

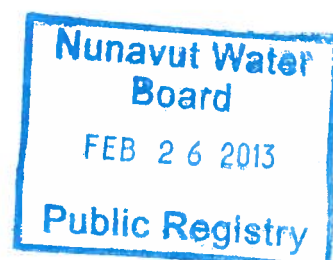


General Water Licence Application  
(Application for a new Water Licence)

April 2010

P.O. BOX 119  
GJOA HAVEN, NUNAVUT  
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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)	Water Board Application Summary with Inuktitut Translation	Feb. 2013
(2)	Project Proposal	Feb. 2013
(3)	Community correspondence: Resolute Bay Hamlet	Feb. 2013
(4)	Community correspondence: Resolute Bay Hunters' & Trappers' Organization	Feb. 2013
(5)	Scientific Paper resulting from our research	April 2006
(6)	Scientific Paper resulting from our research	April 2006
(7)	Scientific Paper resulting from our research	Oct. 2008
(8)	Spill Contingency Plan	Feb. 2013
(9)		
(10)		



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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.

LICENCE NO: (for NWB use only)	
<b>1. APPLICANT (PROPOSED LICENSEE) CONTACT INFORMATION (name, address)</b>  Neil Shubin Dept. Organismal Biology & Anatomy 1027 E. 57 <sup>th</sup> Street University of Chicago Chicago, IL 60637 USA  Phone: 773-834-7472 Fax: 773-702-0037 e-mail: <a href="mailto:nshubin@uchicago.edu">nshubin@uchicago.edu</a> , <a href="mailto:neil.shubin@gmail.com">neil.shubin@gmail.com</a>	<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)  Paleozoic Vertebrates and Arthropods of Ellesmere Island: Scientific Communication and Discovery	
<b>4. LOCATION OF UNDERTAKING</b>  <b>Project Extents</b>  <i>Within walking distance of the camp listed under "Camp Location" below</i>  NW: Latitude: ( ° ' " N) Longitude: ( ° ' " W) NE: Latitude: ( ° ' " N) Longitude: ( ° ' " W) SE: Latitude: ( ° ' " N) Longitude: ( ° ' " W) SW: Latitude: ( ° ' " N) Longitude: ( ° ' " W)  <b>Camp Location(s)</b> Camp 1: Bird Fiord Latitude: (77 9.66 N) Longitude: (86 10.25 W) Camp 2: Judge Daly Promontory Latitude: (81.02622 N) Longitude: (68.63317 W)	

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

**CAMP 1 Bird Fiord**

NTS Map Sheet No.: 1312A Geology Series

Map Name: Baumann Fiord – District of Franklin

Map Scale: 1:250,000

We will be camping on a gravel bed sufficiently far from a water source so we are not contaminating the local water supply, about a mile from the location where we discovered important fish fossils, among them *Tiktaalik roseae* in 2004 (exact location to be determined in a helicopter fly by).



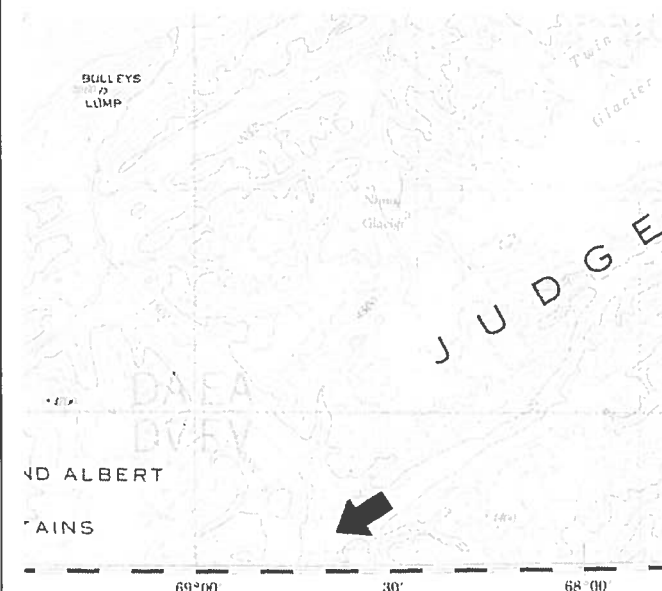
**CAMP 2 Judge Daly Promontory**

NTS Map Sheet No.: 120C & 120D, Edition 3

Map Name: Lady Franklin Bay

Map Scale: 1:250,000

We will be investigating ancient rocks for signs of arthropod fossils in an area covering a radius of approximately 25 km from our base camp. Base camp will be made along a tributary, wherever we can find a suitable campsite (in the vicinity of the black arrow):



h

**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: \_\_\_\_\_

*No permit needed, per DIAND. Under CLEY auspices*

☐ 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: \_\_\_\_\_ Date of expiry: \_\_\_\_\_

☐ 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.

