's February 28, 2017 Screening Decision Report:

- 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 (m<sup>3</sup>/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.

## **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](http://www.sararegistry.gc.ca)) to get the current status of a species.

Updated: September 2017

| Terrestrial Species at Risk <sup>1</sup>                   | COSEWIC Designation                                             | Schedule of SARA        | Government Organization with Primary Management Responsibility <sup>2</sup> |
|------------------------------------------------------------|-----------------------------------------------------------------|-------------------------|-----------------------------------------------------------------------------|
| <b>Migratory Birds</b>                                     |                                                                 |                         |                                                                             |
| Buff-breasted Sandpiper                                    | Special concern                                                 | Schedule 1              | ECCC                                                                        |
| Eskimo Curlew                                              | Endangered                                                      | Schedule 1              | ECCC                                                                        |
| Harlequin Duck (Eastern population)                        | Special Concern                                                 | Schedule 1              | ECCC                                                                        |
| Harris's Sparrow                                           | Special Concern                                                 | Pending                 | ECCC                                                                        |
| Horned Grebe (Western population)                          | Special Concern                                                 | Schedule 1              | ECCC                                                                        |
| Ivory Gull                                                 | Endangered                                                      | Schedule 1              | ECCC                                                                        |
| Peregrine Falcon                                           | Special Concern ( <i>anatum-tundrius</i> complex <sup>3</sup> ) | Schedule 1 - Schedule 3 | ECCC                                                                        |
| Red Knot ( <i>islandica</i> subspecies)                    | Special Concern                                                 | Schedule 1              | ECCC                                                                        |
| Red Knot ( <i>rufa</i> subspecies)                         | Endangered                                                      | Schedule 1              | ECCC                                                                        |
| Red-necked Phalarope                                       | Special concern                                                 | Pending                 | ECCC                                                                        |
| Ross's Gull                                                | Threatened                                                      | Schedule 1              | ECCC                                                                        |
| Rusty Blackbird                                            | Special Concern                                                 | Schedule 1              | ECCC                                                                        |
| Short-eared Owl                                            | Special Concern                                                 | Schedule 1              | ECCC                                                                        |
| <b>Vegetation</b>                                          |                                                                 |                         |                                                                             |
| Blanket-leaved Willow                                      | Special Concern                                                 | Schedule 1              | Government of Nunavut                                                       |
| Felt-leaf Willow                                           | Special Concern                                                 | Schedule 1              | Government of Nunavut                                                       |
| Porsild's Bryum (Moss)                                     | Threatened                                                      | Schedule 1              | Government of Nunavut                                                       |
| <b>Arthropods</b>                                          |                                                                 |                         |                                                                             |
| Traverse Lady Beetle                                       | Special Concern                                                 | Pending                 | Government of Nunavut                                                       |
| <b>Terrestrial Wildlife</b>                                |                                                                 |                         |                                                                             |
| Caribou (Barren-Ground population)                         | Threatened                                                      | Pending                 | Government of Nunavut                                                       |
| Dolphin and Union Caribou                                  | Special Concern                                                 | Schedule 1              | Government of Nunavut                                                       |
| Grizzly Bear (Western Population)                          | Special Concern                                                 | Pending                 | Government of Nunavut                                                       |
| Peary Caribou                                              | Endangered                                                      | Schedule 1              | Government of Nunavut                                                       |
| Peary Caribou (High Arctic Population)                     | Endangered                                                      | Schedule 2              | Government of Nunavut                                                       |
| Peary Caribou (Low Arctic Population)                      | Threatened                                                      | Schedule 2              | Government of Nunavut                                                       |
| Wolverine                                                  | Special Concern                                                 | Pending                 | Government of Nunavut                                                       |
| Wolverine (Western population)                             | Non-active                                                      | Pending                 | Government of Nunavut                                                       |
| <b>Marine Wildlife</b>                                     |                                                                 |                         |                                                                             |
| Atlantic Walrus                                            | Special Concern                                                 | Pending                 | DFO                                                                         |
| Beluga Whale (Cumberland Sound population)                 | Endangered                                                      | Schedule 2              | DFO                                                                         |
| Beluga Whale (Eastern High Arctic – Baffin Bay population) | Special Concern                                                 | Pending                 | DFO                                                                         |
| Beluga Whale (Eastern Hudson Bay population)               | Endangered                                                      | Pending                 | DFO                                                                         |

|                                                                      |                 |            |                           |
|----------------------------------------------------------------------|-----------------|------------|---------------------------|
| Beluga Whale (Southeast Baffin Island – Cumberland Sound population) | Endangered      | Schedule 2 | DFO                       |
| Beluga Whale (Western Hudson Bay population)                         | Special Concern | Pending    | DFO                       |
| Bowhead Whale (Eastern Arctic population)                            | Endangered      | Schedule 2 | DFO                       |
| Bowhead Whale (Eastern Canada – West Greenland population)           | Special Concern | Pending    | DFO                       |
| Killer Whale (Northwest Atlantic / Eastern Arctic populations)       | Special Concern | Pending    | DFO                       |
| Narwhal                                                              | Special Concern | Pending    | DFO                       |
| Polar Bear                                                           | Special Concern | Schedule 1 | Government of Nunavut/DFO |
| Fish                                                                 |                 |            |                           |
| Atlantic Cod, Arctic Lakes                                           | Special Concern | Pending    | DFO                       |
| Atlantic Wolffish                                                    | Special Concern | Schedule 1 | DFO                       |
| Bering Wolffish                                                      | Special Concern | Schedule 3 | DFO                       |
| Blackline Prickleback                                                | Special Concern | Schedule 3 | DFO                       |
| Fourhorn Sculpin                                                     | Special Concern | Schedule 3 | DFO                       |
| Fourhorn Sculpin (Freshwater form)                                   | Data Deficient  | Schedule 3 | DFO                       |
| Northern Wolffish                                                    | Threatened      | Schedule 1 | DFO                       |
| Roundnose Grenadier                                                  | Endangered      | Pending    | DFO                       |
| Spotted Whitefish                                                    | Threatened      | Schedule 1 | DFO                       |
| Thorny Skate                                                         | Special Concern | Pending    | DFO                       |

<sup>1</sup> The Department of Fisheries and Oceans has responsibility for aquatic species.

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

## 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:

|    | <b>Types of Development</b><br>(See Guidelines below)                                                                       | <b>Function</b><br>(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*<sup>5</sup> to issue such permits.

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

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<sup>5</sup> 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*<sup>6</sup>, the federal government can make regulations for the protection, care and preservation of palaeontological and archaeological sites and specimens in Nunavut. Under

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<sup>6</sup> s. 51(1)

the *Nunavut Archaeological and Palaeontological Sites Regulations*<sup>7</sup>, 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](http://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

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<sup>7</sup> 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.