P.O. Box 119
Gjoa Haven, NU X0B 1J0
Tel: (867) 360-6338
Fax: (867) 360-6369

kNK5 wmoEp5 vtmpq
NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

EXPLORATION/ REMOTE CAMP
SUPPLEMENTARY QUESTIONNAIRE

Applicant: Dunnedin Ventures Inc. **Licence No:** _____
(For NWB Use Only)

ADMINISTRATIVE INFORMATION

VP Exploration

1. ~~Environment Manager~~: Jeff Ward Tel: 604-646-4538 Fax: 604-646-4526 E-mail: jward@dunnedinventures.com

VP Operations

2. ~~Project Manager~~: Andrew Berry Tel: 604-765-1892 Fax: 604-646-4526 E-mail: aberry@dunnedinventures.com

3. Does the applicant hold the necessary property rights? Yes

4. Is the applicant an 'operator' for another company (i.e., the holder of the property rights)? If so, please provide letter of authorization. No

5. Duration of the Project

☐ One year or less Start and completion dates: _____
✓ Multi Year:

If Multi-Year indicate proposed schedule of on site activities
Start: March 2018 Completion: September 2023

CAMP CLASSIFICATION

6. Type of Camp

☐ Mobile (self-propelled)
✓ Temporary
☐ Seasonally Occupied: _____
☐ Permanent
☐ Other:_____

7. What is the design, maximum and expected average population of the camp?

The temporary field camp will accommodate up to a maximum of 20 people with an average of 15 people and will be comprised of:

- 1 - Kitchen Tent
- 1 - Office Tent

- 1 - Dry Tent
- 1 - Core Logging Tent
- 1 - Utility Tent
- 1 - Toilet Facility (Pactos)
- 7 - Crew Accommodations (1 tent will house the First Aid Attendant and First Aid Equipment)
- 1 - Generator Shack
- 1 - Portable Fuel-Fired Incinerator
- 2 – 5m x 20m Arctic Grade Containment Berms

Structures will consist of a combination of WeatherPort vinyl tents, canvas prospectors' tents and small plywood structures. All fuel storage and usage areas will be located at least 31 metres from any water body or drainage course.

8. Provide history of the site if it has been used in the past.

To the best of our knowledge, the site has not been used in the past.

CAMP LOCATION

9. Please describe proposed camp location in relation to biogeographical and geomorphological features, and water bodies.

The proposed field camp is on Crown Lands administered by INAC on a flat, sandy esker with a thin layer of moss and lichen which provides an excellent camp site surface and the gravel substrate is ideal for drainage of a greywater sump. The esker is slightly raised in relation to the surrounding area to avoid flooding.

The primary water source is a clear water lake measuring 450 metres by 300 metres wide and sufficiently deep, so that it will not freeze to bottom, located approximately 400 metres north of the proposed camp site at 576,125mE and 6,991,300mN Zone 15, UTM NAD83. As an alternative water source, a larger lake measuring 3000 metres long by 500 metres wide is located approximately 900 metres northeast of the camp location at 576,775mE and 6,991,250mN in Zone 15, UTM NAD83.

10. How was the location of the camp selected? Was the site previously used? Was assistance from the Regional Inuit Association Land Manager sought? Include maps and/or aerial photographs.

More than 10 different locations were investigated as potential sites for the new field camp. Members of the Chesterfield Inlet HTO and Hamlet examined these potential camp locations and made recommendations for the final site selection. Consultation was conducted in Chesterfield Inlet and Rankin Inlet with KIA, HTO, CLARC, and the communities.

The recommended temporary field camp location is on Crown Lands and was selected based on the following criteria:

- Flat, sandy esker provides an excellent camp site surface.
- Large area sufficient to support all camp facilities including; camp tents, fuel berms, helicopter landing pad, core storage, equipment and inventory staging.
- Excellent gravel substrate for construction and drainage of a grey water sump
- Smooth flat sandy surface is ideal for fuel berm emplacement
- Proximal deep lake will provide reliable water source during frozen winter conditions.
- A minimum of 31 metres from the high water mark of any nearby water bodies or drainage courses.

- Site is on Dunnedin's permitted and licenced overland winter trail from Rankin Inlet.
- Location is free of any archaeological sites.
- Location is removed from existing heritage sites
- Located an acceptable distance from the Josephine River.
- Away from well-travelled caribou trails,
- The site avoids High Intensity Inuit Harvest Areas identified by KIA
- The site is away from existing quad trails and hunting cabins

Please refer to the "Field Camp Amendment" for maps and aerial photographs.

