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Your file - Votre référence  
2BE-MCG

Our file - Notre référence  
9545-1-2MCGG / #87374

June 19, 2006

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Via Email

**Re: 2BE-MCG - 5050 Nunavut Ltd. - McGregor Lake Project - Licence Application**

On behalf of Indian and Northern Affairs Canada (INAC) I have reviewed the above-mentioned application. The following specialist advice has been provided pursuant to INAC's mandated responsibilities for the enforcement of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NW&NSRT), *Arctic Waters Pollution Prevention Act* (AWPPA), and the *Department of Indian Affairs and Northern Development Act* (DIAND Act).

5050 Nunavut Ltd. is applying for a licence for water use and waste disposal associated with the exploratory drilling and camp operations of its McGregor Lake Project which is situated in Nunavut's Kitikmeot Region. Specifically, the proponent requires a licence to conduct mining exploration activities in an area 90 km south of Kugluktuk. Upon approval of the Board, the proponent will establish a camp capable of accommodating 30 people on the southwestern shore of McGregor Lake (coordinate: 115°41'N, 66°48'10"W). Domestic water will be acquired from this lake and diamond drilling units will be supported by freshwater from local sources.

The proponent requests the use of 1.5 m<sup>3</sup> of water per day for domestic purposes and a total of 132.5 m<sup>3</sup> of water to support its exploratory drilling program. It requests that it have a licence which applies from June 26, 2006 to June 27, 2008. Camp gray water and drill cuttings will be directed to sumps and natural depressions situated at least 30 m above the high water mark of nearby water bodies. The exploratory drilling program is designed to locate copper, nickel, platinum, palladium, and uranium deposits.

A fuel cache will be established in the vicinity of the camp in an area that is at least 100 m away from the high water mark of any water body. Liquid fuel products will be stored in 205 L steel barrels. This fuel cache will contain a total of 61,500 L of diesel (300 barrels), 820 L of gasoline (4 barrels), 24,600 L of aviation fuel (120 barrels), fifty (50) 100 lb tanks of propane, and twenty-five (25) 10 L containers of oil and lubricant products. A spill contingency plan was submitted along with the licence application for review. This contingency plan indicates response measures for spills on land, water, snow, and ice, as well as important emergency contact information. Hazardous material spills will be reported to the 24-hour spill response line at (867) 920-8130.

The project has an Abandonment and Restoration (A&R) Plan which contains seasonal and final A&R procedures.

## INAC Comments

INAC recommends that the following comments be taken into consideration when reviewing licence application.

### WASTE DISPOSAL

- INAC recommends that the ashes of incinerated wastes be raked to remove non-combustible items (e.g., iron nails and tinfoil). Raked ashes should either be buried on-site or delivered to an approved waste disposal facility.
- Prior to releasing any water into the surrounding environment, the parameters for analysis must meet the CCME Canadian Water Quality Guidelines for the Protection of Aquatic Life.
- Drill water should conform to the CCME Guidelines for the Protection of Aquatic Life prior to entering any local water sources. The proponent is advised to consult the Government of British Columbia's Ministry of Environment Ambient Water Quality Guidelines (Criteria) for Turbidity, Suspended and Benthic Sediments, referenced by the CCME Guidelines. The Guidelines state that induced suspended sediment concentration should not exceed background levels by more than 25 mg/L at any given time when background levels are between 25 and 250 mg/L. When background exceeds 250 mg/L, suspended sediments should not be increased by more than 10% of the measured background level at any onetime.
- Should a drill hole penetrate below the permafrost layer, the drill hole should be permanently sealed and capped to prevent induced contamination of groundwater or salinization of surface waters due to an artesian flow.
- If the proponent penetrates below the permafrost layer, INAC requests that the proponent notify the Nunavut Water Board and itself of permafrost depth for future reference and data management purposes.
- INAC recommends that all drill water be directed to a sump or natural depression situated at least 30 m above the high water mark of any water body. Furthermore, the Supplementary Questionnaire indicates that if drill water is of poor quality, as according to regulations, it will be disposed of in a properly constructed sump (refer to question 20). INAC recommends that the proponent notify the Board which regulations it is making reference to.

### SPILL CONTINGENCY / HAZARDOUS MATERIALS

- INAC recommends that some form of secondary containment, such as self-supporting installments, be used when storing barrelled fuel on-site. The Project Description (May 2006) makes reference to a secondary containment facility for fuel stored at the camp (refer to section 1.9.2). It states that fuel barrels will be stored in an appropriate containment system according to regulations. INAC requests that the proponent specify which regulations it is referring to.
- The proponent shall ensure that all hazardous materials, including waste oil, receive proper treatment and disposal at an approved facility.

- INAC recommends that the proponent follow the Mineral Exploration Guidelines for Saskatchewan (Saskatchewan Mineral Exploration and Government Advisory Committee, 2005) with regard to uranium exploration best management practices. In particular, the proponent is advised to comply with the following guidelines.
  - ▶ Drill mud solids or cuttings with a uranium concentration greater than 0.05% are to be disposed of down the drill hole and sealed.
  - ▶ Any drill hole that encounters mineralization with a uranium content greater than 1.0% over a length of >1 meter, and with a meter-percent concentration >5.0, should be sealed by grouting for the initial 15 m below the ground's active surface layer, the entire length of the mineralization zone below the permafrost, and 15 m above the non-permafrost area if these conditions are encountered. Should the drill hole not go beyond permafrost conditions, there will be no need to place grouting beyond 15 m below the active surface layer due to permafrost encapsulation.
  - ▶ Gamma radiation levels measured at 1 m from the surface of core storage areas should be reduced to 1.0 µSv and in no instance will the level be allowed to exceed 2.5 µSv. When core is found to exceed the levels identified, the Nunavut Water Board should be contacted to review and provide approval of handling procedures (INAC requests that it also be notified of such occurrences). Instruments that measure radiation in counts per second must be converted to µS according to the specification of that instrument.

#### ABANDONMENT AND RECLAMATION

- INAC recommends that the project's Abandonment and Restoration Plan be revised to include gray water sump and drill cutting sump reclamation procedures. Camp gray water sumps should be made inaccessible to wildlife during the seasonal / temporary closure procedures and be backfilled to match the surrounding landscape when no longer in use. All drill cutting sumps should be backfilled as part of drill site reclamation procedures.
- The A&R Plan makes reference to the use of northern seed varieties when reclaiming scarred ground surfaces. INAC recommends that any re-seeding activities employ vegetation species native to the project area. Introducing invasive non-native vegetation species should be avoided at all costs because of the negative effects that can result.

Indian and Northern Affairs Canada requests notification of any changes in the proposed project, 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 by telephone (867) 975-4555 or by email via [abernethyd@inac-ainc.gc.ca](mailto:abernethyd@inac-ainc.gc.ca).

Sincerely,

***Original signed***

David W. Abernethy  
Water Resources Coordinator

cc. Jim Rogers - Manager of Water Resources, Indian and Northern Affairs Canada, Iqaluit