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Department of Environment

Ministère de l'Environnement

March 28, 07

Richard Dwyer
Licensing Trainee
Nunavut Water Board

via Email to: licensingtrainee@nunavutwaterboard.org

RE: 2BE-RBP – ROCHE BAY PLC. – WATER LICENSE AMENDMENT APPLICATION

Dear Richard:

The Government of Nunavut, Department of Environment (DOE) has reviewed the water license amendment application from Roche Bay Plc. regarding the Roche Bay project, which involves in iron ore exploration approximately 60 km west of Hall Beach. Based on the *Environmental Protection Act*, and *Wildlife Act*, DOE has the following comments and recommendations to make regarding spill contingency, abandonment & restoration, air quality and wildlife.

1. SPILL CONTINGENCY PLAN:

Based on the DOE *Spill Contingency Planning and Reporting Regulations* and *A Guide to the Spill Contingency Planning and Reporting Regulations*, we have the following comments to make:

- A site map is intended to illustrate the facility relationship to other areas that may be affected by a spill, and should be submitted once the camp layout is decided. The map should be large enough to include site location, nearby buildings, roads, culverts, drainage patterns, and any nearby bodies of water.
- Page 11 of the *Oil and Hazardous Material Spill Contingency Plan* indicates that the crew would phone the 24 hour Spill Line to obtain disposal instructions in the case of spills. The Spill Line does not provide disposal instructions for spilled and/or contaminated materials. It is the proponent's responsibility to develop a complete plan which addresses the steps to be taken from the start of the spill, up to and including the final clean up and disposal. Regulatory agencies such as DOE can review the final plan to assess its adequacy and provide advice at that time.

Regulatory bodies can, and have, provided information and advice in emergency situations, however, these agencies should not be included in a spill plan as routine advisors.

- The NWT-Nunavut spill report form has been updated, and can be obtained from the Spill Line. The proponent is advised to enter spill information electronically in the form so the information is legible to regulators inspecting spills. Within a few months, it is anticipated that the Spill Line will be able to receive e-mailed spill reports. Until further notice, however, the form is to be filled out and faxed to the Spill Line as before.

2. ABANDONMENT & 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. Soils in the vicinity of fuel and/or chemical storage should be tested and disposed off if necessary.
- Drill holes, and sumps for drill cuttings and grey water should be backfilled or capped properly at the end of project. Sumps should be located at least 30 m from the high water mark of any water bodies.
- It is unclear how combustibles such as household garbage will be disposed of. Combustibles should be removed from the camp periodically; alternatively, all combustible wastes can be incinerated on site periodically, and incineration should follow recommendations indicated in the “Air Quality” section below.
- Final inspections of the entire site should be conducted by the proponent and lead agency to make sure that all areas of the site have been reclaimed as much as possible to its previous condition. Soil samples and pictures before and after the project would make this process easy on the proponent and leading agencies involved in determining areas of concern.

3. AIR QUALITY

The Government of Nunavut is signatory to *Canada-Wide Standards (CWS) for Dioxins and Furans*, and *Canada-Wide Standards for Mercury Emissions*. We therefore request the proponent ensures incineration emissions comply with the CWS by implementing the following recommendations.

For a camp of 10 to 50 people, the proponent shall 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 CWS. 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. The Waste Management Strategy should consider and include:

- Purchasing policies that focus on reduced packaging,
- On-site diversion and segregation programs (i.e. the separation of non-food waste items suitable for storage and subsequent transport and disposal or recycling).
- If incineration is required, ensure diligent operation and maintenance of the incineration device and provide appropriate training to the personnel operating and maintaining the incinerator.

Waste wood treated with preservatives such as creosote, pentachlorophenol or heavy metal solutions should not be burned. Additionally, plastics, electrical wire, asbestos and building demolition wastes (except clean wood) are wastes likely to produce dioxins and furans when burned and should be excluded from incineration. Furthermore, hazardous wastes should not be managed through burning or incineration. The efforts made to achieve compliance shall be reported to the Nunavut Impact Review Board as part of the annual report.