11. Is the camp or any aspect of the project located on:

✓ Crown Lands Permit Number (s)/Expiry Date: N2015C0019, July 16, 2019
☐ Commissioners Lands Permit Number (s)/Expiry Date: _____
✓ Inuit Owned Lands Permit Number (s)/Expiry Date: KVL315B01, November 1, 2019

12. Closest Communities (direction and distance in km):

The proposed new camp location is on Crown Lands approximately 40 kilometres northeast of Rankin Inlet and 50 kilometres southwest of Chesterfield Inlet.

13. Has the proponent notified and consulted the nearby communities and potentially interested parties about the proposed work?

Meetings were held in Chesterfield Inlet and Rankin Inlet in October 2017 and in January 2018 to discuss the proposed field camp and address concerns raised by the communities.

14. Will the project have impacts on traditional water use areas used by the nearby communities? Will the project have impacts on local fish and wildlife habitats?

The proposed field camp will not impact traditional water use areas or local fish. Dunnedin has developed strategies to minimize potential negative impacts to wildlife through focused monitoring and mitigation measures. Refer to the "Environmental and Wildlife Management Plan" for detailed mitigation measures.

PURPOSE OF THE CAMP

15.
✓ Mining (includes exploration drilling)
☐ Tourism (hunting, fishing, wildlife observation, adventure/expedition, etc.) (Omit questions # 16 to 21)
☐ Other _____

16. Activities (check all applicable)

☐ Preliminary site visit
✓ Prospecting
✓ Geological mapping
✓ Geophysical survey
✓ Diamond drilling

- ✓ Reverse circulation drilling
- ☐ Evaluation Drilling/Bulk Sampling (also complete separate questionnaire)
- ☐ Other: _____

17. Type of deposit (exploration focus):

- ☐ Lead Zinc
- ✓ Diamond
- ✓ Gold
- ☐ Uranium
- ☐ Other: _____

DRILLING INFORMATION

18. Drilling Activities

- ✓ Land Based drilling
- ✓ Drilling on ice

19. Describe what will be done with drill cuttings?

During drilling operations, drill cuttings or effluents are flushed from the hole by circulating water. Drill effluents will be pumped from the drill hole casing to a naturally occurring depression near the drill site to capture drill cuttings, or to a sump excavated for that purpose, or to settling tanks that will allow the cuttings to settle and be contained in bulk bags that can then be transported to a suitable naturally occurring depression. All effluents will be controlled. No cuttings will be allowed to enter into nearby water bodies or drainage courses.

20. Describe what will be done with drill water?

Drill effluents will be pumped from the drill hole to a naturally occurring depression near the drill site to capture drill cuttings, or to a sump excavated for that purpose, or to settling tanks that will allow the cuttings to settle and be contained in bulk bags that can then be transported to a suitable naturally occurring depression. All effluents will be controlled and all cuttings will be allowed to settle before used water is discharged. No effluents will be allowed to enter into nearby water bodies or drainage courses.

21. List the brand names and constituents of the drill additives to be used? Includes MSDS sheets and provide confirmation that the additives are non-toxic and biodegradable.

Please refer to the Spill Prevention and Response Plan attached for MSDS Sheets.

22. Will any core testing be done on site? Describe.

Dunnedin is currently authorized to conduct core drilling under Water Licence 2BE-KDP1722. Core will be logged, recorded and stored on site. There will be no chemical testing. All testing will be conducted at a laboratory off site.

SPILL CONTINGENCY PLANNING

23. The proponent is required to have a site specific Spill Contingency Plan prepared and submitted with the application This Plan should be prepared in accordance with the *NWT Environmental Protection Act*, *Spill Contingency Planning and Reporting Regulations*, *July 22*, *1998* and *A Guide to the Spill Contingency Planning and Reporting Regulations, June 2002*. Please include for review.

Please see the attached "Spill Prevention and Response Plan" for the Kahuna Property.

24. How many spill kits will be on site and where will they be located?

Five full sized spill kits are planned for the temporary field camp. A spill kit will be located at the following: fuel berm, generator shed, incinerator, helicopter landing pad and between sleeper tents. Please refer to the "Field Camp Amendment" for proposed camp layout showing spill kit locations.

25. Please describe the types, quantities, and method of storage of fuel and chemicals on site, and provide MSDS sheets.

Type	Examples	Quantity	Storage
Diesel		150 – 205L drums	Secondary containment berms
Jet Fuel	Jet A or Jet B	150 – 205L drums	Secondary containment berms
Gasoline		10 – 205L drums	Secondary containment berms
Propane		20 – 100lb cylinders	Stored standing up and secured behind the kitchen tent.
Oil	Hydraulic, motor	Limited amount (in 4L and 20L pails)	In drip trays or secondary containment berms
Solvents	Cleaning products	10 – 1L containers	Utility tent in original container on drip trays

MSDS sheets are included in the attached "Spill Prevention and Response Plan" and refer to the "Fuel Management Plan" for complete details outlining fuel storage and handling procedures.

