



General Water Licence Application  
(Application for a new Water Licence)

February 5, 2011

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NUNAVUT IMALIRIYIN KATIMAYINGI  
NUNAVUT WATER BOARD  
OFFICE DES EAUX DU NUNAVUT

## DOCUMENT MANAGEMENT

Original Document Date: April 2010

### DOCUMENT AMENDMENTS

	Description	Date
(1)		
(2)		
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**GENERAL WATER LICENCE APPLICATION  
(APPLICATION FOR NEW WATER LICENCE)**

The applicant is referred to the NWB's Guide 4: *Guide to Completing and Submitting a Water Licence Application for a New Licence* for more information about this application form.

<b>LICENCE NO:</b> (for NWB use only)	
<b>1. APPLICANT (PROPOSED LICENSEE) CONTACT INFORMATION</b> (name, address) Brett Hamilton Geoscience, University of Calgary 2500 University Drive NW Calgary AB T2N 1N4  Phone: 403-463-0890 _____ Fax: 403-220-0074 _____ e-mail: brett.hamilton@ucalgary.ca _____	<b>2. APPLICANT REPRESENTATIVE CONTACT INFORMATION</b> if different from Block 1 (name, address)    Phone: _____ Fax: _____ e-mail: _____ (Attach authorization letter.)
<b>3. NAME OF PROJECT</b> (including the name of the project location) Metamorphic geology and tectonics research on Cumberland Peninsula, Baffin Island	
<b>4. LOCATION OF UNDERTAKING</b>  <b>Project Extents</b>  NW: Latitude: (66°12'00" N) Longitude: (62°33'00" W) NE: Latitude: (66°31'00" N) Longitude: (62°02'00" W) SE: Latitude: (66°23'00" N) Longitude: (62°02'00" W) SW: Latitude: (65°56'00" N) Longitude: (62°33'00" W)  <b>Camp Location(s)</b>  1. Latitude: (66°02'24" N) Longitude: (63°19'31" W) 2. Latitude: (66°00'36" N) Longitude: (62°48'08" W) 3. Latitude: (66°01'48" N) Longitude: (63°05'37" W) 4. Latitude: (66°27'15" N) Longitude: (62°17'08" W)	

**5. MAP** - Attach a topographical map, indicating the main components of the undertaking.

NTS Map Sheet No.: 16D, 16E, 16L, 16K

Map Name: Metamorphic geology and tectonics of Cumberland Peninsula, Baffin Island Nunavut. Land use for 2011 field season. (Composed of NTS sheets: Cape Dyer and Hoare Bay)

Map Scale: 1:250,000

**6. NATURE OF INTEREST IN THE LAND** - Check any of the following that are applicable to the proposed undertaking (at least one box under the 'Surface' header must be checked).

**Sub-surface**

☐ Mineral Lease from Nunavut Tunngavik Incorporated (NTI)

Date (expected date) of issuance: \_\_\_\_\_ Date of expiry: \_\_\_\_\_

☐ Mineral Lease from Indian and Northern Affairs Canada (INAC)

Date (expected date) of issuance: \_\_\_\_\_ Date of expiry: \_\_\_\_\_

**Surface**

☐ Crown **Land Use Authorization** from Indian and Northern Affairs Canada (INAC)

Date (expected date) of issuance: \_\_\_\_\_ Date of expiry: \_\_\_\_\_

Note: Undertakings are less than the requirements of a class B INAC Land Use Permit, therefore no such permit is required.

