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

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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

EXPLORATION/ REMOTE CAMP SUPPLEMENTARY QUESTIONNAIRE

Applicant: *Indian and Northern Affairs Canada* **Licence No:** _____
(For NWB Use Only)

ADMINISTRATIVE INFORMATION

1. Environment Manager: *Brad Thompson (Public Works & Govt. Services Canada(PWGSC))*
   Tel: *780-497-3862* Fax: *780-497-3842* E-mail: *Brad.Thompson@pwgsc.gc.ca*

2. Project Manager: *Dele Morakinyo (Indian and Northern Affairs Canada (INAC))*
   Tel: *867-975-4732* Fax: *867-975-4736* E-mail: *morakinyod@inac.gc.ca*

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: *June, 2007* Completion: *September, 2010*

CAMP CLASSIFICATION

6. Type of Camp

   ☐ Mobile (self-propelled)
   ☑ Temporary
   ☑ Seasonally Occupied: *June 15-September 15*
   ☐ Permanent
   ☐ Other: _____

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

   The camp will be occupied for a maximum of 90 days per year by an average of 25 people at a time.

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

The US Coast Guard established a Long Range Navigation (LORAN) communications station at Cape Christian in 1954. The station consisted of five buildings (the Main Station, Garage, Hazmat Building, Terminal Building, and Survival Hut); fuel storage facilities; an antenna; airstrip and a water reservoir. The site was abandoned in 1974 and responsibility for the site reverted to the Government of Canada.

In 1979, all the buildings and equipment at Cape Christian were transferred to the Government of Northwest Territories (GNWT) pursuant to the federal Surplus Crown Assets Act. In 1993 INAC authorized a Block Land Transfer (BLT) (order in council #P.C 1993-1124) to the GNWT which included the Cape Christian site. The BLT's are pursuant to paragraph 23(1) of the Territorial Lands Act. Cape Christian then formed part of the assets and liabilities that were transferred from the GNWT to the GN as of April 1, 1999.

Currently the site features include site buildings and infrastructure in derelict state, empty fuel storage tanks, water reservoir, worked areas (or dump areas) with buried building debris and partially buried barrels, Hazardous and non-hazardous debris scattered throughout the site. There are Metals, Petroleum Hydrocarbons (PHC) and Polychlorinated biphenyls (PCB) contaminated soils identified in some locations on the site.

Cape Christian is a joint liability site requiring shared responsibility between the Crown and the GN. INAC, as agent of the Crown, has taken the lead role on this project and is currently in discussion with the GN to work out an agreement for the remediation of this site.

CAMP LOCATION

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

The Camp will be located at the Cape Christian Site. The description of the exact location will be made available after the contract award.

The Cape Christian site is located at the mouth of Clyde River, on the northeast coast of Baffin Island, in the Territory of Nunavut. It is situated at Latitude 70° 31' N and Longitude 68° 17' W. The nearest community is the Hamlet of Clyde River, located approximately 16km southeast of the site.

The site is situated within the Baffin Island Coastal Lowlands. It extends landward about 20 km. The landscape is gently rolling with small bedrock outcrops. The dominant soils are Turbic Cryosols on sandy colluvial, morainal and marine deposits. Continuous permafrost, with low ice content, exists at the site at an average depth of 0.5m. Surface drainage at the site flows to the north, toward Baffin Bay.

The climate at Clyde River is described as a humid cold arctic climate with short summers and long winters. The annual precipitation measured at Clyde River is 225.6 mm with the majority 87% coming from snow. The mean daily temperatures vary from -28 degrees Celsius to 4.2 degrees Celsius with an average of -12.4 degree.

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.

Specific details regarding type and final location of camp facilities will be provided following contract award and prior to mobilization to site.

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: ***In Progress***
☐	Inuit Owned Lands	Permit Number (s)/Expiry Date: _____

All site remediation activities will take place on Commissioner's Land.

