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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

EXPLORATION/ REMOTE CAMP SUPPLEMENTARY QUESTIONNAIRE

Applicant: **Martin W. McCurdy** **Licence No:** _____
(For NWB Use Only)

ADMINISTRATIVE INFORMATION

1. Environment Manager: Martin W. McCurdy Tel: (613) 995-4430 Fax: (613) 992-0190

   E-mail: Martin.McCurdy@NRCan-RNCan.gc.ca

2. Project Manager: **John Percival** Tel: (613) 995-4723 Fax: (613) 995-7997

   E-mail: John.Percival@NRCan-RNCan.gc.ca

3. Does the applicant hold the necessary property rights?

   The applicant has applied for all necessary Land Use and scientific permits and licenses. These include:

Nunavut Research Institute	License: Pending	
Kitikmeot Inuit Association	License: Pending	
Nunavut Water Board	License: Pending	This application

   The applicant will not be conducting mineral or energy exploration and therefore surface and subsurface property rights are not required. The applicant has applied to the Kitikmeot Inuit Association for a land use permit in order to carry out research on Inuit Owned Lands.

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, we are applying for a Water License as both the applicant and operator of the project.

5. Duration of the Project

   ☒ One year or less Start and completion dates: 7 October – 30 October 2011
   ☐ Multi Year:

   If Multi-Year indicate proposed schedule of on site activities
   Start: _____ Completion:_____

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 camp will consist of four 12'x14' tents and two 10'x14' tents which are gabled, double-walled canvas-covered aluminum framed, each outfitted with a diesel-burning stove. The kitchen/dining tents will consist of two 12'x14' tents end to end. Other communal tents will consist of one 12'x14' office tent and one 12'x14' gear and sample storage tent. There will be one separate 10'x12' food storage tent. The helicopter pilot will have a 10'x12' gable tent outfitted with a diesel burning stove. The four sample crew members will have their own sleeping tents. One tent, approximately 8'x10', will be designated as a latrine tent. In addition, one or two Geological Survey of Canada staff members may visit the camp site during the course of the survey. They will provide their own tents.

The average population of the camp will be 5 people, with one or two additional people at times throughout the course of the survey.

8. Provide history of the site if it has 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 camp location is located within in an elevated area of locally extensive glaciofluvial deposits (eskers, kames and outwash) along the eastern margins of an unnamed lake surrounded by bare rock and till veneer. The site proposed for a camp (65° 22'07"N, 105°11'32"W) appears to be suitable for landing a Twin Otter. The location will allow access to water for camp use from a stream flowing into the lake as well as access well away from the water source for grey water disposal and fuel storage. At this time this site appears to be the best option for a camp but we have notified the Kitikmeot Inuit Association (KIA) and Polar Continental Shelf Project (PCSP), who may recommend another site.

A tentative location for a fuel cache is proposed on a level area along the Ellice River mapped as fluvial (sand and gravel) deposits and surround by bare rock and till veneer. The extent of the deposit allows for the temporary placement of up to six fuel barrels in an area above the high water mark well away from the river. The proposed fuel cache site (66°04'23"N, 105° 14'17"W) appears to be suitable for landing a Twin Otter.

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.

The proposed locations of the camp and fuel cache were determined through study of satellite images and topographic and geology maps. Changes may be made based on the recommendations of PCSP and the Kitikmeot Inuit Association. There is no indication from maps or satellite photos that these sites have been previously used as temporary camp sites.

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

☐	Crown Lands	Permit Number (s)/Expiry Date: _____
☐	Commissioners Lands	Permit Number (s)/Expiry Date: _____
☒	Inuit Owned Lands	Permit Number (s)/Expiry Date: Submitted 16 Aug 2011

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

Ikaluktutiak (Cambridge Bay): approximately 410 km N
Qamani'tuaq (Baker Lake): approximately 450 km ESE
Kugluktuk (Coppermine): approximately 510 km W
Yellowknife: approximately 550 km SW

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

The Kitikmeot Inuit Association has been notified and a request for access to Inuit Owned Land has been submitted for this proposal.

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 project is not likely to have an impact on local fish and wildlife. Only a small amount of water over a period of approximately 15 days will be drawn from the lake near the proposed camp site for drinking and washing and no waste of any kind will be disposed of or stored near water.

