



P.O. Box 119

GJOA HAVEN, NU X0B 1J0

TEL: (867) 360-6338

FAX: (867) 360-6369

kNK5 wmoEp5 vtmp5

NUNAVUT WATER BOARD

NUNAVUT IMALIRIYIN KATIMAYIT

OFFICE DES EAUX DU NUNAVUT

## APPLICATION FOR APPROVAL FOR THE USE OF WATER OR DEPOSIT OF WASTE WITHOUT A LICENCE

Refer to the *Guide to the Approval for the Use of Water or Deposit of Waste Without a Licence* (Guide) in completing this Application.

| APPLICATION NO:<br>(for NWB use only)                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                    |                    |                    |                    |    |                    |                    |    |                    |                    |    |                    |                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------|--------------------|----|--------------------|--------------------|----|--------------------|--------------------|----|--------------------|--------------------|
| <b>1. APPLICANT CONTACT INFORMATION</b><br>(name, address)<br>Dr. Gordon Osinski, Department of Earth Sciences<br>University of Western Ontario, 1151 Richmond Street,<br>London, ON, N6A 5B7<br><br>Phone: <u>519-661-4208</u><br>Fax: <u>519-661-3198</u><br>e-mail: <u>gosinski@uwo.ca</u>                                                                                                                                                                        | <b>2. APPLICANT REPRESENTATIVE CONTACT INFORMATION</b> if different from Block 1 (name, address)<br>Shamus Duff, Department of Earth Sciences<br>University of Western Ontario, 1151 Richmond Street, London, ON, N6A 5B7<br><br>Phone: <u>519-661-2111 ext 80370</u><br>Fax: <u>519-661-3198</u><br>e-mail: <u>sduff8@uwo.ca</u><br>(Attach authorization letter) |                    |                    |                    |    |                    |                    |    |                    |                    |    |                    |                    |
| <b>3. NAME OF THE OWNER OF THE LAND THAT WILL BE USED IN RELATION TO THE WATER TO BE USED OR THE WASTE TO BE DEPOSITED</b>                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                    |                    |                    |                    |    |                    |                    |    |                    |                    |    |                    |                    |
| <b>4. NAME OF PROJECT</b> (consistent with the name of the project issued by other regulatory agencies)<br>Geological and Geomorphological Studies of the Devon Island Impact Structure                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                    |                    |                    |                    |    |                    |                    |    |                    |                    |    |                    |                    |
| <b>5. LOCATION OF UNDERTAKING</b><br><br><b>Project Extents (decimal degree format)</b> <table border="1" style="width: 100%;"> <tr> <td>NW</td> <td><u>75°25'59" N</u></td> <td><u>89°57'13" W</u></td> </tr> <tr> <td>NE</td> <td><u>75°19'23" N</u></td> <td><u>89°34'37" W</u></td> </tr> <tr> <td>SE</td> <td><u>75°19'37" N</u></td> <td><u>89°22'27" W</u></td> </tr> <tr> <td>SW</td> <td><u>75°26'01" N</u></td> <td><u>89°56'12" W</u></td> </tr> </table> |                                                                                                                                                                                                                                                                                                                                                                    | NW                 | <u>75°25'59" N</u> | <u>89°57'13" W</u> | NE | <u>75°19'23" N</u> | <u>89°34'37" W</u> | SE | <u>75°19'37" N</u> | <u>89°22'27" W</u> | SW | <u>75°26'01" N</u> | <u>89°56'12" W</u> |
| NW                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <u>75°25'59" N</u>                                                                                                                                                                                                                                                                                                                                                 | <u>89°57'13" W</u> |                    |                    |    |                    |                    |    |                    |                    |    |                    |                    |
| NE                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <u>75°19'23" N</u>                                                                                                                                                                                                                                                                                                                                                 | <u>89°34'37" W</u> |                    |                    |    |                    |                    |    |                    |                    |    |                    |                    |
| SE                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <u>75°19'37" N</u>                                                                                                                                                                                                                                                                                                                                                 | <u>89°22'27" W</u> |                    |                    |    |                    |                    |    |                    |                    |    |                    |                    |
| SW                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <u>75°26'01" N</u>                                                                                                                                                                                                                                                                                                                                                 | <u>89°56'12" W</u> |                    |                    |    |                    |                    |    |                    |                    |    |                    |                    |