WATER SUPPLY AND TREATMENT

26. Describe the location of water sources.

There are two lakes proximal to the selected camp site that are large enough and deep enough to be used as water sources to supply domestic water to the camp site. A sufficiently deep lake measuring 450 metres by 300 metres wide is located approximately 400 metres north of the camp location at 576,125mE and 6,991,300mN Zone 15, UTM NAD83. As an alternative water source, a larger lake measuring 3000 metres long by 500 metres wide is located approximately 900 metres northeast of the camp location at 576,775mE and 6,991,250mN in Zone 15, UTM NAD83. Small lakes, ponds or streams will not be used for water intake.

27. Estimated water use (in cubic metres/day):

- ✓ Domestic Use: 3m^3/day Water Source: unnamed lake at 576,125mE and 6,991,300mN Zone 15, UTM NAD83 or 576,775mE and 6,991,250mN in Zone 15, UTM NAD83

✓ Drilling: 97m^3/day Water Source: unnamed water source
☐ Other: _____ Water Source: _____

28. Describe water intake for camp operations? Is the water intake equipped with a mesh screen to prevent entrapment of fish? (see *DFO 1995, Freshwater Intake End-of-Pipe Fish Screen Guideline*) Describe:

For camp use, a portable gasoline-powered water pump will be used to pump water to a camp storage tank. The pump will be operational for approximately 15 minutes per day. When operating the pump will be staged on a containment platform adjacent to the water source. When not operating the pump will be staged within secondary containment no less than 31m from the high water mark of the water source. The water intake valve will be properly placed and screened in accordance with the "Freshwater Intake End-of-Pipe Screen Guideline" (DFO).

29. Will drinking water quality be monitored? What parameters will be analyzed and at what frequency?

Water quality will be tested annually for suspended solids, dissolved metals and potability.

30. Will drinking water be treated? How?

A filter will be used to treat drinking water if required.

31. Will water be stored on site?

Water will be stored in two 250 gallon tanks at the field camp for kitchen use and cleaning.

WASTE TREATMENT AND DISPOSAL

32. Describe the characteristics, quantities, treatment and disposal methods for:

✓ Camp Sewage (blackwater)

The camp will use Pacto toilet facilities. Bags containing Pacto waste will be incinerated. Ash generated from black water incineration will be stored in designated, sealed and labelled metal 205L drums and removed from site for proper disposal.

✓ Camp Greywater

The camp greywater will be plumbed directly into a 1.5 meter deep sump excavated in the gravel substrate supporting the camp and will be allowed to seep into the surrounding substrate sands and gravels. The sump will be located at least 31 metres away from the high water mark of any water body. A grease trap and screens will be installed on the primary kitchen drain pipe to ensure grease and food solids do not enter the waste water sump. The grease trap and the discharge pipe into the sump will be inaccessible to wildlife.

✓ Solid Waste

All combustible waste will be incinerated in accordance with the Nunavut Environmental Guideline for the Burning and Incinerator of Solid Waste. All non-combustible wastes will be packaged in appropriate containers, labelled and backhauled to Rankin Inlet and shipped south to an authorized disposal facility.

✓ Bulky Items/Scrap Metal

Untreated wood and large pieces of cardboard will be burned in a controlled open burn in compliance with the Municipal Solid Wastes Suitable for Open Burning Guidelines. All non-combustible and recyclable wastes will be packaged in appropriate containers, labelled and backhauled to Rankin Inlet and shipped south to an authorized disposal facility.

✓ Waste Oil/Hazardous Waste

Waste oil from generators, pumps, vehicles or other equipment will be collected and stored in sealed and labeled 205L drums. All waste oil/hazardous wastes will be packaged in appropriate containers, labelled and backhauled to Rankin Inlet and shipped south to an authorized disposal facility.

✓ Empty Barrels/Fuel Drums

After use, all fuel drums will be drained of residual contents and the contents will be collected and stored in 205L clearly labelled waste fuel drums. All empty drums and hazardous materials containers will be stored in a designated area. Empty drums will be removed from site regularly and transported to the supplier for recycling or to an authorized facility for disposal.

☐ Other:

---

33. Please describe incineration system if used on site. What types of wastes will be incinerated?

The proposed field camp will utilize a Top Load Dual Chamber Incinerator Model I8-10S. All combustible wastes, including food waste and packaging, paper and cardboard, waste lumber and Pacto bags will be incinerated in accordance with the Nunavut Environmental Guideline for the Burning and Incineration of Solid Waste and Canada-Wide Standards for Dioxins and Furans.

34. Where and how will non-combustible waste be disposed of? If in a municipality in Nunavut, has authorization been granted?

