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Department of Environment

Ministère de l'Environnement

August 25, 2008

Phyllis Beaulieu
Manager of Licensing
Nunavut Water Board

via Email to: licensing@nunavutwaterboard.org

RE: NWB FILE # 2BE-CRO – True North Gems – Crooks Inlet Exploration Project

Dear Ms. Beaulieu:

The Government of Nunavut, Department of Environment (DOE) has reviewed the water license application from True North Gems for the Crooks Inlet gemstone exploration project located approximately 60 km northwest of Kimmirut, and has the following comments and recommendations to make based on the *Environmental Protection Act* and the *Wildlife Act* regarding spill contingency and wildlife.

1. Spill Contingency Plan

Based on the DOE *Spill Contingency Planning and Reporting Regulations*, *Contingency Planning and Spill Reporting in Nunavut: a Guide to the New Regulations*, and *Guideline for the General Management of Hazardous Waste in Nunavut*, DOE has the following comments and recommendations to make:

- It is unclear whether the phone numbers provided are 24 hour numbers. Please include a 24 hour telephone number for the persons responsible for activating the contingency plan. This ensures the employee discovering the spill can activate a response and provides a 24 hour point of contact for the authority investigating the spill.
- A site map that is intended to illustrate the facilities relationship to other areas that may be affected by the spill should be included in the Plan. The map should be to scale and be large enough to include the location of your facility, drainage patterns, and any nearby bodies of water.
- Material safety data sheets (MSDS) should be provided for each chemical and be posted in a central location; accessible by all camp personnel. Camp personnel should be conversant in the handling of these chemicals as well as able to deal with any accidents or spills.
- A more detailed description of the training provided to employees to respond to a spill is required. A sound training program is necessary when dealing with an emergency situation.
- An inventory and the location of response and clean up equipment available to implement the plan should be included. This includes your equipment as well as any to be used by another person responding to the spill on your behalf. Although there is mention of a spill kit there is no mention of what the spill kits contain, e.g. booms, absorbent pads/sheets, disposable gloves, sorbent etc.

2. Abandonment and Restoration

Soil contaminated by fuel (e.g., soils under an old storage tank) should be treated on site or removed to an approved disposal site and replaced with new soil. The proponent is referred to DoE's *Environmental Guideline for Site Remediation*.

3. Wildlife

The project is located in an area where caribou, carnivores (i.e., grizzly bears) and raptors may be encountered. To prevent and minimize project related impacts on wildlife, it is important that the proponent is aware of the types of wildlife species, their distribution and their abundance in the project area, prior to the start of the project. DOE therefore asks the proponent records all wildlife observations in a 'wildlife log', and maps the location of any sensitive wildlife sites such as denning sites, calving areas, caribou crossing sites, and raptor nests. The timing of critical life history events (i.e., calving, mating, denning and nesting) should also be identified. Additionally, the proponent should indicate potential impacts from the project, and ensure that operational activities are managed and modified to avoid impacts on wildlife and sensitive sites; the log and maps will be a useful tool to achieve this. Below are wildlife specific recommendations that DOE advises the proponent to implement.

1. Caribou

- During the period of May 15 to July 15 when caribou are observed with calves in the project area, the proponent should suspend all operations, particularly blasting, overflights and airborne geophysics surveys, and the use of snowmobiles and ATV's (all-terrain vehicles) outside the immediate vicinity of the camp.
- Flights of less 610 m above ground should be avoided when caribou are in sight of operation.
- During caribou migration, the proponent shall not locate and operate so as to block or cause diversion to migrating caribou. The proponent shall cease activities that may interfere with migration such as airborne geophysics surveys or movement of equipment or personnel, until the caribou have passed.
- Between May 15 and Sep. 1, the proponent shall not construct any camp, cache any fuel, conduct blasting or drilling operations, operate ground, air or water based mobile equipment, including geophysics surveys, within 10 km of caribou crossings.
- Initial findings to date have raised concerns about negative impacts of roads on caribou, and DOE is working to compile more data to support these initial findings. Please be advised there may be stringent recommendations in future years regarding establishment of permanent roads within or/and near caribou crossings, areas of caribou calving and post-calving, and caribou migrating corridors.