**Camp Location(s) (decimal degree format)**75°23'59" N89°31'20" W

**Name of the Water Management Area in which the Undertaking is located.** (Please see Appendix D of the Guide):

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**6. Previous Approvals or Licences Associated with Undertaking** ("Type A", "Type B" or Approval Without a Licence)

☐ **NA or**

Previous Licence/Approval Number: Type B

*The Board reminds the Applicant that as stated in s. 46 of the NWNSRTA, the expiry or cancellation of any previous licence does not relieve the holder from any outstanding obligations imposed under the licence.*

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

- ☐ Industrial  
☐ Mining  
☐ Conservation  
☐ Municipal

- ☐ Agricultural  
☐ Recreational  
☐ Power  
☒ Other: Geological Research
- 

See Appendix C of the Guide for descriptions of classifications of undertakings.

**8. DESCRIPTION OF UNDERTAKING AND EQUIPMENT USED** – Provide a brief description of the undertaking including a description of any equipment that will be used in using water or depositing waste.

A base camp will be setup at the specified coordinates for 14 people from 3 academic institutions: University of Western Ontario, Caltech, NASA and University of British Columbia. While the goals of each individual varies, they typically revolve around collecting rock samples and mapping within and around the Houghton Impact Structure, a basin shaped feature which is the result of a meteorite colliding into the area 39 million years ago. Equipment used for transportations will include arrival and departure on a Twin Otter, accessing sites by ATV with 2 days in a helicopter. Equipment used will consist of LiDAR scanners, GPS units and portable chemical analysis units.

Water will be mainly used for camp use, for drinking cleaning and cooking. The water from Houghton River will be used for this, it has been used in the past and requires only filtration so that it is drinkable.

**9. SCHEDULE** – Applicants are advised that approvals without a licence are issued for a one year term.

Proposed Start Date: 15/07/2016  
 (Day/Month/Year)

Proposed Completion Date: 08/08/2016  
 (Day/Month/Year)

- 10. TYPE OF USE OF WATER WITHOUT A LICENCE PROPOSED** - Check the box that applies to the type of water use proposed. If none of the water uses listed below applies to the proposed water use, an application for a water licence will be required. See the NWB's Guide 4 – Completing and Submitting a Water Licence Application for a New Licence.

- ☐ For an undertaking other than a Power undertaking and for a use of water related to the construction of a structure across a watercourse that is less than 5 metres wide at the ordinary high water mark at the point of construction.
- ☐ For an undertaking other than a Power undertaking and for a use of water related to the training of an intermittent watercourse.
- ☐ For an undertaking other than a Power undertaking and for a use of water related to the training of a watercourse that is less than 5 metres wide at the ordinary high water mark at the point of training.
- ☐ For an undertaking other than a Power undertaking and for a use of water related to the training of a watercourse that involves the infilling of the watercourse, if the watercourse has no inflow or outflow and a surface area of less than 0.5 hectares.
- ☐ For an undertaking other than a Power undertaking and for a use of water related to the training of a watercourse that involves removal or placement of less than 100 m<sup>3</sup> of material.
- ☐ For an undertaking other than a Power undertaking and for a use of water related to the construction of a temporary structure in a watercourse for the purpose of flood control.
- ☐ For an undertaking other than a Power undertaking and for any use of water related to the storage of 2,500 m<sup>3</sup> or less.
- ☒ For an undertaking other than a Power undertaking and for any use of water less than 50 m<sup>3</sup> per day.

