



Water Resources  
Nunavut Regional Office  
P.O. Box 100  
Iqaluit, NU, X0A 0H0

Your file - Votre référence  
3BC-HIS---

June 14, 2013

Our file - Notre référence  
CIDM# 693165

Phyllis Beaulieu  
Manager, Licensing  
Nunavut Water Board  
P.O. Box 119  
Gjoa Haven, NU, X0A 1J0

**Re: New Application – Houghton Impact Structure – Dr. Gordon Osinski (University of Western Ontario)**

Dear Phyllis Beaulieu:

Please be advised that Aboriginal Affairs and Northern Development Canada (AANDC) have completed a review of the request for water license 3BC-HIS--- submitted by Dr. Gordon Osinski (University Of Western Ontario) The Nunavut Water Board (“NWB”) circulated the request for comments on May 15, 2013. All documents related to the request posted on the NWB ftp site under 3BC-HIS--- were included in my review (See attached Technical Review Memo).

Should you have any questions or comments, please do not hesitate to contact me at (867) 975-4568 or by e-mail at [Rory.MacDonald@aandc-aadnc.gc.ca](mailto:Rory.MacDonald@aandc-aadnc.gc.ca)

Regards,

Sent via Email

Rory MacDonald  
Water Resources Technician

Cc. David Abernethy, A/Manager of Water Resources, AANDC  
Erik Allain, Manager of Field Operations, AANDC



Technical Review Memorandum

To: Phyllis Beaulieu – Manager of Licensing, Nunavut Water Board

From: Rory MacDonald – Water Resources Technician, AANDC

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**Re: New Application – Houghton Impact Structure – Dr. Gordon Osinski (University of Western Ontario)**

1. Project Description

Located on Devon Island in Nunavut's High Arctic, 150 km northeast of Resolute Bay, the Houghton Impact Structure is one of the best preserved and exposed craters on Earth. The project team is proposing to conduct the following activities:

- 1) investigate magnetic/gravity anomaly;
- 2) map and investigate hydrothermal alteration;
- 3) examine endolithic habitats within shocked rocks;
- 4) provide a detailed study intra-crater sedimentary deposits; and
- 5) continue long term environmental monitoring via several weather stations installed around the crater.

The project site will be accessed via Twin Otter at an airstrip within the Houghton Impact Structure and on-site investigations will be carried out via all terrain vehicles (ATV). Helicopter transportation will be used for sites not accessible by ATV. Camp infrastructure will consist of Longhouse tent and several personal tents to accommodate the 10 person project team. The project is expected to run from July 14<sup>th</sup> – July 31<sup>st</sup>, 2013.

Water use for both domestic consumption and a small scale drilling program is expected to be < 1m<sup>3</sup>/day (0.04m<sup>3</sup>/day for camp use and 0.01m<sup>3</sup>/day for drilling). All combustible wastes will be incinerated and non-combustible waste will be backhauled to the Polar Continental Shelf facilities for disposal.

2. Results of Review and Recommendations

AANDC Water Resources Division offers the following comments and recommendations for the Board's consideration.

A. General

- The Proponent indicates that all combustible wastes will be incinerated in a large open barrel. AANDC does not encourage open burning of any wastes as it will not necessitate a clean burn due to reduced temperatures (EC Technical Document for Batch Waste Incineration). It is recommended that all wastes be backhauled to an appropriate facility for disposal. If it is not feasible to backhaul wastes and an open barrel burn is authorized, AANDC suggests equipping the barrel with a 'Smart Ash Cyclonic Barrel Burner' attachment as an alternative solution.
- In the Proponent's "Exploration/Remote Camp Questionnaire" under Item 13, it states the project team made contact with the "ex-mayor" of Grise Fiord in 2010 as notification and consultation with nearby communities. It is recommended that the Proponent update the hamlets of Grise Fiord and Resolute Bay on their project activities and results of their work during 2013.



- Prior to issuing any water licence activity, all other applicable regulatory authorizations should be issued (i.e., land use permit, NPC conformity decision, NIRB screening decision, etc.)

B. Water Use

- The proposed water use is appropriate for the requested undertaking. To ensure there are no compliance issues, AANDC recommends the Proponent request at a minimum, 2m<sup>3</sup>/day for expected water use.

C. Spill Contingency Plan

- The Spill Contingency Plan requires an update to the AANDC contact. Please note that the 24-hour Spill Report Line telephone number is (867) 920 8130 and facsimile number is (867) 873 6924. Furthermore, AANDC requests the Proponent report all spills to the Manager of Field Operations/AANDC, by phone at (867) 975 4295 and by fax at (867) 979 6445, as well as the Nunavut Spill Report Line.