



Water Resources Division
Nunavut Regional Office
Iqaluit, NU X0A 0H0

Your File: 2BE-TOR
Our File/CIDMS #: 355943

Sept 18, 2009

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

**Re: 2BE-TOR – North Arrow Minerals Inc. – Torp Lake Project – New Type ‘B’
Water License Application**

Please be advised that Indian and Northern Affairs Canada (INAC) has completed a review of North Arrow Mineral's application for a Type "B" Water License #2BE-TOR, Torp Lake Project located in the West Kitikmeot Region.

INAC has reviewed the following documents:

- Cover letter dated July 7, 2009
- Water Licence Application Form
- Exploration/Remote Camp Supplementary Questionnaire
- Project Summary (English, Inuktitut and Inuinaqtun)
- Project Description with maps
- Spill Contingency Plan
- Water Usage Report Form
- Wildlife Sightings Report Form

All associated documents related to this license posted on the NWB ftp site under 2BE-TOR 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) 975-4738 or by email at Andrea.Cull@ainc-ianc.gc.ca

Yours truly,

Original Signed By

Andrea Cull
Water Management Specialist

Cc: Kevin Buck – Manager of Water Resources, INAC



Technical Review Memo

To: Richard Dwyer – Licensing Administrator, Nunavut Water Board
Peter Kusugak – Field Operations Manager, INAC
Gordon Clark – North Arrow Minerals Inc.

From: Andrea Cull – Water Management Specialist, INAC

Re: 2BE-TOR – North Arrow Minerals Inc. – Torp Lake Project – New Type ‘B’ Water License Application

A new Type ‘B’ water license application was submitted to the Nunavut Water Board by Mr. Gordon Clark of North Arrow Minerals Inc. All associated documents related to this license posted on the NWB ftp site under 2BE-TOR were included in my review.

Project:

File #: 2BE-TOR----

Project: Torp Lake Project

Location: Latitude: 67°20’56”N; Longitude: 109°32’41”W

Purpose: Remote camp and exploration activities

Type: “B”

North Arrow is applying for a Type “B” Water License for water use and waste disposal associated with a remote camp and exploration activities located approximately 245 km East-Southeast of Kugluktuk, Nunavut.

North Arrow intends to carry out exploration work including prospecting, mapping, ground geophysics, sampling, diamond drilling and potentially, airborne geophysical surveys. There maybe up to 16 people working onsite at any given time but typically 3 to 8 people would be present. Exploration work may take place year round but is unlikely during spring breakup and fall freezeup.

INAC recommends that the Board impose applicable standard conditions to this new water license. In addition the following additional comments/ recommendations are provided for your consideration in the licence approval process.



Recommendations/Comments:

1. Drilling Operations

The Board should impose conditions that require North Arrow to ensure that all drill cuttings are placed in drill holes, sumps, or removed from the project area for appropriate treatment. All sumps shall be backfilled and contoured to prevent precipitation run-off collection prior to the end of the project field season.

The Board should also require the proponent to provide an operational plan detailing how diamond drill return-water will be managed in a manner that will not pose a negative impact on the quality of nearby freshwater sources. The Plan should consider the use of hot water rather than drill additives to support permafrost drilling operations as a means of protecting freshwater quality and/or how any use of CaCl₂ (Calcium Chloride) will be handled to minimize or prevent any adverse effects to water.

Drill additives or mud should not be used with holes drilled through ice unless the mud is re-circulated and contained and all drill cuttings are removed from the ice surface.

2. Waste

a). Camps / Wastewater Disposal

The Board should impose conditions that require North Arrow to ensure that all sumps, whether for the disposal of grey water or drilling wastes, be located a minimum distance of 31m from any water body and such that there is no adverse effects to the quality, quantity and flow of water. Furthermore, all sumps should be treated, backfilled and contoured to match the surrounding landscape prior to the end of the projects field program.

b). Hazardous Wastes

The Board should impose conditions that Hazardous waste/ waste oil materials stored on-site should be clearly labelled so they will be visible under all conditions and in all seasons. This recommendation is intended to prevent possible damage to the containers.

The proponent should be advised that unless otherwise specified by the Water Resources Inspector or NWB, all hazardous materials/ waste oil should be removed from the site on a regular basis to prevent the over accumulation of these materials. Hazardous waste/ waste oils must be disposed of at an approved facility outside of the Territory of Nunavut (no known facilities within Nunavut). All transfer of this type of waste must be in accordance with the GN



“Guideline for General Management of Hazardous Waste - January, 2002”. In addition hazardous wastes should be stored within a lined secondary containment structure to prevent any off site impacts (other secured structures would also be acceptable).

INAC recommends that the proponent be required to submit copies of all manifest forms related to the transport of hazardous waste/ waste oil as part of the Annual Report for this site.

c). Empty Barrel/ Fuel Drums

INAC recommends that all empty barrels or fuel drums should be removed from the site by the end of each field season up to August 2014 – expiry date of water licence. The proponent should submit if applicable copies of all manifest forms related to the transport of hazardous waste/ waste oil as part of the Annual Report for this site.

d). No Open Burning

INAC recommends that there should be no open burning of plastics, wood treated with preservatives, electrical wire, Styrofoam, asbestos or painted wood. This is to prevent the deposition of waste materials from incomplete combustion and/or leachate from contaminated ash residues from impacting any surrounding waters.

e). Incineration

According to the “Government of Nunavut in Conjunction with Environment Canada” this camp falls under a medium camp size (10 to 50 people). If the proponent is to dispose of waste onsite then the Board should advise the proponent to apply appropriate technologies to ensure complete combustion of wastes, and the use of a dual chamber, forced-air incinerator is recommended. The proponent shall make determined efforts to achieve compliance with the Canada-Wide Standards for Dioxins and Furans and the Canada-Wide Standard for Mercury Emissions. Efforts should include the implementation of a comprehensive waste management strategy (especially waste segregation) that is designed to reduce and control the volumes of wastes produced, transported, and disposed of.

f). Non-Hazardous/ Non-Combustible

INAC recommends that the Board impose conditions that require North Arrow to ensure that non-hazardous and non-combustible wastes should be backhauled to an approved facility off site.



3. Spill Contingency Plan

The Board should require that the Spill Contingency Plan state that all fuel caches will be located a minimum distance of 31m from any water body and such that there is no adverse effects to the quality, quantity and flow of water. Further, secondary containment, such as a self-supporting berm, is recommended when storing barrels containing fuel onsite.

The Response Action Section of the Spill Contingency Plan should make reference to the Nunavut Spill Report Line and include a copy of the Nunavut Spill Report Form. This form can be obtained from the Nunavut Water Board public registry at <http://www.nunavutwaterboard.org>. Please note that the 24-hour Spill Report Line telephone number is (867) 920-8130 and facsimile number is (867) 873-6924. Furthermore, INAC requests the proponent report all spills to Peter Kusugak, INAC Manager of Field Operations, phone: 867-975-4295, fax 867 975-6445 as well as the Nunavut Spill Report Line.

Cc. Kevin Buck, Manager of Water Resources – INAC