- 11. QUANTITY AND QUALITY OF WATER INVOLVED** - For each type of water use indicated in Block 10, provide the source of water, the estimated quantity to be used in cubic metres per day, and the periods during which water will be extracted.

| Type of Water Use indicated in Block 10            | Name of water source | Estimated quantity of water to be used in cubic metres per day | Periods during which water will be extracted   |
|----------------------------------------------------|----------------------|----------------------------------------------------------------|------------------------------------------------|
| Other than power; less than 50 m <sup>3</sup> /day | Haughton River       | 0.1 m <sup>3</sup> /day                                        | July 16 <sup>th</sup> – August 8 <sup>th</sup> |
|                                                    |                      |                                                                |                                                |

**12. TYPE OF DEPOSIT OF WASTE PROPOSED** - Check the box that applies to the type of deposit of waste proposed. If none of the deposits of waste listed below apply to the proposed deposit of waste, an application for a water licence will be required. See the NWB's Guide 4 – Completing and Submitting a Water Licence Application for a New Licence.

- ☐ For an Industrial undertaking, for an activity related to hydrostatic testing or cleaning of storage tanks and pipelines, and for any deposit of waste resulting from hydrostatic testing or cleaning of unused storage tanks or pipelines.
- ☐ For an Industrial undertaking, for an activity related to quarrying and gravel washing, and for any deposit of waste that is not deposited to surface water and that results from quarrying or gravel washing above the ordinary high water mark.
- ☐ For a Mining undertaking, for an activity related to exploratory work, any deposit of sewage to a sump.
- ☐ For a Power undertaking, any deposit of sewage to a sump.
- ☐ For an Agricultural undertaking, any deposit of sewage to a sump.
- ☐ For a Conservation undertaking, any deposit of sewage to a sump.
- ☐ For a Recreation undertaking, any deposit of sewage to a sump.
- ☒ For any Other type of undertaking not listed above, other than Municipal, any deposit of sewage to a sump.

**13. QUANTITY AND QUALITY OF WASTE INVOLVED** – For each type of waste indicated in Block 12, describe the quantity in cubic metres/day, measures to avoid or mitigate adverse impacts, and periods of deposition.

| Type of Waste indicated in Block 12 | Quantity to be deposited in cubic metres per day | Measures to avoid or mitigate any adverse impacts                                                     | Periods during which waste will be deposited                                                                     |
|-------------------------------------|--------------------------------------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| Sewage                              | Human waste                                      | Material will be stored in a vessel which will prevent any leaking into groundwater or Haughton river | At the end of trip, combustible material will be incinerated and the remaining waste will be transported to PCSP |
| Solid Waste                         | Garbage, food waste etc.                         | Material will be kept in secured cans                                                                 | All non-combustible garbage will be transported to PCSP for proper disposal                                      |

|           |                          |                                                |                       |
|-----------|--------------------------|------------------------------------------------|-----------------------|
| Greywater | Dishwater, cooking, etc. | Products used will have no harmful ingredients | Disposed of in a sump |
|-----------|--------------------------|------------------------------------------------|-----------------------|

**14. SIGNATURE**

I, Shamus Duff (print name), certify that the information given on this form is, to the best of my knowledge, correct and complete.

✓ Yes

☐ No**OR**

I, Gordon Osinski (print name), as an authorized representative of the Applicant, Shamus Duff, certify that the information given on this form is, to the best of my knowledge, correct and complete.

✓ Yes

☐ No

I certify that the Nunavut Planning Commission's land use planning requirements under Article 11 of the Nunavut Land Claims Agreement have been met.

✓ Yes

☐ No

I certify that the Nunavut Impact Review Board's development impact review requirements under Article 12 of the NLCA have been met.

✓ Yes

☐ No

I certify that the proposed water use is of a type set out in column 2 of Schedule 2 of the Regulations that is further specified by column 3, in respect of an undertaking set out in column 1. See list in Block 10.

✓ Yes

☐ NA☐ No

I certify that the proposed deposit of waste is an activity that is set out and then further specified in columns 2 and 3 of Schedule 3 of the Regulations, in respect of an undertaking that is set out in column 1 of Schedule 3. See list in Block 12.

✓ Yes

☐ NA☐ No

I certify that the proposed water use or deposit of waste will not substantially affect the quality, quantity or flow of the watercourse whose waters are used.

✓ Yes

☐ No

I certify that the proposed water use or deposit of waste will not substantially affect the quality, quantity or flow of waters flowing through Inuit Owned Lands.