All non-combustible wastes will be packaged in appropriate containers, labelled and backhauled to Rankin Inlet and shipped south to an authorized disposal facility.

An application for a Nunavut Waste Generator Number is currently being prepared.

35. Describe location (relative to water bodies and camp facilities) dimensions and volume, and freeboard for all sumps (if applicable).

The waste water sump will be located at least 31 metres away from any water body or water drainage. The sump will be located approximately 10 metres from the kitchen tent and dry tent. A grease trap and screens will be installed on the primary kitchen drain pipe to ensure grease and food solids do not enter the waste water sump. With dimensions of approximately 1m (Length) x 1m (Width) x 1.5m (Depth) the sump will have a volume of approximately 1.5m^3 and will have a free board of approximately 1.0 metre. The sides of the sump will be framed with dimensional lumber to avoid collapsing walls. The bottom of the sump will be lined with coarse gravels and cobbles amenable to rapid seepage into the surrounding substrate. For safety, the top of the sump will be covered with a suitably strong and insulated wooden cover. During winter months a heat source may also be added to the cover to prevent freezing.

36. Will leachate monitoring be done? What parameters will be sampled and analyzed, and at what frequency?

Water testing of the camp water source will be conducted annually to ensure no contaminations from camp operations. Water quality will be tested for suspended solids, dissolved metals and potability.

OPERATION AND MAINTENANCE

37. Have the water supply and waste treatment and disposal methods been used and proven in cold climate? What known O&M problems may occur? What contingency plans are in place?

The water supply, waste treatment and disposal methods contemplated have been used in Nunavut and are proven to work in cold climates with freezing conditions. Known O&M problems that may occur include water lines freezing. To avoid this Dunnedin will insulate the greywater drainage lines to the sump from the Kitchen and Dry facilities and will wrap them with electrical heat tape to prevent freezing. Under freezing conditions water will be hauled daily from the source lake using a portable water tank on a qammatiq. The water will then be pumped from the portable water tank to two 250 gallon water storage tanks placed inside the camp's heated dry facility.

ABANDONMENT AND RESTORATION

38. Provide a detailed description of progressive and final abandonment and restoration activities at the site.

Tent floors will be supported above ground level to minimize ground disturbance. Any spills will be remediated immediately as per the "Spill Prevention and Response Plan". All camp activities are low-impact and not expected to have any long term effects.

Upon final closure, all camp materials and infrastructure will be removed then the site will be reclaimed and restored to its original state.

Please refer to the "Abandonment and Restoration Plan" for a detailed description of progressive and final abandonment and restoration activities at the site.

BASELINE DATA

39. Has or will any baseline information be collected as part of this project? Provide bibliography.

- ✓ Physical Environment (Landscape and Terrain, Air, Water, etc.)

- ☐ Biological Environment (Vegetation, Wildlife, Birds, Fish and Other Aquatic Organisms, etc.)
- ✓ Socio-Economic Environment (Archaeology, Land and Resources Use,
- ☐ Demographics, Social and Culture Patterns, etc.)
- ☐ Other: _____

Baseline water quality testing is planned for 2018.

Young, P. and Novecosky, B. 2016. Archaeology Summary Document for Kahuna Diamond Project.

REGULATORY INFORMATION

40. At a minimum, you should ensure you have a copy of and consult the documents below for compliance with existing regulatory requirements:

- ✓ ARTICLE 13 – *NCLA -Nunavut Land Claims Agreement*
- ✓ NWNSRTA – *The Nunavut Waters and Nunavut Surface Rights Tribunal Act*, *2002*
- ✓ *Northwest Territories Waters Regulations*, *1993*
- ✓ NWB - Water Licensing in Nunavut - Interim Procedures and Information Guide for Applicants
- ✓ NWB - Interim Rules of Practice and Procedure for Public Hearings
- ✓ RWED – *Environmental Protection Act, R-068-93- Spill Contingency Planning and Reporting Regulations, 1993*
- ✓ RWED A Guide to the Spill Contingency Planning and Reporting Regulations, 2002
- ✓ NWTWB - Guidelines for Contingency Planning
- ✓ *Canadian Environmental Protection Act, 1999 (CEPA)*
- ✓ *Fisheries Act, RS 1985* - s.34, 35, 36 and 37
- ✓ DFO - Freshwater Intake End of Pipe Fish Screen Guideline
- ✓ NWTWB - Guidelines for the Discharge of Treated Municipal Wastewater in the NWT
- ✓ Canadian Council for Ministers of the Environment (CCME); Canadian Drinking Water Quality Guidelines, 1987
- ✓ Public Health Act - Camp Sanitation Regulations
- ✓ Public Health Act - Water Supply Regulations
- ✓ *Territorial Lands Act* and *Territorial Land Use Regulations*; Updated 2000