4. WILDLIFE

The proponent provided literature references regarding wildlife, but did not explain how the literature related to the project. Based on the communication with the proponent on March 30, 2007, the proponent indicates a wildlife survey report related to the project area will be ready for submission in the next few months, and DOE recommends the report includes baseline data regarding important wildlife such as caribou, raptors, foxes, wolves and wolverine, and identify critical wildlife habitat by mapping important locations 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. The proponent should also indicate potential impacts from the project, and ensure that operational activities are managed and modified to avoid impacts on wildlife and sensitive sites; the map of critical wildlife habitat will be a useful tool to achieve this. Additionally, DOE requests that the proponent records wildlife observations in a log book and submits it to our Regional Biologist annually as this will provide an important source of wildlife data for the department. Below are some wildlife specific recommendations that DOE advises the proponent to implement.

Caribou

The operation is located in an area where caribou may be encountered, and DOE therefore recommends the proponent implements caribou protection measures as indicated in the following.

1. During the period of May 15 to July 15 when caribou is observed calving in the

area, the proponent should suspend all operations, particularly blasting, low-altitude overflights by aircraft, and the use of snowmobiles and ATV's (all-terrain vehicles) outside the immediate vicinity of the camp. All personnel should remain quietly in camp or should be removed from the site who are not required for the maintenance and protection of the camp facilities and equipment. The proponent may resume activities prior to July 15 if the caribou cows have ceased to use the area for calving or post-calving.

2. During migration of caribou, the proponent shall not locate and operate so as to block or cause substantial diversion to migrating caribou. The proponent shall cease activities that may interfere with migration, such as airborne geophysics surveys or movement of equipment, until the migrating caribou have passed.
3. The proponent shall not construct any camp, cache any fuel or conduct blasting within 10 km, or conduct any diamond drilling operation within 5 km, of important caribou crossings.
4. Low-level overflights should be avoided when one encounters concentrations of caribou.

Raptor Nesting Areas

Raptor nests occur throughout Nunavut, and most of the prospecting areas likely contain at least a few nest sites. Take care 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 to avoid 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):

- 1) 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).
- 2) 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).

3) 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.

Further details on raptor nests and disturbance mitigation can be obtained from the Wildlife Officer in communities closest to the area of interest, or from regional biologists.

Furbearers

Foxes, wolves and wolverine may occur in the project area, and may be observed at camps and drill sites where **they have access to human food**. This is a potential concern as potential human-wolf, wolverine, and fox encounters can result in injury or death to either the animal or the human(s). All possible efforts to avoid human-wildlife encounters must be made. The proponent must plan to

- avoid human-wildlife conflict
- have a deterrent strategy
- have a human safety strategy
- have a waste management strategy
- All camp members should be fully aware and trained in the human-wildlife encounter avoidance plans and be aware that **feeding of wildlife is prohibited**.
- The proponent must discourage food conditioning of all wildlife species negative reinforcement is encouraged.
- Also, if a defense kill does occur, the proponent must record the location of the carcass. If required, specimens such as the skull must be submitted to the Conservation Officer as soon as possible.

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, we recommend 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. These guidelines are provided as a general standard, and exceptions may arise on a case-by-case basis. As a good practice, it is recommended to avoid critical and sensitive wildlife areas at all times by choosing alternate flight corridors.

Recording Wildlife Observations and Critical Habitat

DOE recommends the proponent documents any wildlife observations (i.e., bear, caribou, fox, wolf and raptor) in the general vicinity of their operation so workers are aware of the kinds of wildlife present on site, and are prepared to modify activities accordingly to avoid wildlife. It is contrary to the *Wildlife Act* to harass wildlife in any manner.

DOE requests the proponent reports these observations annually to a Regional Wildlife Biologist and the nearest Conservation Officer at the end of the operational season to assist the government with collection of wildlife data. Documentation 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 useful to record the presence and number of animals and young observed. For example, observations of wolves and their young in the summer can mean they are denning in the proximity.

DOE thanks NWB for giving us the opportunity to review and provide comments on the Roche Bay water license amendment application. Please contact us if you have any questions or comments.

Yours sincerely,

Original signed by

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