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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI

EXPLORATION/ REMOTE CAMP SUPPLEMENTARY QUESTIONNAIRE

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

ADMINISTRATIVE INFORMATION

1. Environment Manager: *Jared Buchko (Public Works and Gov't Svcs. Canada)*
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2. Project Manager: *Robert Martin (Indian and Northern Affairs Canada)*
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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)? *No*
   If so, please provide letter of authorization.

5. Duration of the Project
   [ ] Annual
   [x] Multi Year:
   If Multi-Year indicate proposed schedule of on site activities
   Start*:* *September, 2005* Completion: *December 2007*

CAMP CLASSIFICATION

6. Type of Camp
   [ ] Mobile (self-propelled)
   [ ] Temporary
   [x] Seasonally Occupied: *July to October 2006 and 2007*
   (Contractor will mobilize to site in winter of 2005)
   [ ] Permanent
   [ ] Other:_____

7. What are the design population of the camp and the maximum population expected on site at one time? What will be the fluctuations in personnel?

   The contractor will mobilize the camp to the site during the winter of 2005. The camp will be occupied from July 1 to October in 2006 and 2007 (maximum 75 days per year). The camp will hold a maximum of 35 people at any given time.

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

The former CAM-F DEW Line site was constructed in 1957 and subsequently closed and abandoned in 1963. The site was converted to a scientific research station in 1977 under the auspices of the Science Institute of the Northwest Territories and DIAND. In 1985, a hazardous materials removal program was implemented in which visible hazardous wastes and liquids from abandoned equipment were removed. Assessments completed in 1987/88 and 1994 confirmed the presence of contaminated soil and additional hazardous materials. In 1989, a partial clean up of the walls and floors, containing PCB amended paints, was carried out to limit the exposure of workers to PCBs. An asbestos abatement program and clean up of Dump A was carried out in 1997. Additional maintenance/remedial work was conducted in 1999.

DIAND augmented work carried out in previous years with a detailed site investigation in the summer of 2004. At the same time, a geotechnical investigation was completed to identify suitable borrow source material and potential locations for non hazardous landfills. A site specific human health and ecological risk assessment was also completed to assist in determining suitable remediation criteria for the site. Previously containerized PCB soil wastes were also removed from the site and transported south for disposal. Also in 2004, INAC/PWGSC transported 174 barrels of PCB contaminated soils to a licensed disposal site in Ontario.

Community and regulatory meetings were facilitated by DIAND with the asssitance of PWGSC in Hall Beach, Igloolik and Iqaluit in 2004.

CAMP LOCATION

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

Refer to Section 6 of the Environmental Impact Assessment that is to follow for a description of the biogeographical and geomorphological features and water bodies.

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.

All camp buildings and facilities will be positioned so as not to interfere with any construction, clean up or other site activities. All camp facilities will be placed within previously disturbed areas of the site. The exact location of the camp will be determined upon awarding of project contract.

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

[x] Crown Lands Permit Number (s)/Expiry Date: _under review_____
[ ] Commissioners Lands Permit Number (s)/Expiry Date: _____
[x] Inuit Owned Lands Permit Number (s)/Expiry Date: _under review_____

12. Closest Communities (distance in km):

The site is approximately 85 km west of Hall Beach and 100 km southwest of Igloolik.

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

A summary of these consultations follows:

January 2004: initial meeting with Hamlet Councils, Hunters & Trappers, Qukiqtani Inuit Association representatives and the public in Hall Beach and Igloolik to briefly introduce the project, especially the planned site investigation.

March 2004: community public consultations in Hall Beach and Igloolik; presented planned site investigation work and sought ideas on overall site remediation plan.

May 2004: initial meetings with Hunters & Trappers Organizations, Hamlet Councils, Qikiqtani Inuit Organizations representatives and the public in Hall Beach and Igloolik to briefly introduce the project and especially the planned site investigation.

July 2004: initial meeting with Nunavut Impact Review Board (NIRB) & Nunavut Water Board (NWB) representatives to introduce the project and obtain feedback on regulatory approval requirements and submissions.

July 2004: transported Hunters & Trappers and Hamlet representatives from local communities to the site during investigation work to illustrate work being carried out and to familiarize them with site and site-specific issues.

December 2004: presented the results of site investigation and preliminary remedial design options to regulators. A summary of comments and concerns is attached.

December 2004: community public consultations in Hall Beach and Igloolik; results of the site investigations and preliminary remediation work plans were presented. A summary of comments and concerns is attached.

December 2004 Qikiqtaaluk Environmental was contracted to review the Site Specific Risk Assessment (SSRA) and to interview Hall Beach and Igloolik elders about the project and project area.

February 2005: presented summary results of site investigation and preliminary remediation work plan to NIRB. NIRB has drafted a "checklist" of submission requirements and provided these to DIAND/PWGSC to be included with the Sarcpa regulatory submission.

February 2005: presented a brief overview of the project to Fisheries and Oceans Canada (FOC) representatives. No major issues were identified for this site.

March 2005: PWGSC presented the government contracting process to Inuit businesses.

March 2005: met with potential contractor bidders to familiarize them with the remedial project specifics.

