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NUNAVUT IMALIRIYIN KATIMAYINGI
NUNAVUT WATER BOARD
OFFICE DES EAUX DU NUNAVUT

WATER LICENCE APPLICATION FORM

Application for: (check one)

New Renewal Amendment Assignment Cancellation

LICENCE NO: (for NWB use only)	
1. NAME AND MAILING ADDRESS OF APPLICANT/LICENSEE <u>Department of National Defence</u> <u>1 Canadian Air Division</u> <u>A4 Construction Engineering</u> <u>PO Box 17000 Stn Forces</u> <u>Winnipeg, MB,</u> <u>R3J 3Y5</u> Phone: <u>204-833-2500</u> Fax: <u>204-833-2566</u> e-mail: _____	2. ADDRESS OF CORPORATE OFFICE IN CANADA (if applicable) <u>Department of National Defence</u> <u>1 Canadian Air Division</u> <u>A4 Construction Engineering</u> <u>PO Box 17000 Stn Forces</u> <u>Winnipeg, MB</u> <u>R3J 3Y5</u> Phone: <u>204-833-2500</u> Fax: <u>204-833-2566</u> e-mail: _____
3. LOCATION OF UNDERTAKING (describe and attach a topographical map, indicating the main components of the Undertaking) Latitude: (80°00' " N) Longitude: (85°56' " W) NTS Map Sheet No. _____ Scale: _____	
4. DESCRIPTION OF UNDERTAKING (attach plans and drawings) Waste/Sewage Disposal: Operation of digester and sewage lagoon at Eureka. The lagoon is a two stage process which eventually directs the effluent across the ground and into the receiving water. An upgrade of the lagoon walls was completed in 2009. The lagoon walls were extended to approximately 10' high and 8' high. To facilitate improved settling within the lagoon, a pipe was used to connect the two lagoons allowing transfer of primarily liquid from the first cell to the second cell of lagoon. A drawing of the site, included in Appendix A shows of the Spill Contingency Plan included with this submission, indicates the location of the lagoon.	

5. TYPE OF PRIMARY UNDERTAKING (A supplementary questionnaire must be submitted with the application for undertakings listed in "bold")

Industrial
 Mining and Milling (includes exploration/drilling)
 Municipal (includes camps/lodges)
 Power

Agricultural
 Conservation
 Recreational
 Miscellaneous (describe below):

See Schedule II of *Northwest Territories Waters Regulations* for Description of Undertakings

6. WATER USE

To obtain water
 To cross a watercourse
 To modify the bed or bank of a watercourse
 Flood control
 To divert a watercourse
 To alter the flow of, or store, water

Other (describe): 1. Deposit of Waste/Sewage
2. Operation of Soil Landfarm

7. QUANTITY OF WATER INVOLVED (cubic metres per day including both quantity to be used and quality to be returned to source)

Water use 100m³/day or less
 Greater than 100m³/day; if greater, indicate quantities to be used for each purpose (camp, drilling, etc.)

Water returned to source
_____ m³/day

8. WASTE (for each type of waste describe: composition, quantity (cubic metres per day), methods of treatment and disposal, etc.)

Sewage
 Solid Waste
 Hazardous
 Bulky Items/Scrap Metal Waste oil
 Greywater
 Sludges
 Other (describe):

Sewage is routed through a digester and then it goes to a lagoon. The lagoon is a two stage process which settles solids and eventually directs the effluent across the ground and to the receiving water.

9. OTHER PERSONS OR PROPERTIES AFFECTED BY THIS UNDERTAKING (give name, mailing address and location; attach if necessary)

Environment Canada - Eureka High Arctic Weather Station

Land Use Permit

DIAND Yes No If no, date expected _____

Regional Inuit Association Yes No If no, date expected _____

Commissioner Yes No If no, date expected _____

10. PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION MEASURES (direct, indirect, cumulative impacts, etc.)

NIRB Screening Yes No If no, date expected _____

11. INUIT WATER RIGHTS

Will the project or activity substantially affect the quality, quantity, or flow of water flowing through Inuit Owned Lands and the rights of Inuit under Article 20 of the Nunavut Land Claims Agreement?

No.

If yes, has the applicant entered into an agreement with the Designated Inuit organization to pay compensation for any loss or damage that may be caused by the alteration. If no compensation agreement has been made, how will compensation be determined?

12. CONTRACTORS AND SUB-CONTRACTORS (name, address and functions)**13. STUDIES UNDERTAKEN TO DATE** (list and attach copies of studies, reports, research, etc.)

