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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

EXPLORATION/ REMOTE CAMP SUPPLEMENTARY QUESTIONNAIRE

Applicant: Prof. Dr. Alain Royer **Licence No:** _____
(For NWB Use Only)

ADMINISTRATIVE INFORMATION

1. Environment Manager: Dr. Alexandre Langlois, 819-821-8000 #61904, a.langlois2@usherbrooke.ca

2. Project Manager : Dr. Alexandre Langlois, 819-821-8000 #61904, a.langlois2@usherbrooke.ca

3. Does the applicant hold the necessary property rights ?

The proposed project does not take place on Inuit Owned Land (IOL). A license application is pending for the following organization:
- Nunavut Impact Review Board
- Nunavut Research Institute

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 based at the Université de Sherbrooke, this project is a scientific project.

5. Duration of the Project

■ One year or less Start and completion dates: 2 weeks in March 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 scientific crew will consist of 6 people for the duration of the project.

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

This site has not yet been used by our group.

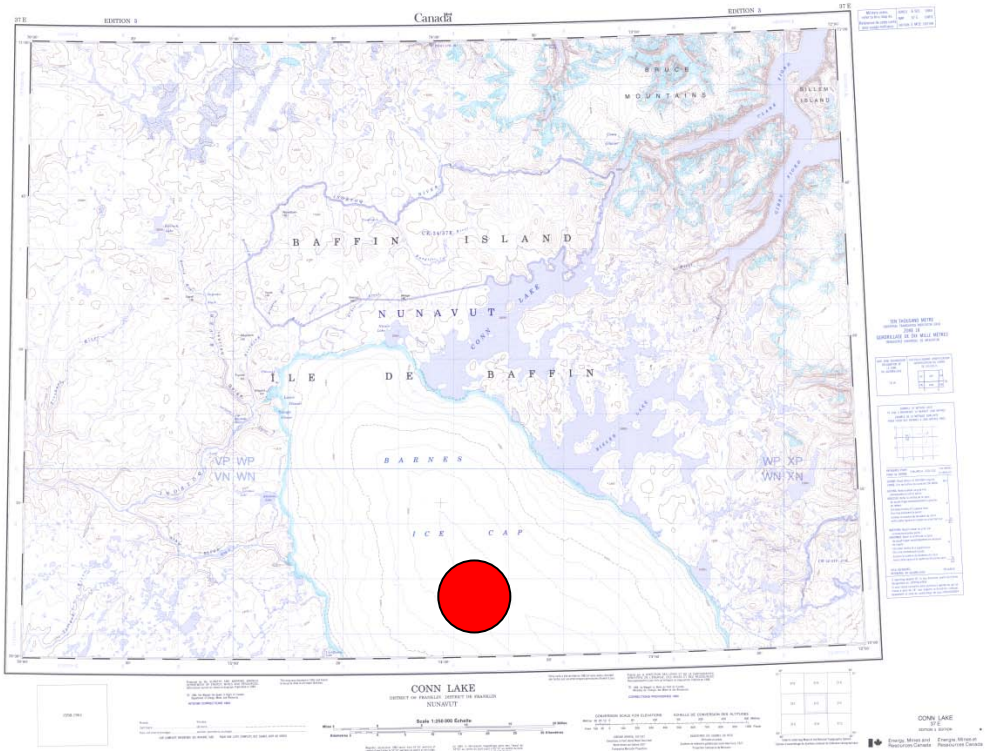
CAMP LOCATION

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

The proposed location of the camp will be located on the summit of the Barnes Ice Cap at 70°0'N 73°30'W.

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 camp was selected on the summit since the topography is more uniform and snow is dry. We are studying snow/ice change using satellite remote sensing; hence to do so, flat ground and dry snow provide more accurate measurements. We have not sought assistance from the Regional Inuit Association Land Manager given the isolate location of the study site. Below is a topographic map (Conn Lake, 37E, 1:250000):



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

- ☐ Crown Lands Permit Number (s)/Expiry Date: _____
- ☐ Commissionners Lands Permit Number (s)/Expiry Date: _____
- ☐ Inuit Owned Lands Permit Number (s)/Expiry Date: _____

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

The closest community to Barnes Ice Cap summit is Clyde River, located approximately 150 km east of our proposed camp site.

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

No we have not given the distance and logistical constraint of accessing such site.

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, the project will not, in any way, alter traditional water use areas nor will impact local fish and wildlife areas given our location (summit of an ice cap).

PURPOSE OF THE CAMP

15.
- ☐ Mining (includes exploration drilling)
- ☐ Tourism (hunting, fishing, wildlife observation, adventure/expedition, etc.)
- ■ Other: Scientific 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: Scientific Research

17. Type of deposit (exploration focus):

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

No types of deposit are related to our activities planned for this project.

DRILLING INFORMATION

18. Drilling Activities

- ☐ Land Based drilling
- ■ Drilling on ice

19. Describe what will be done with drill cuttings?

The drilling planned in our science programme is simply to measure vertical profile of snow/ice density and surface specific area. The drill holes will be shallow, and the cuttings will be left on the ice surface.

20. Describe what will be done with drill water?

The method we use, given the fact that we only drill shallow holes (couple meters), does not make any use of water not lubricant. It is purely mechanical process.

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.

No drill additives are to be used in our project. See point above.

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

No.

SPILL CONTIGENCY 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 refer to the spill plan is attached to this application.

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

Given the little amount of fuel we are planning on using (only for generator), one spill kit will remain at the camp where the fuel will be located.

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

We plan on having 100L of gasoline, and about 20L of kerosene. Both will be transported and stored in their respective fuel drums. Fuel will be transferred to heaters/generators using a sealed air pump attached to the drum.

WATER SUPPLY AND TREATMENT

26. Describe the location of water sources.

The only source of water near our site is the ice cap itself.

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

☐	Domestic use: less than 1 m^3/day	Water source: ice
☐	Drilling: 0	Water source: NA
☐	Other: 0	Water source: NA

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:

This does not apply to our project given our location on the ice cap.

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

No.

30. Will drinking water be treated? How?

The water from melted snow/ice will be boiled. Basic filter (no chemicals involved) will also be employed.

31. Will water be stored on site?

No.

WASTE TREATMENT AND DISPOSAL

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

☐ Camp Sewage (blackwater)

The quantity is hard to estimate, we can expect anywhere around 10L of blackwater per day. Portable toilets will be used, and waste will be incinerated.

☐ Camp Greywater

Only dry food will be brought so we do not plan on producing any greywater.

☐ Solid waste

Solid waste will mostly come from food and will be incinerated. We can expect to produce incinerate about 1 kg of solid waste per day.

☐ Bulky items/Scrap Metal

None.

☐ Waste Oil/Hazardous Waste

None.

☐ Empty Barrels/Fuel Drums

The fuel drums will be carried back.

☐ Other: NA

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

The incineration will take place in a metal container, about the diameter of a fuel drum, and about 2' high. Only toilet blackwater and food packages will be incinerated.

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

No non-combustible waste will be produced in our project.

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

NA.

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

No.

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?

Yes we have used this method on many scientific mission for both land-based, and sea ice-based remote camps.

ABANDONMENT AND RESTORATION

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

NA.

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.)
- [ ] 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: _____