Please see attached Public Consultation documentation for more detail on the meetings and comments/responses to issues raised.

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?

See Section 6.5 (to be confirmed) of the attached EIA assessment*. The project is not expected to have negative impacts on traditional water use areas or local fish and wildlife habitats.*

PURPOSE OF THE CAMP

15. [ ] Mining
[ ] Tourism (hunting, fishing, wildlife observation, adventure/expedition, etc.)
(Omit questions # 16 to 21)
[x] Other *Site Remediation* (Omit questions # 16 to 22)

16. [ ] 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:
[ ] 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?

20. Describe what will be done with drill water?

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.

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

SPILL CONTINGENCY PLANNING

23. Does the proponent have a spill contingency plan in place? Please include for review.

See attached "Contingency Plans for the Clean Up of CAM-F Intermediate DEW Line Site"
The Contractor will be responsible for providing a more detailed spill contingency plan.

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

There will be at least two drum spill kits present at the site each capable of absorbing 174 L of liquid hydrocarbons. Both kits will be located near the containment area that will house all of the drummed fuel. One standard spill pack capable of absorbing 40 L of liquid hydrocarbons will accompany field crews working at the site.

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

Handling, storage and use of flammable liquids will be governed by the current National Fire Code of Canada. Flammable liquids such as gasoline, kerosene and naphtha will be kept for ready use in quantities not exceeding 45 litres, provided they are stored in approved safety cans bearing the Underwriter's Laboratory of Canada or Factory Mutual seal of approval.

Contractor will comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding employee training, use, handling, storage and disposal of hazardous materials, and regarding labeling and providision of Material Safety Data Sheets (MSDS) as required by WHMIS legislation.

Upon award of contract, the Contractor will provide types, quantities, and MSDS for all fuel and chemicals on site.

WATER SUPPLY AND TREATMENT

26. Describe the location of water sources.

Potential water sources are Sarcpa Lake approximately 2 km from the main site and a small unnamed seasonal lake approximately 300 m from the site.

27. Estimated demand (in L/day * person):

[x] Domestic Use: *115* Water Source: river
[ ] Drilling Units: _____ 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? Describe:

Water will be pumped to site via a small horsepower pump and water intake pipe laid overland and equipped with a small mesh screen. Pump will be placed at least 30 m from either water body and a spill kit will be sited near the pump.

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

Commercially bottled water that meets Health Canada Guidelines for Canadian Drinking Water Quality (GCDWQ) will be used as drinking water until it is demonstrated that the local source meets the Health Canada GCDWQ. Water will be sampled at the water supply sources and at the distribution source and submitted for laboratory analysis. Prior to consumption, at least two consecutive sets of analytical test results will demonstrate that the water source meets the Health Canada GCDWQ. Water will be sampled and analyzed weekly as long as the camp is operational.

30. Will drinking water be treated? How?

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

31. Will water be stored on site?

Following award of contract, the Contractor will determine the method of water storage on site.

WASTE TREATMENT AND DISPOSAL

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

[x] Camp Sewage (blackwater)

Two independently operated temporary lagoons will be installed. Each lagoon will have an individual capacity for 45 days of wastewater storage or one half of the duration of the construction season, whichever is less. Maximum fluid depth will not exceed one metre. The location of the lagoons 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). Discharge criteria will be as follows: 1) oil and grease – none visible, 2) pH – 6 to 9, 3) TSS – 180 mg/L, 4) BOD – 120 mg/L, 5) fecal coliforms – 10,000 CFU/dl.

[x] 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 directed to a discharge pit excavated a minimum 30 m from the camp, any natural drainage course, or water body. Upon completion of site activities the pit will be filled in.

[x] *Solid Waste*

Non-hazardous, combustible solid waste will be incinerated on-site in an enclosed container. Noncombustible solid waste generated from the camp operations will be stored in a secure waste disposal bin. The contents of the waste disposal bin will be transported and disposed of in one of the on-site non-hazardous waste (NHW) landfills on an as required basis.

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[x] Bulky Items/Scrap Metal

Any bulky items or scrap metal waste at the site will be disposed of in one of the onsite NHW landfills.

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[x] Waste Oil/Hazardous Waste

Waste oil and/or hazardous waste generated at the site will either be incinerated onsite (eg. some fuels) or removed from the site and disposed of at the appropriate off-site licenced hazardous material treatment/disposal facility. Hazardous materials will be placed in environmentally suitable containers at an approved containment facility developed on-site as per Environment Canada guidelines. The hazardous materials will be removed by air or cat train in accordance with the Transportation of Dangerous Goods Act.

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[x] Empty Barrels/Fuel Drums

Barrel contents comprising water only (less than 2% glycols or alcohols) shall be transferred to an open vessel such as a utility tub or half-barrel and any organic material removed by agitation with a pillow or segment of oil absorbent material. The water may then be discarded onto ground that is a minimum of 30 m distant from natural drainage courses. Used oil absorbent material shall be treated as described in the following sections.