☐ Inuit Owned Land (IOL) Authorization from Kitikmeot Inuit Association (KIA)

Date (expected date) of issuance: \_\_\_\_\_ Date of expiry: \_\_\_\_\_

☐ IOL Authorization from Kivalliq Inuit Association (KivIA)

Date (expected date) of issuance: \_\_\_\_\_ Date of expiry: \_\_\_\_\_

☒ IOL Authorization from Qikiqtani Inuit Association (QIA)

Date (expected date) of issuance: May 1, 2011 Date of expiry: August 12, 2011

☐ Commissioner's Land Use Authorization

Date (expected date) of issuance: \_\_\_\_\_ Date of expiry: \_\_\_\_\_

☐ Other: \_\_\_\_\_

Date (expected date) of issuance: \_\_\_\_\_ Date of expiry: \_\_\_\_\_

Name of entity(s) holding authorizations:

**7. NUNAVUT PLANNING COMMISSION (NPC) DETERMINATION**

Indicate the land use planning area in which the project is located.

- |  |   |
|--|---|
| <input type="checkbox"/> North Baffin            | <input type="checkbox"/> Keewatin       |
| <input checked="" type="checkbox"/> South Baffin | <input type="checkbox"/> Sanikiluaq     |
| <input type="checkbox"/> Akunnig                 | <input type="checkbox"/> West Kitikmeot |

Is a land use plan conformity determination required?

- ☐ Yes ☒ No

If Yes, indicate date issued and attach copy \_\_\_\_\_

If No, provide written confirmation from NPC confirming that a land use plan conformity review is not required.

Brian Aglukark, Director of Regional Planning, Nunavut Planning Commission, confirmed via telephone on 2010-12-21 that an NPC land use plan conformity determination will not be required for this project.

**8. NUNAVUT IMPACT REVIEW BOARD (NIRB) DETERMINATION**

Is an Article 12 Part 4 screening determination required?

- ☒ Yes ☐ No

If Yes, indicate date issued and attach copy \_\_\_\_\_

Nunavut Research Institute License Application was submitted on February 5, 2011 and this application will be forwarded to NIRB.

If No, provide written confirmation from NIRB confirming that a screening determination is not required.

**9. DESCRIPTION OF UNDERTAKING – List and attach plans and drawings or project proposal.**

Research will consist of bedrock geological mapping, which is performed by two geologists on foot. Mapping principally consists of making observations about the rocks. About 250 rock samples, 1 to 2 kg each, will be knocked off larger formations with a hammer for laboratory analysis.

Supporting this effort will be four temporary two-person tent-based campsites. Each camp will be used for between 8 and 15 days. Camp supplies, personnel, and garbage will be transported to and from Pangnirtung, and between campsites, with a helicopter. The helicopter will return to Pangnirtung and will not stay at the camps. All staging will be in Pangnirtung and I will employ a Pangnirtung resident to assist with logistics.

Camps will consist of two 8'x9' nylon tents and one 8'x10' canvas kitchen tent with no floor. The kitchen tent will include a 2-burner naphtha-fired stove and a naphtha-fired lantern. A gasoline-powered electrical generator will be used to recharge batteries.

An inflatable Zodiac boat with a 10 HP outboard motor will be used for transportation along Clephane Bay during one of the camps.

Campsites will be selected within 50 m of a water body and up to 20 L of water per day will be extracted manually from these water bodies and stored in plastic pails. During the 45-day field season less than 1 m<sup>3</sup> should be used. Grey water will be disposed in pits dug at least 30 m from any water body and will be filled before the campsite is vacated. Similarly, pits for human waste disposal will be dug at least 30m from water bodies and downstream/downslope from the potable water source.

Up to 80 L of gasoline will be stored at the camp in 5 gal/19 L plastic jerrycans to fuel the Zodiac and electrical generators. The gasoline will be stored in a single fuel cache with a spill kit.

Project proposal is attached (as submitted to NRI and NIRB).

**10. OPTIONS – Provide a brief explanation of the alternative methods or locations that were considered to carry out the project.**

Due to the nature of the research the location of the project is not flexible. The project is very low-impact and few reasonable changes could be made to reduce the environmental impact.

**11. CLASSIFICATION OF PRIMARY UNDERTAKING** - Indicate the primary classification of undertaking by checking one of the following boxes.