2. Human-carnivores conflicts

It is likely that during operations the proponent will encounter grizzly bears, polar bears, wolves, foxes and wolverines. The proponent is advised to minimize odors that potentially attract carnivores through timely camp housekeeping and bearproof storage of food and food waste. Should the proponent experiences any interaction with carnivores, they are advised to contact the local Conservation Officer. All camp members should be fully aware and trained in the human - bear/ wolf/fox/wolverine encounter avoidance plans especially in avoidance of any feeding (advertently or inadvertently by leaving food out) of these species. The proponent must discourage food conditioning of all wildlife species, negative reinforcement is encouraged.

The proponent should take all possible measures to avoid wildlife encounters.

specifically bears. These measures include use of an alarmed trip wire around the site perimeter and wildlife monitors. DOE requests that wildlife monitors working for the proponent carry shot guns and have cracker shells, rubber bullets, and bean bag rounds available to use as deterrents. The proponent should follow procedures outlined in the "Safety in Bear Country Manual", and should contact the Regional Biologist or the Wildlife Manager indicated below for information and advice on measures which should be taken to minimize the possibility of bear-people conflicts.

3. Raptor Nesting Areas

Raptor nests occur throughout Nunavut, and most of the prospecting areas likely contain at least a few nest sites. The proponent should not to disturb nesting raptors from 15 April to 1 September by staying at least 1.5 km away from them when in transit by aircraft and by avoiding approaching them closely while on foot.

The following is a list of general precautions that must be considered when conducting prospecting activities near Peregrine Falcon, Gyrfalcon, and other raptor nests (most of these precautions will also apply to all nesting bird species):

- Disturbance is most harmful early in the nesting period (May and June for Peregrine Falcon and Gyrfalcon, similar for Rough-legged Hawk): raptors will attempt to maximize their chances of successfully raising young. If they decide early in the breeding period that their nest is at risk, they may abandon it. If nests are disturbed at this stage of nesting, there may not be sufficient time to renest. All disturbances to nests during the early part of the nesting cycle must be avoided (avoid nest sites from late May through to mid-July).
- Individuals show variability in their response to disturbance: Different birds will show different responses to varying levels of disturbance. This may result from the general health of the bird, weather conditions, previous life experiences, and adaptability. Therefore, treat all nest sites with equal precaution, regardless of the response of the bird. Do not disturb raptor nests during conditions of poor weather (rain, snow, high winds).

Approaching the nest site near the time of fledgling (where chicks fly away from the nest) often leads to premature nest departure: During the last few weeks of nesting, severe disturbance at the nest often causes young raptors to jump out of the nest. This can cause death from exposure, predation, starvation, or trauma from the fall itself. All activity within 100m of a nest site during the latter part of the nest stage (10-20 August for peregrine falcons in this region) must be avoided.

4. Aircraft Disturbance

Aircraft activities have been shown to affect wildlife such as caribou, muskoxen and birds in behaviour, development and reproductive success as well as subject the wildlife to adverse weather conditions and accidental damage or injury. However, by raising flight altitudes, studies have shown that it will alleviate some of the negative effects. Therefore, DOE recommends that the following protection measures are taken to reduce aircraft disturbance on wildlife.

Unless there is a specific requirement for low level flights, aircraft activities should maintain a minimum altitude of 610 meters above ground level in places where there are occurrences of

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wildlife. In areas where there are observed large concentrations of birds, flight level is restricted to 1,000 meters vertical distance and 1,500 meters horizontal distance from the birds. As a good practice, it is recommended to avoid critical and sensitive wildlife areas at all times by choosing alternate flight corridors.

5. Recording Wildlife Observations and Critical Habitat

DOE requests the proponent records and reports wildlife observations near the project area annually to a Regional Wildlife Biologist at the end of the operational season. This information will inform workers the kinds of wildlife present on site, prepare them for wildlife encounter, and allow them to modify activities accordingly to avoid wildlife. Additionally, this will assist the government and the applicant with collection of wildlife data. The reports should include location (i.e., latitude and longitude), species, number of animals, a description of the animal activity, and a description of the gender and age of animals if possible. It is important to record the presence and number of animals as well as any young observed. For example, observations of wolves and their young during the summer will be an indicator of denning in the proximity.

6. DOE Contact (Wildlife Division)

Regional Manager, Wildlife

-Seeglook Akeeagok, (867) 975-7800, sakeeagok@gov.nu.ca

Biologist, Baffin Region

-Debbie Jenkins, (867) 899-8876, pondbiologist@qiniq.com

The GN thanks NWB for the opportunity to provide comments on True North Gems' water license application. Please contact us if you have further questions.

Yours sincerely,

Original signed by

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