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

Clyde River is approximately 16 Km southwest of Cape Christian

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

Community Consultations were held in Clyde River on March 25, 2002 and November 29, 2006 to present the Remediation Action Plan (RAP) to the community members and obtain their input. A total of 11 community members and a child attended the March 2002 meeting, while fifty five (55) people attended the November, 2006 meeting. The minutes of community meetings are attached as Appendix F.

Additional consultations will be held in Clyde River in June, 2007, following award of the Contract, to discuss employment and sub-contracting opportunities and annually thereafter to update the community about the progress of the remediation activities.

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?

No. It is anticipated that the activities will have no adverse impact on traditional water use and local fish and wildlife habitats. An Environmental Impact Assessment (Screening) study is currently being conducted and the report will be sent to the regulator under a different cover.

PURPOSE OF THE CAMP

15.
- ☐ Mining (includes exploration drilling)
- ☐ Tourism (hunting, fishing, wildlife observation, adventure/expedition, etc.) (Omit questions # 16 to 21)
- ☑ Other ***Contaminated Site Remediation*** (Omit questions # 16 to 22)

16. Activities (check all applicable) ***Not Applicable (N/A)***

- ☐ 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): *N/A*

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

DRILLING INFORMATION

18. Drilling Activities ***N/A***

- ☐ 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.

A Preliminary Spill Contingency Plan (see Appendix E) has been developed for the site. The successful Contractor will also provide a Site Specific Contingency Plan prior to mobilization to site.

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

Two drum type spill kits will be located adjacent to the fuel containment area. Each will be capable of absorbing 174L of liquid hydrocarbons. In addition, a smaller spill kit will be located by the pump used at the water source.

A standard spill pack capable of absorbing 40 L of liquid hydrocarbons will accompany the equipment on site.

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

The preliminary estimates of the quantities of fuels required are:

Gasoline: Approximately 2,000 L stored in 10 – 205 L barrels;
Diesel: Approximately 100,000 L stored in 10 – 10,000 L double walled tanks;
Other fuels: Oil (hydraulic and motor oil), propane, lubricants – quantities to be determined and provided upon contract award.

Handling, storage and use of all fuels from the storage tanks will be in accordance to the CCME, 2003: Environmental Code of Practice for Aboveground Storage Tank (AST) and Underground Storage Tank (UST) Systems.

The Contractor will provide more specific information on the types, quantities, and the MSDS sheets for all fuel and chemicals on site, upon contract award. The Contractor will also comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding employee training, use, handling, storage and disposal of hazardous materials, and regarding labelling and provision of Material Safety Data Sheets (MSDS), as required by WHMIS

WATER SUPPLY AND TREATMENT

26. Describe the location of water sources.

The potential source of water for drinking and other camp uses is the nearby river (less than 5 Km from the site), along the Cape Christian – Clyde River road.

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

☑ Domestic Use: ***115 L /day/person*** _____ Water Source: ***River***
☐ 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 trucked to site from the nearby river (along Cape Christian – Clyde River road) and stored on-site for usage. Water will be pumped into waiting trucks using a small horsepower pump and water intake pipe equipped with a small mesh screen.

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

Water samples will be taken from the nearby river (less than 5Km from the site) and sent to a Canadian Association for Environmental Analytical Laboratories (CAEAL) accredited laboratory for analysis. The samples will be analysed for GCDWQ criteria. Bottled water will be supplied to the site until the tests confirm that the water is safe for drinking.

30. Will drinking water be treated? How?

If the on-site water in its current state does not meet the GCDWQ, it will be treated to meet the guidelines. The contractor will determine the appropriate equipment, supplies and materials required to treat the water in accordance with the Health Canada GCDWQ. This information will be provided when it becomes available.

31. Will water be stored on site?

Non-potable water may be temporarily stored in barrels or tanks on-site; however, no reservoir or other more permanent structure will be constructed.