✓ Yes

☐ No

I certify that the proposed water use or deposit of waste will not affect the use of waters by a person who would be entitled to compensation under sections 58 or 60 of the Nunavut Waters Nunavut Surface Rights Tribunal Act (Act) if their use of these waters were to be adversely affected by an applicant for a licence.

☒ Yes

☐ No

I certify that a licence is not required for another use of water, or deposit of waste in respect of the proposed undertaking.

☒ Yes

☐ No

I have read and agree to comply with the following conditions outlined in sections 4(3), 5(4), 5(5) and 6 of the Nunavut Waters Regulations:

1. In the case of an applicant who has a mineral right and who intends to use waters or deposit waste in relation to that right, the applicant shall respect the priority conferred on Inuit by section 62 of the Act as if that applicant had a licence for the use or deposit.
2. Measures must be taken prior to using water to minimize any alteration to the bed or banks of a watercourse whose waters are to be used, and the measures shall be maintained during the operation of the undertaking.
3. No waste is to be deposited to surface water or within 31 metres of the ordinary high water mark of any body of water.
4. The waste shall not contain more than 15 milligrams per litre of petroleum or petroleum product and must not have a visible hydrocarbon sheen.
5. Prior to the closure or abandonment of the undertaking or end of the period authorized for the use of water or deposit of waste without a licence, whichever occurs first, the site shall be restored — to the extent practicable — to the state in which it was before the water was used or the waste was deposited.<sup>a</sup>
6. An applicant who is authorized under the Regulations to use waters or deposit waste without a licence shall:
  - a. maintain accurate and detailed books and records of:
    - i. the quantity of water, in cubic metres, used each day,
    - ii. the quantity, in cubic metres, of waste deposited each day,
    - iii. the type of waste deposited each day,
    - iv. where the waste is deposited,
    - v. the concentration of the substance, or substances, in the deposited solid or liquid that has the effect of making the deposit waste,
    - vi. the methodology used to calculate or determine the information referred to in items (i) to (iv), and
    - vii. the measures that were taken to avoid or mitigate any adverse impacts of the deposit of waste.
  - b. keep the books and records on the site of the undertaking during the period of its operation and make them available during that period to an inspector on request;
  - c. submit to the Board a report containing a summary description and supporting photographs of the restoration of the site of the undertaking within 30 days after the earliest of (i) the day on which the undertaking is closed or abandoned, and (ii) the last day of the period authorized for the use or deposit without a licence;<sup>b</sup> and
  - d. keep the books and records for two years after submitting the report describing the restoration of the site of the undertaking.

Notes:

a) A site need not be restored prior to the end of the period authorized for the water use or deposit of waste without a licence, as required by Item 5, if the Board issues a licence for the use of water or deposit of waste on that site prior to the end of that period.

b) An applicant need not submit the report referred to in Item 6 (c), to the Board if the applicant obtains the Board's approval for a use of water or deposit of waste without a licence, or a licence for a use of water or deposit of waste, on the same site within thirty (30) days after the last day of the period authorized for the use or deposit.

☒ Yes

☐ No

I understand that any approval granted by the Board for the use of water or deposit of waste without a licence will be authorized for a period of one year after the day on which the Board approves the Application. The use or deposit is not authorized until the Board approves the Application and it is only valid as long as the applicant is in compliance with the conditions set out in the declaration above.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                            |                                                                                    |                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------------------------------------------------------------------------------|-----------------------------------|
| <div style="text-align: center;"><input checked="" type="checkbox"/> Yes <span style="margin-left: 200px;"><input type="checkbox"/> No</span></div> <p>I understand that if I have answered “No” to any of the above statements a water licence is required from the Nunavut Water Board prior to the use of water or deposit of waste.</p> <div style="text-align: center;"><input checked="" type="checkbox"/> Yes <span style="margin-left: 200px;"><input type="checkbox"/> No</span></div> |                            |                                                                                    |                                   |
| <b>Shamus Duff</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Research Technician</b> |  | <b>March 16<sup>th</sup>/2016</b> |
| <b>Name (Print)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Title (Print)</b>       | <b>Signature</b>                                                                   | <b>Date</b>                       |