



Environmental Protection Branch  
Qimugjuk Building 969, P.O. Box 1870  
Iqaluit, NU X0A 0H0  
Tel: (867) 975-4631  
Fax: (867) 975-4645

Our file: 4703 001 032

8 August 2005

Phyllis Beaulieu  
Manager of Licensing  
Nunavut Water Board  
P.O. Box 119  
Gjoa Haven, NU X0B 1J0  
Tel: (867) 360-6338  
Fax: (867) 360-6369

*Via Email*

**RE: NWB2HIG0305 – Wolfden Resources Inc. – High Lake Project –  
Renewal – Type ‘B’**

On behalf of Environment Canada (EC), I have reviewed the information submitted with the above-mentioned application. The following specialist advice has been provided pursuant to Environment Canada's mandated responsibilities for the enforcement of the *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

Wolfden Resources Inc. has requested that its High Lake Project water licence be renewed by the Nunavut Water Board for the time period of 1 March to 1 November 2005. The licence is being sought by the proponent to permit the use of fresh water and the disposal of wastes associated with exploration and remote camp operations. The High Lake Project area has hosted mineral exploration companies since the 1950s. Wolfden Resources Inc. obtained the property in 2000 and began their project in 2001. To date, lead, zinc, and gold deposits have been identified within this project area. The proponent intends to continue their search for economically viable mineral deposits by conducting prospecting, geological mapping, geophysical surveys, and diamond drilling in the base-metal High Lake volcanic belt.

The coordinates of the proponent's camp are 67° 22' 42"N, 110° 50' 22"W, located on the southeast shore of High Lake. The camp has been designed to accommodate 34 people but it is anticipated that as many as 38 or as few as 20 people will reside at the camp at any given time throughout this season's mineral exploration program. The nearest community is Kugluktuk, located 175 km west north-west of the property area. Wolfden Resources Inc. will operate three diamond drills this year, with a forecasted fresh water consumption rate of 180,000 litres per day. As far as domestic purposes are concerned, it is anticipated that 100 litres of fresh water will be consumed by each individual at the High Lake camp on a daily basis

Within the proponent's Exploration/Remote Camp Supplementary Information Request, it is stated that water used during drilling will be conserved in a closed system of circulation and that all cuttings will be bagged and transported to natural sumps located greater than 50 metres from nearby water sources. The gray water produced from diamond drilling will enter a system of settling tanks designed to remove particulate matter, after which the water will be deposited in the newly made drill holes. Camp gray water will be drained into a series of settling tanks before being pumped into a natural depression (sump). Camp sewage and solid wastes will be incinerated. Collected waste oil and hazardous wastes will be sealed in 45 gallon drums prior to their appropriate disposal in Yellowknife.

Fuels will be stored in three separate caches, all of which are located greater than 30 metres from nearby water sources. The fuel types and volumes which will be employed are as follows:

DIESEL	1,500 x 205 L drums
JET-B	750 x 205 L drums
PROPANE	20 x 100 LB cylinders at any given time
GASOLINE	unspecified – will be minimal

In addition to fuels, the proponent will make use of a variety of lubricants and drill additives. Approximately 1,000 litres of such products will be stored in 20 litre pails within a shed. Wolfden Resources Inc.'s Spill Contingency Plan provides a chain of command for employees to follow in the event of a fuel spill, the procedures to adhere to when responding to such occurrences, and an inventory of items placed within their spill kits. This document states that there will be six emergency spill kits at the High Lake Project, one for each diamond drill (3), two at the fuel cache area, and one nearby the camp's generator.

Environment Canada reminds the proponent that if temporary fuel caches are established while conducting mineral exploration activities, they must be located above the high water mark of any water body. Further, it is recommended that secondary containment measures be used at all fuel caches, such as self-supporting insta-berms when storing barrelled fuel on location rather than relying on natural depressions.

The period of seasonal occupation stated in the Exploration/Remote Camp Supplementary Information Requests is from 1 March to 1 November 2005. EC reminds Wolfden Resources Inc. that all permits and approvals are required prior to the commencement of any work.

Environment Canada recommends that the following conditions be applied throughout all stages of the project:

#### GENERAL

- The proponent shall not deposit, nor permit the deposit of any fuel, drill cuttings, chemicals, wastes, or sediment into any water body. According to the *Fisheries Act*, Section 36(3), the deposition of deleterious substances of any type in water frequented by fish, or in any place under any conditions where the deleterious substance, or any other deleterious substance that results from the deposit of the deleterious substance, may enter any such water, is prohibited.

#### DRILLING

- EC would like to inform the proponent that the *Canadian Environmental Protection Act* lists CaCl as a toxic substance. The proponent shall therefore ensure that if CaCl is used as a drill additive, all sumps containing CaCl are properly constructed and located in such a manner as to ensure that the contents will not enter any water body.
- Drilling additives or muds shall not be used in connection with holes drilled through lake ice unless they are re-circulated or contained such that they do not enter the water, or demonstrated to be non-toxic.
- For “on-ice” drilling, return water released must be non-toxic and not result in an increase in total suspended solids in the immediate receiving waters above the Canadian Council of Ministers for the Environment Guidelines for the Protection of Freshwater Aquatic Life (i.e., 10 mg/L for lakes with background levels under 100 mg/L, or 10% for those above 100 mg/L).
- Land based drilling should not occur within 30 m of the high water mark of any water body. Drilling wastes from the land based drilling shall be disposed of in a sump such that the contents do not enter any water body.
- If an artesian flow is encountered, the drill hole shall be immediately plugged and permanently sealed.

#### CAMPS

- The proponent shall not store materials on the surface ice of lakes or streams, except that which is for immediate use.
- Environment Canada recommends the use of an approved incinerator for the disposal of combustible camp wastes.
- Any sumps, including those created for the disposal of drill cuttings, shall be located above the high water mark of any water body and in such a manner as to prevent the contents from entering any water body frequented by fish. Further, all sumps shall be backfilled upon completion of the field season and contoured to match the surrounding landscape.

#### FUEL STORAGE/SPILL CONTINGENCY/HAZARDOUS MATERIALS

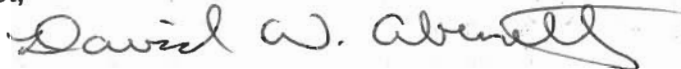
- Drip pans, or other similar preventative measures, shall be used when refuelling equipment on site.

#### MIGRATORY BIRDS

- EC recommends that all activities be conducted outside the migratory bird breeding season, which extends from approximately 1 June to 15 July. These dates are approximate, and if active nests (i.e., nests containing eggs or young) are encountered outside of these dates, the proponent should avoid the area until nesting is complete (i.e., the young have left the nest). Paragraph 6(a) of the *Migratory Birds Regulations* states that no one shall disturb or destroy the nests or eggs of migratory birds.

If there are any changes in the assignment of the water licence, EC should be notified, as further review may be necessary. Please do not hesitate to contact me if you have any questions or comments with regards to the foregoing at (867) 975-4631 or by email via [david.abernethy@ec.gc.ca](mailto:david.abernethy@ec.gc.ca).

Best,



David W. Abernethy

Environmental Assessment Technician