☐ North Baffin

☐ South Baffin

☐ Akunnig

☐ Keewatin

☐ Sanikiluaq

☒ 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.

*No permit needed, per NIRB. Under CLEY auspices.*

**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 \_\_\_\_\_

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

***We are exempt from requiring this screening according to the NIRB's guidelines published in Schedule 12-1 of the Nunavut Land Claims Agreement because we fall into the following category:***

***2. Land use activities requiring only a Class B permit under the Territorial Land Use Regulations (SOR/77-210 4 March 1977)***

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

*Bird Fiord: We plan to have a small crew of 8 people for 1 week, some looking for fossils, some filming for a documentary to be produced by the Howard Hughes Medical Institute.*

*Judge Daly Promontory: We plan to make a small 4-person camp for 2 weeks during which time we will inspect the surface of the surrounding area for fossils.*

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

☐ Industrial

☐ Agricultural

☐ Mining and Milling (includes exploration/drilling/exploration camps)

☐ Conservation

☐ Municipal (includes camps/lodges)

☐ Recreational

☐ Power

☒ Miscellaneous (describe below):

Basic Scientific Research

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

<b>11.</b>	<p><b>WATER USE</b> - Check the appropriate box(s) to indicate the type(s) of water use(s) being applied for.</p> <p><input checked="" type="checkbox"/> To obtain water for camp/ municipal purposes</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> To obtain water for industrial purposes  <input type="checkbox"/> To cross a watercourse  <input type="checkbox"/> To alter the flow of, or store water  <input type="checkbox"/> Other: _____ </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> To divert a watercourse  <input type="checkbox"/> To modify the bed or bank of a watercourse  <input type="checkbox"/> Flood control </td> </tr> </table>	<input type="checkbox"/> To obtain water for industrial purposes <input type="checkbox"/> To cross a watercourse <input type="checkbox"/> To alter the flow of, or store water <input type="checkbox"/> Other: _____	<input type="checkbox"/> To divert a watercourse <input type="checkbox"/> To modify the bed or bank of a watercourse <input type="checkbox"/> Flood control
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<b>12.</b>	<p><b>QUANTITY AND QUALITY OF WATER INVOLVED</b> - 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.</p> <p>Name of water source(s) (show location(s) on map):  <u>local tributary for drinking &amp; cooking water</u></p> <p>Describe the quality of the water source(s) and the available capacity: _____  <u>excellent quality, abundant</u></p> <hr/> <p>Provide the overall estimated quantity of water to be used: _____ 0.5 _____ m<sup>3</sup>/day</p> <p>Provide the estimated quantity(s) of water to be used from each source:  <u>All of our water will be taken locally from tributary</u></p> <p>Indicate the estimated quantities to be used for each purpose (camp, drilling, etc.)  <u>All for camp use: drinking, cooking, and washing</u></p> <p>Describe the method of extraction(s): <u>Extract direct from stream by hand</u></p> <p>Estimated quantity(s) of water returned to source(s) _____ 0 _____ m<sup>3</sup>/day</p> <p>Describe the quality of water(s) returned to source(s): _____ N/A _____  <u>Waste water will be buried at least 250 feet from the stream bed (with care not to disturb tundra) so as not to contaminate the water supply</u></p>		
<b>13.</b>	<p><b>WASTE</b> – Check the appropriate box(s) to indicate the types of waste(s) generated and deposited.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input checked="" type="checkbox"/> Sewage  <input type="checkbox"/> Solid Waste  <input type="checkbox"/> Hazardous  <input type="checkbox"/> Bulky Items/Scrap Metal  <input type="checkbox"/> Animal Waste  <input type="checkbox"/> Other (describe): _____ </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Waste oil  <input checked="" type="checkbox"/> Greywater  <input type="checkbox"/> Sludges  <input type="checkbox"/> Contaminated soil and/or water </td> </tr> </table>	<input checked="" type="checkbox"/> Sewage <input type="checkbox"/> Solid Waste <input type="checkbox"/> Hazardous <input type="checkbox"/> Bulky Items/Scrap Metal <input type="checkbox"/> Animal Waste <input type="checkbox"/> Other (describe): _____	<input type="checkbox"/> Waste oil <input checked="" type="checkbox"/> Greywater <input type="checkbox"/> Sludges <input type="checkbox"/> Contaminated soil and/or water
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- 14. 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
Organic waste	Food scraps	2 kg	Burn	Remove via helicopter at end of stay
Solid waste	Packaging, and other camp garbage	1 kg	Burn	Remove via helicopter at end of stay
Human waste		.8 kg	Burial away from water sources	