- |   |  |
|---|--|
| <input type="checkbox"/> Industrial   | <input type="checkbox"/> Agricultural                    |
| <input type="checkbox"/> Mining and Milling (includes exploration/drilling/exploration camps) |  |
| <input type="checkbox"/> Conservation   |  |
| <input checked="" type="checkbox"/> Municipal (includes camps/lodges)                         | <input type="checkbox"/> Recreational                    |
| <input type="checkbox"/> Power  | <input type="checkbox"/> Miscellaneous (describe below): |
| Geological research, remote camp (no exploration) _____                                       |  |

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

Information in accordance with applicable Supplemental Information Guidelines (SIG) must be submitted with a New Water Licence Application. Indicate which SIG(s) are applicable to your application.

- ☐ Hydrostatic Testing
- ☐ Tannery
- ☐ Tourist / Remote Camp
- ☐ Landfarm & On-Site Storage of Hydrocarbon Contaminated Soil
- ☐ Onshore Oil and Gas Exploration Drilling
- ☒ Mineral Exploration / Remote Camp
- ☐ Advanced Exploration
- ☐ Mine Development
- ☐ Municipal
- ☐ General Water Works
- ☐ Power

**12. WATER USE** - Check the appropriate box(s) to indicate the type(s) of water use(s) being applied for.

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> To obtain water for camp/ municipal purposes |   |
| <input type="checkbox"/> To obtain water for industrial purposes                 | <input type="checkbox"/> To divert a watercourse                    |
| <input type="checkbox"/> To cross a watercourse                                  | <input type="checkbox"/> To modify the bed or bank of a watercourse |
| <input type="checkbox"/> To alter the flow of, or store water                    | <input type="checkbox"/> Flood control                              |
| <input type="checkbox"/> Other: _____  |   |

- 13. QUANTITY AND QUALITY OF WATER INVOLVED** - For each type of water use indicated in Block 12, provide the source of water, the quality of the water source and available capacity, the estimated quantity to be used in cubic meters per day, method of extraction, as well as the quantities and qualities of water to be returned to source.

Name of water source(s) (show location(s) on map):

All water sources are unnamed streams and lakes adjacent to the campsites indicated on the map.

Describe the quality of the water source(s) and the available capacity: Assumed to be clean with capacity that far exceeds the quantities that will be extracted.

Provide the overall estimated quantity of water to be used:

0.02 m<sup>3</sup>/day for 44 days (0.88m<sup>3</sup>)

Provide the estimated quantity(s) of water to be used from each source:

0.02 m<sup>3</sup>/day for at most 15 days from any one source. (0.3 m<sup>3</sup>)

Indicate the estimated quantities to be used for each purpose (camp, drilling, etc.)

All water will be for camp use.

Describe the method of extraction(s):

Manually extracted with a scoop.

Estimated quantity(s) of water returned to source(s) 0 m<sup>3</sup>/day

Describe the quality of water(s) returned to source(s): No waste water will be directly returned to the source. Greywater will be deposited >30m from any water source.

- 14. WASTE** – Check the appropriate box(s) to indicate the types of waste(s) generated and deposited.

☐ Sewage

☒ Solid Waste

☐ Hazardous

☐ Bulky Items/Scrap Metal

☐ Animal Waste

☐ Other (describe): \_\_\_\_\_

☐ Waste oil

☒ Greywater

☐ Sludges

☐ Contaminated soil and/or water



- 15. QUANTITY AND QUALITY OF WASTE INVOLVED** – For each type of waste indicated in Block 14, describe its composition, quantity in cubic meters/day, method of treatment and method of disposal.