Barrel contents, which are comprised of water with glycols and/or alcohols or organic phases, and which contain less than 2 mg/L PCBs, 100 mg/L chlorine, 2 mg/L cadmium, 10 mg/L chromium, and 100 mg/L lead, will be disposed of by on-site incineration (alternatively, these contents may be disposed of off-site at a licensed facility). The solid residual material resulting from incineration willl be subjected to a leachate extraction test. Material found to be non-leachate toxic shall be disposed of as contaminated soil. Leachate toxic material will be treated as hazardous waste and disposed of off-site at a licensed disposal facility.

Barrel contents, which contain greater than 2 mg/L PCBs, 1,000 mg/L chlorine, 2 mg/L cadmium, 10 mg/L chromium or 100 mg/L lead will be disposed of off-site at a licensed disposal facility.

Used oil absorbent material will be treated as hazardous waste and disposed of off-site at a licensed disposal facility. If it is shown to be uncontaminated with PCBs (<2 mg/L), chlorine (<1,000 mg/L), cadmium (<2 mg/L), chromium (<10 mg/L), and lead (<100 mg/L), it may be incinerated on-site.

Empty barrels will be crushed or shredded and landfilled as non-hazardous waste after they have been cleaned in an appropriate manner. The barrels shall be crushed in such a manner so as to reduce their volume by a minimum of 80%. Shredded barrels may be disposed of in the NHW Landfill or off-site as recycled metals.

[ ] Other:

Not applicable.

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

The types of waste that will be incinerated at the site consist primarily of domestic solid waste including food, paper and unpainted wood waste. These materials will be incinerated in a 205 L metal drum on a daily basis.

Upon award of contract, the Contract will identify the incineration system to be used onsite.

Barrel contents, which are comprised of water with glycols and/or alcohols or organic phases, and which contain less than 2 mg/L PCBs, 100 mg/L chlorine, 2 mg/L cadmium, 10 mg/L chromium and 100 mg/L lead, may be disposed of by on-site incineration.

Used oil absorbent material that is shown to be uncontaminated with PCBs (<2 mg/L), chlorine (<1,000 mg/L), cadmium (<2 mg/L), chromium (<10 mg/L), and lead (<100 mg/L), may be incinerated on-site.

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

Noncombustible solid waste generated from the camp operations will be stored in a secure waste disposal bin. The contents of the waste disposal bin will be transported and disposed of in one of the on-site non-hazardous waste (NHW) landfills on an as required basis.

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

To be provided when available (note section 32)

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

Groundwater monitoring wells will be installed around the perimeter of the landfill to facilitate long term leachate monitoring. Monitoring will occur at least annually for the first five years and every five years thereafter for a total of 25 years. The monitoring requirements of the landfill will be reassessed at that time.

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 contract specifications will require the Contractor to utilize water supply and waste treatment and disposal methods that have been used and proven effective in cold climates. All on-site activities are scheduled for the summer field season when the average daily temperature is above freezing. The water and wastewater systems are expected to be basic so it is unlikely that any O&M problems will occur as a result of the climate.

The Contractor will be responsible for identifying potential O & M problems that may occur and ensuring contingency plans are in place to deal with them. The Contractor will provide a Health and Safety Plan and Onsite Contingency Emergency Response Plan.

A Screening Level Environmental Assessment EA has been completed for the proposed remediation of CAM-F, in accordance with the requirements of the NIRB and Canadian Environmental Assessment Act (CEAA) and will follow under separate cover. *Mitigation measures recommended in the EA will be adhered to during all site activities.*

ABANDONMENT AND RESTORATION

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

The camp will be decommissioned and all equipment removed from the site during the fall of 2007. Restoration of the site will be in accordance with the Environmental Screening report that is to follow.

BASELINE DATA

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

[x] Physical Environment (Landscape and Terrain, Air, Water, etc.)

[x] Biological Environment (Vegetation, Wildlife, Birds, Fish and Other Aquatic Organisms, etc.)

[x] Socio-Economic Environment (Archaeology, Land and Resources Use, Demographics, Social and Culture Patterns, etc.)

[x] Other: Project itself is the completion of a "baseline" assessment for the site that will allow the clean up of the site to go ahead.

The physical, biological and socio-economic environments are described in the Environmental Screening report (Sections to be determined) that will follow.

REGULATORY INFORMATION

40. Do you have a copy of

- [x] Article 13 - Nunavut Land Claims Agreement
- [x] NWB - Water Licensing in Nunavut - Interim Procedures and Information Guide for Applicants
- [x] NWB - Interim Rules of Practice and Procedure for Public Hearings
- [x] NWTWB – Guidelines for the Discharge of Treated Municipal Wastewater in the NWT
- [x] NWTWB - Guidelines for Contingency Planning
- [x] DFO - Freshwater Intake End of Pipe Fish Screen Guideline
- [x] Fisheries Act - s.35
- [x] RWED - Environment Protection- Spill Contingency Regulations
- [x] Canadian Drinking Water Quality Guidelines
- [x] Public Health Act Camp Sanitation Regulations
- [x] Public Health Act Water Supply Regulations
- [x] Territorial Land Use Act and Regulations

You should consult the above document, guidelines, and legislation for compliance with existing regulatory requirements.