- 15. 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: \_\_\_\_\_ Paleontology Permit \_\_\_\_\_

Administering Agency: \_\_Culture, Language, Elders, Youth Nunavut \_\_\_\_\_

Project Activity: \_\_\_\_Surface Inspection for Presence of Fossils \_\_\_\_\_

Date (expected date) of issuance: \_\_7/1/13\_\_ Date of expiry: \_\_7/1/14 \_\_\_\_\_

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

*Waste will be mitigated by keeping the crew size limited to 8 people at Bird Fiord and 4 people at Judge Daly Promontory and spending only 18 days in the field. Our remote fly camp will have no motorized equipment (no vehicles, no power tools, nothing that uses gasoline). We will not have a generator or any power supply other than a hand held solar charger. The only fuel in camp will be one 5-gallon propane tank used for cooking when attached to a 2-burner Coleman Stove. We maintain a strict commitment to removing all solid waste from the field site. Waste water will be minimal, but the wash water we anticipate will be strained to remove food scraps and deposited at least 250 feet from a water source. We will use minimal quantities of biodegradable soap.*

*Direct impact: camping impacts will be minimized by maintaining a small crew size, staying for a short time (just 3 weeks), and by placing tents on gravel beds to avoid disturbing the tundra.*



**17. 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.

*We have consulted with Resolute Bay Hamlet and Resolute Bay Hunters and Trappers Association about potential adverse affects to people or property and no concerns have been raised about our proposed work. See attached documents.*

**18. 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).

*We do not believe there will be substantial effects on the quality, quantity or flow of the local rivers and streams as a result of our proposed camp.*

**19. 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.

*Faxes were sent to Resolute Hamlet and Hunters/Trappers Association in February explaining our work.*

**20. 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.

N/A

**21. 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.

*Our work is funded in full by a grant from the United States' National Science Foundation and the Howard Hughes Medical Institute. We are also supported by an endowed professorship at the University of Chicago, Chicago, IL, USA.*

**22. STUDIES UNDERTAKEN TO DATE - List and attach copies of studies, reports, research, etc.**

*We have worked in this region of the Arctic since 1999. As a result of our work, we have published scientific papers (attached), a popular book (Your Inner Fish by Neil Shubin: <http://yourinnerfish.com>), and an educational website in English and Inuktitut detailing the discovery of Tiktaalik roseae (<http://tiktaalik.uchicago.edu>). We also created life-sized reconstructions of Tiktaalik roseae and sent them to museums in Ottawa and Iqaluit as well as other museums around the world. The fossils we have uncovered will be returned after analysis to Iqaluit for display in a museum.*

**23. 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:       N/A       Proposed Completion Date:                       
(month/year) (month/year)

Operation

Proposed Start Date:       07/13       Proposed Completion Date:       07/13        
(month/year) (month/year)

Closure

Proposed Start Date:       07/13       Proposed Completion Date:       07/13        
(month/year) (month/year)

Post - Closure

Proposed Start Date:       N/A       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

**24. PROPOSED TERM OF LICENCE**

Number of years (maximum of 25 years): \_\_\_\_ 3 weeks

Requested Date of Issuance: \_\_\_\_ June 2013 \_\_\_\_ Requested Expiry Date: July 2014 \_\_\_\_  
(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)

**25. 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.

N/A

**26. 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 \_\_\_\_\_

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

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

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 \_\_\_\_\_

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 \_\_\_\_\_

**28. SIGNATURE**

<u>NEIL SHUBIN</u>	<u>PROFESSOR</u>		<u>6/29/11</u>
Name (Print)	Title (Print)	Signature	Date