Type of Waste	Composition	Quantity Generated	Treatment Method	Disposal Method
Solid waste	Household garbage	0.002 m <sup>3</sup> /day	None	Flown to Pangnirtung waste facility
Greywater	Water, soap, food particles (dish water)	0.01 m <sup>3</sup> /day	None	Buried >30m from water sources
Sewage	Human waste	0.002 m <sup>3</sup> /day	None	Buried >30m from water sources

- 16. OTHER AUTHORIZATIONS** – In addition to the sub-surface and surface land use authorizations provided in Block 6, indicate any other authorizations required in relation to the proposed undertaking. For each provide the following:

Authorization: Land and Water Scientific Research License

Administering Agency: Nunavut Research Institute

Project Activity: Scientific & geological research

Date (expected date) of issuance: April 1, 2011 Date of expiry: August 12, 2011

- 17. PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION MEASURES** - Describe direct, indirect, and cumulative impacts related to water and waste.

There will be minor temporary reduction in the flow of a few streams as water is scooped out of the streams.

There will be minor distance to the ground cover where holes no bigger than 1m by 1m by 50cm are dug for grey water and human waste disposal. Holes will be filled before the campsites are vacated and soil with intact vegetation will be restored on top of the holes, as best as possible.

Some vegetation will be adversely affected because a tent will cover it. The small footprint (15m<sup>2</sup>) of all tents, and short duration (<15 days in any one campsite) mean that degradation should be minimal and natural remediation effective.

Aquatic ecosystems are not expected to be impacted.

**18. WATER RIGHTS OF EXISTING AND OTHER USERS OF WATER**

Provide the names, addresses and nature of use for any known persons or properties that may be adversely affected by the proposed undertaking, including those that hold licences for water use in precedent to the application, domestic users, in-stream users, authorized waste depositors, owners of property, occupiers of property, and/or holders of outfitting concessions, registered trapline holders, and holders of other rights of a similar nature.

Advise the Board if compensation has been paid and/or agreement(s) for compensation have been reached with any existing or other users.

No other persons or properties are anticipated to be affected due to the remote location of the camps.

**19. INUIT WATER RIGHTS**

Advise the Board of any substantial affect of the quality, quantity or flow of waters flowing through Inuit Owned Land (IOL), and advise the Board if negotiations have commenced or an agreement to pay compensation for any loss or damage has been reached with one or more Designated Inuit Organization (DIO).

No campsites are on IOL and there is no IOL downstream of the campsites. Some research (<7 days) will be carried out in IOL, but this should have no impact on the water whatsoever.

**20. CONSULTATION –** Provide a summary of any consultation meetings including when the meetings were held, where and with whom. Include a list of concerns expressed and measures to address concerns.

Qikiqtarjuaq – Spoke with Rick Van Horne (Senior Administrative Officer), on December 14, 2010. No concerns were raised. We will talk again once he receives the NIRB screening.

Pangnirtung – Emailed Ron Mongeau (Senior Administrative Officer) details of the proposal. He confirmed that he received the information on January 13, 2011. He did not express any concerns at that time but we have yet to discuss the proposal.

**21. SECURITY INFORMATION**

Provide an estimate of the total financial security for final reclamation equal to the total outstanding reclamation liability for land and water combined sufficient to cover the highest liability over the life of the undertaking. Estimates of reclamation costs must be based on the cost of having the necessary reclamation work done by a third party contractor if the operator defaults. The estimate must also include contingency factors appropriate to the particular work to be undertaken.

Where applicable, the financial security assessment should be prepared in a manner consistent with the principals respecting mine site reclamation and implementation found in the *Mine Site Reclamation Policy for Nunavut*, Indian and Northern Affairs Canada, 2002.

Detailed plans will be prepared as required.

**22. FINANCIAL INFORMATION**

Provide a statement of financial responsibility.

If the applicant is a business entity, provide a list of the officers of the company.

If the applicant is a business entity attach a copy of the Certificate of Incorporation or evidence of registration of the company name.

Statement of financial responsibility will be prepared as required.

**23. STUDIES UNDERTAKEN TO DATE** - List and attach copies of studies, reports, research, etc.  
No studies have been undertaken.

