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Department of Environment

Ministère de l'Environnement

July 18, 2008-07

Richard Dwyer
Manager of Licensing
Nunavut Water Board

via Email to: ***licensingadmin@nunavutwaterboard.org***

RE: NWB File No. 2BE-TIM0608 – Diamondex Resources Ltd. – TIM LakeProject

Dear Mr. Dwyer:

The Government of Nunavut, Department of Environment (DOE) has reviewed the TIM project water license renewal application from Diamondex Resources Ltd. for conducting diamond exploration 90 Km southeast of the community of Kugaaruk. The DOE does not believe the project will result in significant adverse effects although the potential for negative environmental impacts exists. Based on the *Environmental Protection Act* and the *Wildlife Act*, DOE has the following comments to make regarding spill contingency planning, abandonment and restoration, and wildlife.

A. SPILL CONTINGENCY

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:

- Please be advised that the telephone number for DOE is (867) 975-7700.
- A 24 hour telephone number for the persons responsible for activating the contingency plan should be provided. 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.
- For further information, the proponent is also referred to DoE's *Environmental Guidelines for Site Remediation* and *A Guide to Spill Contingency Planning and Reporting.*
- If fuel is stored on site it should be located, whenever practical, in a natural depression a minimum distance of 90 feet from all streams, and preferably in an area of low permeability. All fuel storage containers should be situated in a manner that allows easy access and removal of containers in the event of leaks or spills. Large fuel caches in excess of 20 drums should be inspected daily.

B. Abandonment and Restoration:

The proponent has proposed that drill cuttings are to be placed on a tarp and then poured back down the drill hole once completed, and waste water from the drilling operations is to be left to evaporate at the top of the hole. DOE has the following comments and recommendations to make:

- Drill holes should be backfilled or capped at the end of project. The sumps should only be used for inert drilling fluids, not any other materials or substances. The sumps should be properly closed out at the end of a project.

- If hydrocarbon based drill additives are being used the use of a filtration system aimed towards reduction of harmful substances to the environment is recommended. Drill additives such as rod grease and linseed soap should be safely stored in containers that have been specifically designed for the storage of hydrocarbons and safely transported to a facility that is authorized for the treatment and disposal of industrial wastes. The waste must be stored in a manner that minimizes the risk of spills and further ensures that the container can be periodically inspected for leaks or potential leaks.

- Drilling additives 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.

C. 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 calving in the area, the proponent should suspend all operations, particularly blasting, overflights by aircraft of less than 610 m above ground, 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.

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 bear-proof 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 re-nest. <u>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).</u>

- 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, <u>treat all nest sites with equal precaution, regardless of the response of the bird.</u> <u>Do not disturb raptor nests during conditions of poor weather (rain, snow, high winds).</u>

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. <u>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.</u>

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 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)

Manager, Wildlife
-Dustin Fredlund, (867) 982-7441, dfredlund@gov.nu.ca

Conservation Officer, Kitikmeot Region
-Allen Niptanatiak (867) 982-7451, kugwildlife2@qiniq.com

Regional Biologist
-Mathieu Dumond, (867) 982-7444, mdumond@gov.nu.ca

The DOE thanks NWB for the opportunity to provide comments on the project proposal from Diamondex Resources Ltd. Please contact us if you have further questions.

Yours sincerely,

Original signed by

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