



Water Resources
Nunavut Regional Office
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June 23, 2011

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

Your file - Votre référence
3BC-LPL----

Our file - Notre référence
CIDM# 469723

**Re: 3BC-LPL---- New Water License Application – Limnology and
Paleoecology of Lakes and Ponds – Queen's University – Qikiqtani
Region**

Aboriginal Affairs and Northern Development Canada (AANDC) has performed a review of the new water license application, 3BC-LPL---- (Limnology and Paleoecology of Lakes and Ponds), submitted by John P. Smol at Queen's University to the Nunavut Water Board (NWB). The following advice has been provided pursuant to AANDC's mandated responsibilities for the enforcement of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Indian Affairs and Northern Development Act*. In conducting our review, AANDC referred to the documents on the NWB's FTP-site under 3BC-LPL----.

Should you have any questions or comments, please do not hesitate to contact me at (867) 975-4738 or by E-mail at Jean.Allen@inac-ainc.gc.ca

Sincerely,

Original Signed By

Jean Allen
Water Management Specialist

Cc. Eva Paul, A/Manager of Water Resources, Aboriginal Affairs and Northern Development Canada, Nunavut Regional Office
Kevin Robertson, A/Manager of Field Operations, Aboriginal Affairs and Northern Development Canada, Nunavut Regional Office



Technical Review Memorandum

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

From: Jean Allen – Water Management Specialist, Aboriginal Affairs and Northern Development Canada.

Re: 3BC-LPL---- New Water License Application – Limnology and Paleocology of Lakes and Ponds – Dr. Smol, Queen's University – Qikiqtani Region

A. Project Description

On May 23, 2011, the Nunavut Water Board (Board) distributed Dr. Smol's application for a Type B Water Licence for water use and waste disposal for a remote camp in Cape Herschel. Dr. Smol has requested a licence term of one year to continue his research in water quality and environmental change at Cape Herschel, Ellesmere Island, NU.

Dr. Smol proposes the set up of one small temporary camp at Cape Herschel (78° 37'01.43" N, 74° 40'37.02" W) for less than 2 weeks in July 2011. The camp will be situated on Crown land, approximately 320 km southwest of Grise Fiord, NU. A team of 6-7 people will be transported to the site from Alexandra Fiord by a chartered helicopter.

Field members will collect water samples from 30-40 lakes and ponds within walking distance of Cape Herschel. Small samples of approximately 2 Litres (L) will be collected from each water body for water quality testing.

Water usage for the camp is anticipated to be minimal ($< 2\text{m}^3$ / day). Water will be bucketed by hand from nearby ponds and snowdrifts. Drinking water will be boiled and filtered with a hand pump. Greywater will be filtered and scattered on the tundra away from any water body. Sewage will be bagged, burned and ashes will be buried or brought back to the Polar Continental Shelf Project (PCSP) base camp for disposal. Solid waste will be brought back to the PCSP base camp for disposal.

B. Results of Review

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



1. General

Standard water licence terms and conditions applicable to the proposed project activities should be included in the Type B water licence.

Given that Drs. Smol and Douglas have been conducting monitoring activities at Cape Herschel every 3 years since 1983, and assuming that they expect to continue monitoring these sites in the future, AANDC recommends that the Board consider a term of more than one year for this licence.

AANDC recommends that the applicant obtain written confirmation and authorization from the Hamlet of Resolute Bay and/or the PCSP base camp for the use of their facilities to dispose of wastes, and to submit a copy of this authorization to the Board.

A research summary for the Nunavut Research Institute Application 2009 states that the applicant will collect mud samples in addition to water samples. AANDC recommends that the applicant list all samples collected for information purposes in a letter or in the annual report.

In the water licence application, the applicant indicated that sewage will be bagged, burned and the ash will be buried or brought back to the PCSP base camp. In the remote camp questionnaire, the applicant indicated that ash will be brought back to the PCSP for disposal. AANDC recommends the applicant clarify the disposal method of camp sewage.

In the Scientific Research Licence Application, PCSP Guidelines for waste disposal and hazardous waste storage methods are referenced. If PCSP Guidelines will be used for the storage or disposal of waste, AANDC recommends that the applicant submit a copy of relevant PCSP guidelines to the Board and that copies of these guidelines be kept on site.

2. Camp

A burn barrel is mentioned in the remote camp questionnaire for the burning of combustible waste (paper wrappings, etc). AANDC does not encourage open burning and therefore recommends an alternate method for the disposal of sewage and combustible waste. AANDC recommends that bagged sewage, combustible and non-combustible waste, and hazardous waste be transported to an approved facility for proper disposal.



3. Contingency Plan

The Board received a Spill Response Plan for 3BC-LPL---- on May 19, 2011. AANDC recommends that the Contingency Plan be updated prior to the field season to include the following information:

- Onsite contact number (PCSP satellite telephone number if available)
- Material Safety Data Sheets for all hazardous wastes on site (gasoline and propane)
- The Action Plan does not include the preparing and submitting of a report to the Board within 30 days following an incident
- The Action Plan does not include notification of the Board (867 360-6338) or the AANDC Manager of Field Operations (867 975-4295) following an incident.
- Written confirmation from the Hamlet of Resolute Bay to accept and store hazardous waste

4. Abandonment and Restoration Plan

While no specific Abandonment and Restoration plan was provided, AANDC feels that the provisions for waste removal and site cleanup provided in the water licence application and the remote camp questionnaire are sufficient to the size and scale of the camp. AANDC recommends that the site be restored according to provisions identified in the application.

Cc. Eva Paul, A/Manager of Water Resources, Aboriginal Affairs and Northern Development Canada, Nunavut Regional Office
Kevin Robertson, A/Manager of Field Operations, Aboriginal Affairs and Northern Development Canada, Nunavut Regional Office