**24. PROPOSED TIME SCHEDULE** – Indicate the proposed start and completion dates for each applicable phase of development (construction, operation, closure, and post closure).

Construction

Proposed Start Date: \_\_\_\_\_ Proposed Completion Date: \_\_\_\_\_  
(month/year) (month/year)

Operation

Proposed Start Date: 06/2011 Proposed Completion Date: 08/2011  
(month/year) (month/year)

Closure

Proposed Start Date: \_\_\_\_\_ Proposed Completion Date: \_\_\_\_\_  
(month/year) (month/year)

Post - Closure

Proposed Start Date: \_\_\_\_\_ Proposed Completion Date: \_\_\_\_\_  
(month/year) (month/year)

For each applicable phase of development indicate which season(s) activities occur.

Construction

☐ Winter ☐ Spring ☐ Summer ☐ Fall ☐ All season

Operation

☐ Winter ☐ Spring ☒ Summer ☐ Fall ☐ All season

Closure

☐ Winter ☐ Spring ☐ Summer ☐ Fall ☐ All season

Post - Closure

☐ Winter ☐ Spring ☐ Summer ☐ Fall ☐ All season

Number of years (maximum of 25 years): 1 years

Requested Date of Issuance: 06/2011    Requested Expiry Date: 08/2011  
(month/year) (month/year)

(The requested date of issuance must be at least three (3) months from the date of application for a type B water licence and at least one (1) year from the date of application for a type A water licence, to allow for processing of the water licence application. These timeframes are approximate and do not account for the time to complete any pre-licensing land use planning or development impact requirements, time for the applicant to prepare and submit a water licence application in accordance with any project specific guidelines issued by the NWB, or the time for the applicant to respond to requests for additional information. See the NWB's *Guide 5: Processing Water Licence Applications* for more information)

**26. ANNUAL REPORTING** – If not using the NWB’s *Standardized Form for Annual Reporting*, provide details regarding the content of annual reports and a proposed outline or template of the annual report.

Annual report will be submitted using *Standard Form for Annual Reporting Requirements of NWB2 Exploration Water Licenses*

**27. CHECKLIST –** The following must be included with the application for the water licensing process to begin.

Written confirmation from the NPC confirming that NPC's requirements regarding land use plan conformity have been addressed.

☐ Yes ☒ No If no, date expected April 1, 2011

Written confirmation from the NIRB confirming that NIRB's requirements regarding development impact assessment have been addressed.

☐ Yes ☒ No If no, date expected April 1, 2011

Completed General Water Licence Application form.

☒ Yes ☐ No If no, date expected \_\_\_\_\_

Information addressing Supplemental Information Guideline (SIG) , where applicable (see Block 11)

☒ Yes ☐ No If no, date expected \_\_\_\_\_

English Summary of Application.

☒ Yes ☐ No If no, date expected \_\_\_\_\_

Inuktitut and/or Inuinnaqtun Summary of Application.

☒ Yes ☐ No If no, date expected \_\_\_\_\_

Application Fee of \$30.00 CDN (Payee Receiver General for Canada).

☒ Yes ☐ No If no, date expected Cheque has been mailed.

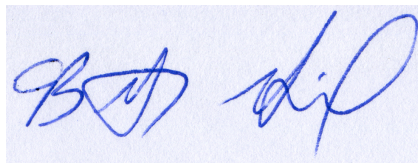
Water Use Fee Deposit of \$30.00 CDN (Payee Receiver General for Canada). The actual water use fee will be calculated by the NWB based upon the amount of water authorized for use in accordance with the Regulations at the time of issuance of the licence.

☒ Yes ☐ No If no, date expected Cheque has been mailed.

**28. SIGNATURE**

**Brett Hamilton**  
Name (Print)

**PhD Student**  
Title (Print)



**Signature**

**February 5, 2011**  
Date