Characterization of Contaminated Sites at CFS-Alert and CFS-Eureka, Nunavut – NRCC BNI - March 2007
Detailed Characterization and EcoNet Update of Multiple Sites at CSF-Eureka and CFS-Alert, Nunavut
Volume III – CFS Eureka – NRCC BNI - March 2008

14. THE FOLLOWING DOCUMENTS MUST BE INCLUDED WITH THE APPLICATION FOR THE REGULATORY PROCESS TO BEGIN

Supplementary Questionnaire (where applicable: see section 5) Yes No If no, date expected _____

Inuktitut and/or Inuinnaqtun/English Summary of Project Yes No If no, date expected _____

Application fee of \$30.00 (Payee Receiver General for Canada) Yes No If no, date expected Upon receipt of invoice.

Water Use fee of \$30.00 (unless otherwise indicated in Section 9 of the *NWT Waters Regulations*; Payee Receiver General for Canada)

Yes No If no, date expected _____

15. PROPOSED TIME SCHEDULE (unless otherwise indicated, the NWB will consider the application for a five (5) year term)

one year or less (or) Multi Year

Start Date: _____ Completion Date: _____

Col. R. Baker

Name (Print)

Director Construction
Engineering

Title (Print)



Signature

16 Nov '09

Date

For Nunavut Water Board office use only

APPLICATION FEE Amount: \$ _____ Pay ID No.: _____

WATER USE DEPOSIT Amount: \$ _____ Pay ID No.: _____



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የብኩስናኩስ, ምስጭር ፌዴራል 1J0
የብኩስናኩስ: (867) 360-6338
የብኩስናኩስ: (867) 360-6369

ΔΛΓΑ ΛΟΓΙΣΤΙΚΗΣ

☒ **મુચ્ચે** ☐ **મચ્ચાદ્વારાચ્ચા** ☐ **દ્વારાચ્ચા** ☐ **ઉદ્વારાચ્ચા** ☐ **દ્વારાચ્ચા**

5. **ԱՆՌԵՎՏԵՐԸ ՔՐԵԱՏԵՐԸ ԱՌԵՎՐՈՎԸ (ՃԸՐՔՅՈՎ ԳԼՈՒԽ ԸՆՈՒՅՆՆԵՐԸ ԿԱԾԱՎԵՐԸ ՏԵՇԱՅԻՆ ՎՐԱՅԻՆ ՃԸՐՔՅՈՎ ԳԼՈՒԽ ԸՆՈՒՅՆՆԵՐԸ ԱՌԵՎՐՈՎԸ)**

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ΔL⁹⁶Γ⁹	

m³/▷^c CL^{9b}

8. **◀bCdΔc** (◀Cσ ΔΓΔb₆CDσΔ₆Cc ▷σ_{-b}b₆◀C: r₆b_c▷₆CD_{-b}L_c, ▲_{-b}σ_{-c} (ρ▷Δ_bdc ▷_bCD▷UCL_c ▷_cCL_b) b₆σ_{-b} b_cCDσΔ₆σ_{-c}, b_cCDσΔ₆σ_{-c}, CL_b▷UCL_c)

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10. ԱՀՇՎԵՐԱՋԵԿ ԳՈՒԹ ԳԵՎԱԾՄԵԾՎԵՄՆԻՑ ԱՇԽՎԵՎՄԸ, ԳԵԼԵՎ ԱՐԳՎԵԾՈՎԾՎԸ
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11. $\Delta \# \Delta^c \Delta L^c \sigma^b \leftarrow \text{CPU}^a \sigma^c \sigma^d \text{L}^c \wedge \text{R}^a \sigma^d \text{CPU}^c$

«ՀՐԱՎԾ, ՏԵԿՆԸՆ ՀՐԱՄԵԿՆ ԱՅՆ ԵՎՐՈՊԱԿԱՐ» ԱՅԱ ԵՎՀԱՄԵՐՄԱՆ ԱԾԸՆԼԱՎՏՐՈՒՄ

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15. ԱՐԴՅՈՂԾՎԱԼՔՆԵՐ ԱԺԵԿ-ՎԱԼՔՆԵՐ ԵՎ ԱՇԽԱՏ-ՐԵՐ (ՎՐԱՐԱ-ԾԵ-ԾՎԵՐՆԵՐՆԵՐ)

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Col. R. Baker

፳፻፲፭

Roller

19 Nov '09

(፳፻፲፭/፳፻፲፭፻፭፻፭/፳፻፲፭)

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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

EXPLORATION/ REMOTE CAMP SUPPLEMENTARY QUESTIONNAIRE

Applicant: Canadian Air Division Licence No: _____
(For NWB Use Only)

ADMINISTRATIVE INFORMATION

1. Environment Manager: Scott Edwards Tel: 204 833 2500 Fax: 204 833 2566 E-mail: Scott.Edwards2@forces.gc.ca

2. Project Manager: David Strong Tel: 204 833 2500 Fax: 204 833 2566 E-mail: DAVID.Strong2@forces.gc.ca

3. Does the applicant hold the necessary property rights? Unknown at this time - still trying to locate information.

4. Is the applicant an 'operator' for another company (i.e., the holder of the property rights)? If so, please provide letter of authorization.