PURPOSE OF THE CAMP

15.
- ☐ Mining (includes exploration drilling)
- ☐ Tourism (hunting, fishing, wildlife observation, adventure/expedition, etc.) (Omit questions # 16 to 21)
- ☒ Other: Government Geoscience Research

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: Stream sediment and water geochemical survey

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?

N/A

20. Describe what will be done with drill water?

N/A

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.

N/A

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

N/A

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.

All efforts will be made to ensure safe storage of hydrocarbon products used for fuel and heating. Barrels will be stored on impermeable ground covers surrounded by berms, with fuel absorbents stored immediately at the refueling sites for the helicopter. Fuel spill kits capable of absorbing 200 liters of fuel will be stored in waterproof containers at each site. The holder of the permit shall report all spills immediately with instructions contained in 'Spill Report' form NWT 1752 (05/93), the NWT Water Board 'Guidelines for Contingency Planning (1987)' and contact the 24-hour spill report line (867) 920-8130.

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

One kit containing sufficient material to absorb 100 liters of fuel will be stored at the proposed cache site and two kits will be stored at the fuel storage site near the proposed camp.

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

- 30 barrels of aviation fuel (Jet B); each drum holds 205 liters
- One 205 liter barrel of gasoline
- Two 100 lb cylinders of propane; each cylinder contains approximately 88 liters
- No chemicals will be used or stored on site

WATER SUPPLY AND TREATMENT

26. Describe the location of water sources.

The water source for the proposed camp site is a small unnamed lake with an approximate area of <1 km^2.

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

☒ Domestic Use: <0.1 m^3/day Water Source: Lake near camp site
☐ Drilling: _____ 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:

Water will be pumped from a nearby lake to a storage tank or buckets at camp using a 5 hp Wajax water pump equipped with a 3 inch rubber intake hose with a perforated (<0.5 inch holes) stainless steel screen.

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

Water quality will not be monitored. The water intake pump will be located up-slope from all camp infrastructure including the kitchen, office and latrine tents.

30. Will drinking water be treated? How?

No.

31. Will water be stored on site?

Yes. Water will be pumped into plastic or metal containers (10 to 45 gal. capacity) as required.

WASTE TREATMENT AND DISPOSAL

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

☐ Camp Sewage (blackwater)

- The quantity of sewage for an average of five people is estimated around 10 liters per day (0.01 m^3/day)
- Heavy-duty plastic bags designed to hold human waste will be used in latrine tents and back-hauled for safe disposal at the end of the survey

☐ Camp Grey water

- Camp grey water will result from the use of water mainly for washing dishes. All detergents used will be environmentally friendly and biodegradable
- The quantity of grey water for a average of 5 people in camp is estimated around 25 to 50 liters per day (0.025 to 0.05 m^3 per day)
- Holes will be dug in gravel next to the kitchen tent and at least 35 m from any water source: holes will be filled in as necessary
- All sleeping tents will be at least 150 m away from the kitchen tent

☐ Solid Waste

- All waste will be shipped out of the camp and disposed of in an approved municipal waste site

☐ Bulky Items/Scrap Metal

- Very little bulky items/scrap metal will be produced: these items will be included with other solid waste and shipped to an approved municipal waste disposal site

☐ Waste Oil/Hazardous Waste

- Very little waste oil and no hazardous waste will be produced: waste oil from routine maintenance on helicopters will be stored in sealed containers and shipped out with the helicopter

☐ Empty Barrels/Fuel Drums

- All empty fuel drums will be removed from the camp site and fuel cache and returned for disposal or recycling

☐ Other:

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

No incineration of waste materials will be carried out on-site.

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

All waste will be transported to Yellowknife, NT for disposal in an approved municipal waste disposal site.

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

Not applicable.

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

No leachate monitoring will be done.

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 setting up and running of a temporary camp will be carried out by experienced contractors familiar with Arctic conditions. The style of camp logistics described above has been used many times in the past by Geological Survey of Canada field parties. Water pumps used in field camps are reliable and easy to maintain. Grey water disposal is in holes dug at least 50 m from water sources. All solid waste will be removed from the site.

ABANDONMENT AND RESTORATION

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

All materials will be removed from the camp site at the end of the project. The berms around the fuel storage areas located near the camp and at the fuel cache will be raked smooth as well as the fixed wing runways. Other than the aircraft, there will be no heavy equipment on site and no roads or tracks will be constructed.

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: _____

Geochemical data (sediments and waters) and heavy mineral data will be released in the form of GSC open files and will be available for free download from the GSC web site.

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