



Effective June 16, 2006

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 NUNAVUT IMALIRIYIN KATIMAYINGI  
 NUNAVUT WATER BOARD  
 OFFICE DES EAUX DU NUNAVUT

## WATER LICENCE APPLICATION FORM

Nunavut Water  
Board  
MAY 06 2008  
Public Registry

Application for: (check one)

☒ New    ☐ Renewal    ☐ Amendment    ☐ Assignment    ☐ Cancellation

**LICENCE NO:**  
 (for NWB use only)

<p><b>1. NAME AND MAILING ADDRESS OF APPLICANT/LICENSEE</b></p> <p><u>Derek Muir</u></p> <p>Phone: <u>905-319-6921</u>          Fax: <u>905-336-6340</u>          e-mail: <u>derek.muir@ec.gc.ca</u></p>	<p><b>2. ADDRESS OF CORPORATE OFFICE IN CANADA (if applicable)</b></p> <p><u>Environment Canada, Aquatic Ecosystem Protection          Research Division, 867 Lakeshore Road, Burlington ON          L7R4A6</u></p> <p>Phone: <u>905-319-6921</u>          Fax: <u>905-336-6340</u>          e-mail: <u>derek.muir@ec.gc.ca</u></p>
<p><b>3. LOCATION OF UNDERTAKING</b> (describe and attach a topographical map, indicating the main components of the Undertaking)</p> <p><b>Devon ice cap snow sampling</b>          Latitude: (75°20'46" N)      Longitude: (82°40'12" W)          NTS Map Sheet No. <u>48H</u> Scale: _____</p>	
<p><b>4. DESCRIPTION OF UNDERTAKING</b> (attach plans and drawings)</p> <p>The purpose of the project is to find out how much of these new chemical contaminants are entering the environment of Nunavut, and where they may be coming from by collecting snow samples from the ice caps on Devon Island and sediment from the bottom of lakes on Cornwallis Island</p> <p><b>Snow collection:</b>          In early May 2008, a 2 person team will go to the Devon ice caps by Twin Otter plane (PCSP) from Resolute. A single camp (2 tents) will be established on the ice cap for about 5 days. A snow pit (5 -6 m deep) will be dug about 1 km from the camp and travel to the collection site will be via snowmobile with 1 sled, returning to camp daily. Field work will take approximately 3 days assuming good weather. The snow will be collected in 4L plastic bottles. The team will then return to Resolute. All garbage and waste will be carried out.</p> <p><b>Sediment collection</b>          The second phase of the study will be to collect sediment cores from the deepest point in 3 lakes near Resolute Bay NU. The lakes are Char, Small, Plateau (Nine mile) and Amituk. Our two person team will be joined by a locally hired person from Resolute Bay. Samples will be collected by cutting a small hole (25 cm diameter) using an ice auger over the deep point in the lake. We know where the deep points are from previous surveys and local knowledge. Two sediment cores (about 10 cm diameter and 30 cm long) will be collected and returned to PCSP lab for slicing into 0.5 cm intervals. This sediment will be placed in small bottles. The sediment coring will take about 5 days. Transport</p>	

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will be by snowmobile except for a planned trip to Amituk Lake by helicopter. All accommodation will be at the PCSP base. No lake water will be used for drinking or waste disposal purposes.

**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):

Sampling of snow from the Devon ice cap and maintenance of a two person camp on the ice cap for 5 to 7 days which will utilize a small amount of melted snow for cooking. Grey water and urine will be collected in a plastic bottle and shipped out along with solid waste.

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

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<b>6.</b>	<b>WATER USE</b>	<input type="checkbox"/> To obtain water <input type="checkbox"/> To cross a watercourse <input type="checkbox"/> To modify the bed or bank of a watercourse	<input type="checkbox"/> Flood control <input type="checkbox"/> To divert a watercourse <input type="checkbox"/> To alter the flow of, or store, water
<input checked="" type="checkbox"/> Other (describe): To collect about 400 kg of snow from the Devon ice cap from a snow pit in order to trace past inputs of contaminants and use of water for cooking in a two person camp on the ice cap for 5 to 7 days.			
<b>7.</b>	<b>QUANTITY OF WATER INVOLVED</b> (cubic metres per day including both quantity to be used and quality to be returned to source)	<p><b>Water use</b>    <input checked="" type="checkbox"/> 100m<sup>3</sup>/day or less                            <input type="checkbox"/> Greater than 100m<sup>3</sup>/day; if greater, indicate quantities to be used for each purpose (camp, drilling, etc.)</p> <p><b>Water returned to source</b>                            <u>none</u>            m<sup>3</sup>/day</p>	
<b>8.</b>	<b>WASTE</b> (for each type of waste describe: composition, quantity (cubic metres per day), methods of treatment and disposal, etc.)	<div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input type="checkbox"/> Sewage  <input type="checkbox"/> Solid Waste  <input type="checkbox"/> Hazardous  <input type="checkbox"/> Bulky Items/Scrap Metal         </div> <div style="width: 48%;"> <input type="checkbox"/> Waste oil  <input checked="" type="checkbox"/> Greywater  <input type="checkbox"/> Sludges  <input type="checkbox"/> Other describe): grey water from cooking/cleaning and urine is estimated to be about 4L per day. It will be collected in 4L containers and shipped out then immediately disposed of at the PCSP base in Resolute.         </div> </div>	
<b>9.</b>	<b>OTHER PERSONS OR PROPERTIES AFFECTED BY THIS UNDERTAKING</b> (give name, mailing address and location; attach if necessary)	<p><b>Land Use Permit</b> DIAND                            <input type="checkbox"/> Yes    <input type="checkbox"/> No    If no, date expected _____</p> <p>Regional Inuit Association    <input type="checkbox"/> Yes    <input type="checkbox"/> No    If no, date expected _____</p> <p>Commissioner                    <input type="checkbox"/> Yes    <input type="checkbox"/> No    If no, date expected _____</p>	
<b>10.</b>	<b>PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION MEASURES</b> (direct, indirect, cumulative impacts, etc.)	<p>NIRB Screening            <input type="checkbox"/> Yes    <input checked="" type="checkbox"/> No    If no, date expected <u>currently under review</u></p>	
<b>11.</b>	<b>INUIT WATER RIGHTS</b>	<p>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?</p> <p>If yes, has the applicant entered into an agreement with the Designated Inuit organization to pay</p>	

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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?

Not applicable

**12. CONTRACTORS AND SUB-CONTRACTORS** (name, address and functions)

Project team for 2008

Dan Walsh (team leader) phone 905-336-4403

Environment Canada

Burlington ON L7R 4A6

dan.walsh@ec.gc.ca

Torsten Meyer (PhD student), University of Toronto

Paul Drevnick (Post doc), Woods Hole Oceanographic Institute, Woods Hole MA (lake sediments only)

Peter Amagualik, Local hunter/guide, Resolute Bay NU (lake sediments only)

**13. STUDIES UNDERTAKEN TO DATE** (list and attach copies of studies, reports, research, etc.)

We have previously undertaken the same study at this site in 2005 and 2006. A report to the Northern Contaminants program for the 2006 study is attached

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

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

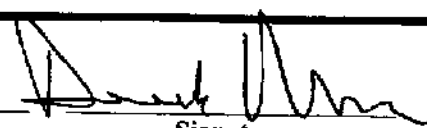
Start Date: May 1, 2008 Completion Date: August 31, 2013

Derek Muir

Name (Print)

Research Scientist

Title (Print)



Signature

April 25, 2008

Date

**For Nunavut Water Board office use only**

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

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