5. Duration of the Project

One year or less Start and completion dates: Not Known
 Multi Year:

If Multi-Year indicate proposed schedule of on site activities
Start: Site already occupied Completion: No fixed date.

CAMP CLASSIFICATION

6. Type of Camp

Mobile (self-propelled)
 Temporary
 Seasonally Occupied: April to October
 Permanent
 Other: _____

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

35 persons peak / 20 - 25 persons average during seasonal occupation

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

The site is used as a detachment and training area for the Department of Defence. A detailed history is included in the submission.

CAMP LOCATION

9. Please describe proposed camp location in relation to biogeographical and geomorphological features, and water bodies. *The camp is located approximately one half mile north of Slidre Fiord on Ellesmere Island. The camp is situated on glacial deposits left following the retreat of the ice after the last ice age. Fauna found in the area include: musk ox, Arctic wolves, Arctic fox, and Arctic hares.*

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 airstrip and adjacent property were first occupied by Environment Canada as a meteorological site for Arctic weather research. The airstrip was improved and a detachment for the Department of National Defence was established.*

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: _____

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

*Alert - 475 Km Northeast
Grise Fiord - 400 Km South South East*

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

No

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?

*traditional water use - no
impact to local fish & wildlife - limited, if any.*

PURPOSE OF THE CAMP

15. Mining (includes exploration drilling)
 Tourism (hunting, fishing, wildlife observation, adventure/expedition, etc.)
(Omit questions # 16 to 21)
 Other *military detachment & training*

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: Not Applicable

17. Type of deposit (exploration focus):

Lead Zinc
 Diamond
 Gold
 Uranium
 Other: Not Applicable

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?

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. 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.

Completed and Included.

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

June 21, 2006 3 spill kits : Pol shed by the runway
- Mechanical room of the main building
- EME garage.

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

There are currently four 30,000 L storage tanks located at Eureka. The storage tanks are all double-walled enviro-tanks which contain JP-8 aviation fuel. Any other chemicals at the base are consumer sized products, including motor oil, solvents, and cleaning products.

WATER SUPPLY AND TREATMENT

26. Describe the location of water sources.

Water is obtained from the Environment Canada weather station located adjacent to the site. Environment Canada currently holds a license for water use and waste disposal (3BC-EURO611). Water is trucked from the Environment Canada reservoir to Fort Eureka.

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

Domestic Use: _____ Water Source: _____
 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:

N/A - water obtained
from Environment Canada.

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

30. Will drinking water be treated? How?

31. Will water be stored on site?

WASTE TREATMENT AND DISPOSAL

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

Camp Sewage (blackwater)

CAMP SEWAGE PASSES THROUGH A
DIGESTOR prior to being pumped via piping to a 2 cell sewage lagoon.
Following arrival in 2nd cell, liquid is allowed to leach out over time to
surface water.

Camp Greywater

AS ABOVE.

Solid Waste

ANY SOLID WASTE WHICH CAN BE INCINERATED IS BURNED,
AND THE REST INCINERATED, ANY NON COMBUSTIBLE MATERIALS ARE COMBINED
WITH THE REST IN THE LANDFILL SITE.

Bulky Items/Scrap Metal

ANY BULKY METAL OBJECTS OR SCRAP
METAL NOT HAVING HAZARDOUS VALUE ARE WORLWIDE ARE TRANSPORT
IS LANDFILLED.

Waste Oil/Hazardous Waste

WASTE OIL & HAZARDOUS WASTE ARE
PROPERLY BRACED FOR SHIPMENT VIA MILITARY
TRANSPORT TO TREATMENT.

Empty Barrels/Fuel Drums

EMPTY BARRELS ARE CRUSHED PRIOR TO BEING
LANDFILLED.

Other:

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

THE INCINERATOR AT EUREKA IS A FORCED AIR ENCLOSED
CHAMBER INCINERATOR.

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

NON-COMBUSTIBLE WASTE IS LANDFILLED IN THE LANDFILL
AREA LOCATED NEAR THE EAST END OF THE RUNWAY.

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

1/4.

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

MONITORING OF THE GW AND SURFACE WATER
IS COMPLETED ANNUALLY.

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, Sewage is gravity fed to the lagoon area where the sewage is contained within a two-cell lagoon. Any release of effluent would be done from the south cell, and would need to travel approximately a half mile prior to reaching Slidre fiord.

ABANDONMENT AND RESTORATION

38. Provide a detailed description of progressive and final abandonment and restoration activities at the site. *Clean-up of hydrocarbon impacted sites is an ongoing process for the Air Force, as noted in the reports included. The Air force intends to continue the on-going efforts. There are no current plans for the final abandonment of 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: _____

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