WASTE TREATMENT AND DISPOSAL

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

☑ Camp Sewage (blackwater)

The camp sewage will consist primarily of human waste from toilet use with an estimated flow of 40 L/day/person. The contractor will decide on whether to use a sewage lagoon or any other appropriate secondary treatment system to dispose the sewage generated from the site. Contractor's option will meet the following discharge criteria:

1. ***oil and grease – none visible;***
2. ***pH – 6 to 9;***
3. ***TSS – 180 mg/L;***
4. ***BOD – 120 mg/L; and***
5. ***Fecal Coliforms – 10,000 CFU/dl.***

If the contractor builds a sewage lagoon, the maximum fluid depth in the lagoon will not exceed one metre and have the capacity that holds sewage generation for a construction season. The location of the lagoon(s) will be a minimum of 100 m from the construction camp or other temporary facilities and drainage paths, a minimum of 450 m from water bodies supporting aquatic life and downwind of the construction camp (based on the prevailing wind direction). After site remediation, the lagoon(s) will be appropriately decommissioned following all applicable regulations and guidelines for sewage lagoon decommissioning in Nunavut.

☑ Camp Greywater

The camp greywater will consist primarily of wastewater generated from the kitchen and bathroom sinks and showers. The estimated flow from this wastewater stream is 75 L/day/person. This waste will be disposed together with the sewage.

☑ Solid Waste

Combustible non-hazardous wastes will be incinerated on-site in an enclosed container. The non-combustible, non-hazardous solid waste generated from the camp activities, will be disposed off in the on-site landfill. The landfill will be capped and closed in accordance with INAC protocol, after completion of remediation activities. Hazardous camp wastes will be appropriately disposed with the remaining hazardous wastes off-site.

☑ Bulky Items/Scrap Metal

Any bulky items or scrap metal waste generated at the site will be disposed off in the on-site landfill together with the wastes from the equipment yard.

☑ Waste Oil/Hazardous Waste

All waste oil and hazardous waste will be consolidated and shipped off-site, in accordance to the Transportation of Dangerous Goods Act, for disposal at an approved southern facility.

☑ Empty Barrels/Fuel Drums

Empty barrels will be cleaned, crushed and disposed of in the on-site landfill facility.

☐ Other:

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

Combustible and food wastes will be incinerated on-site in an enclosed container

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

All hazardous waste will be shipped to an approved southern facility. All non-combustible non-hazardous waste will be disposed of within the engineered landfill site that will be constructed as part of the remediation work. Details regarding the location of the disposal facility will be provided following Contract award and prior to mobilization

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

N/A

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

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?

All waste treatment facilities will be proven for use in the north. Specifications for the waste facilities will be provided in the general contracting specifications and will be forwarded following contract award.

ABANDONMENT AND RESTORATION

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

After remediation the temporary camp facilities will be removed from the site. The Land Farm will be operated for about two years or until the soil is remediated to applicable guidelines. After remediation has been achieved, the Land Farm will be decommissioned.

Long-term monitoring will be conducted mainly around the landfill facility. Monitoring will occur annually for the first five years after remediation and once every five years for the next twenty years. Monitoring program will be re-evaluated after twenty-five (25) years post remediation.

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: ***See list Below***

- ***Earth Tech Canada (2002): Former U.S. Coast Guard LORAN Station Cape Christian, Nunavut - Environmental Site Delineation and Material Inventory;***
- ***Earth Tech Canada (2006): Former U.S. Coast Guard LORAN Station Cape Christian, Nunavut - Supplemental Environmental Site Assessment, Material Audit and Geotechnical Evaluation;***
- ***Earth Tech Canada (2006): Former U.S. Coast Guard LORAN Station Cape Christian, Nunavut – Remedial Action Plan.***
- ***FMA (2006) – Former U.S. Coast Guard LORAN Station Cape Christian, Nunavut - Archaeological Assessment***

Environmental (Impact) Assessment (Screening Level) as well as Archaeological assessment are being conducted and will be forwarded to NWB under a different cover.

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