



**Environment Canada** **Environnement Canada**

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*Via Email*

**Re: NWB2RBP – Roche Bay PLC – Roche Bay Project – New Type B Licence Application**

On behalf of Environment Canada (EC), I have reviewed 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*.

Roche Bay PLC is applying for a Type B licence for water use and waste disposal associated with exploratory drilling in their Roche Bay Project. The proponent intends to study large deposits of magnetite and conduct clean-up activities at the Old Borealis Site. The Roche Bay Property is within latitudes of 68°15'N to 68°30'N and longitudes of 82°00'W to 84°00'W on the Melville Peninsula, an area which is approximately 60 km northwest of Hall Beach. Roche Bay PLC has requested that its water licence have a term of April 2006 to August 2008.

Approximately ten people will conduct annual exploration activities and will be accommodated in a temporary camp. Hercules aircraft will deliver the needed drilling rig, camp equipment, fuel, and food supplies. Personnel will be transported to the project area from Hall Beach by means of a Bombardier carrier. Once in the project area, personnel will use all-terrain vehicles and snowmobiles to access the camp site and ore bodies by established haul-roads.

The Roche Bay Project will consume freshwater from lakes within the project area. Domestic use is anticipated to require 750 L on a daily basis and drilling operations will demand 18,000 L per day. The proponent plans to incinerate its sewage and direct camp gray water to a naturally occurring pond. Prior to the release of water employed in drilling operations, drill cuttings will be separated from the drill water in containment troughs.

Fuel products will be stored in 208 L steel drums in an area nearby the exploration camp. There will be 4,160 to 6,240 L of gasoline (20-30 drums), 41,600 L of diesel (200 drums), and 208 L of standard automotive engine oil made available. The project's Spill Contingency Plan indicates that a chain of command will be respected when responding to hazardous material spills. Spill response measures will be led by either the On-scene Coordinator or the Environmental/Safety Advisor. The Plan provides initial spill response procedures and states that spills of hazardous material will be documented and reported using the 24-hour Spill Line at (867) 920-8130.



Environment Canada requires further information concerning the proposed use of a natural pond for the disposal of domestic gray water prior to completing an environmental assessment for this project. In particular, Roche Bay PLC should provide information regarding whether the pond's free-board will prevent the release of its contents into surface drainage areas, if the pond is frequented by fish, the pond's dimensions (i.e., surface area, depth of water, and length of free-board), and a topographic map which clearly identifies the camp and pond in relation to the surrounding area. Once this information is received, EC will provide additional information to the Nunavut Water Board regarding the suitability of the use of this pond.

Environment Canada recommends that any cuttings and sludge resulting from drilling operations be either buried within sumps or bagged and removed from the project area for proper disposal. The proponent shall ensure that no drill cuttings or sludge are directed to natural waterbodies. Erosion control measures should be implemented at the point of discharge for drill water.

Environment Canada recommends that Roche Bay PLC revise its Spill Contingency Plan keeping in mind that this document is intended to serve as a primary reference document in the event of a hazardous material spill. This Plan should include response measures for spills in relevant environmental conditions (i.e., land, water, snow, and ice), an inventory of spill response equipment, and the content and storage locations of spill response kits. Environment Canada's Enforcement Officer based in Iqaluit, Jimmy Noble, should be included in the list of emergency contacts. Noble can be reached by office telephone (867) 975-4644, cell phone (867) 975-1925, and secure fax-line (867) 975-4594.

The Spill Contingency Plan provides a list of the 'minimum reportable quantities of spilled contaminants' for project personnel to refer to when determine whether a spill should be reported. Environment Canada strongly advises that all spills be documented and reported using the 24-hour Spill Report Line at (867) 920-8130.

Environment Canada recommends 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

- Environment Canada would like to inform the proponent that the *Canadian Environmental Protection Act* has listed 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 of 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 should 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 wastes.
- The proponent shall ensure that any-non combustible waste is disposed of appropriately at an approved facility.
- 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

- All fuel caches shall be located above the high water mark of any water body. Further, EC recommends the use of secondary containment, such as self-supporting insta-berms, when storing barreled fuel on location rather than relying on natural depressions.
- The proponent shall ensure that any hazardous materials, including waste oil, receive proper treatment and disposal at an approved facility.

The Canadian Wildlife Service (CWS) of Environment Canada has reviewed the above-mentioned submission and makes the following comments and recommendations pursuant to the *Migratory Birds Convention Act* (the *Act*) and *Migratory Birds Regulations* (the *Regulations*), and the *Species at Risk Act* (SARA).

- Section 6 (a) of the *Migratory Birds Regulations* states that **no one shall disturb or destroy the nests or eggs of migratory birds**. Therefore, CWS recommends that all activities be conducted outside the migratory bird breeding season, which extends from approximately May 15 to July 31. 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 vicinity of the nest).
- If activities are permitted to occur during the breeding season, CWS recommends that the proponent confirm there are no active nests (i.e., nests containing eggs or young) in the vicinity of their operations before activities commence. If active nests of migratory birds are discovered, the proponent should halt all activities until nesting is completed (i.e., the young have left the vicinity of the nest).



- Also, please note that section 35 of the *Migratory Birds Regulations* states that **no person shall deposit or permit to be deposited, oil, oil wastes or any other substance harmful to migratory birds in any waters or any area frequented by migratory birds.**
- In order to reduce disturbance to nesting birds, CWS recommends that aircraft used in conducting project activities maintain a flight altitude of at least 610 m during horizontal (point to point) flight.
- In order to reduce disturbance to resting, feeding, or moulting birds, CWS recommends that aircraft used in conducting project activities maintain a vertical distance of 1000 m and minimum horizontal distance of 1500 m from any observed concentrations (flocks / groups) of birds.
- All mitigation measures identified by the proponent, and the additional measures suggested herein, should be strictly adhered to in conducting project activities. This will require awareness on the part of the proponents' representatives (including contractors) conducting operations in the field. Environment Canada recommends that all field operations staff be made aware of the proponents' commitments to these mitigation measures and provided with appropriate advice / training on how to implement these measures.
- Implementation of these measures may help to reduce or eliminate some effects of the project on migratory birds, but will not necessarily ensure that the proponent remains in compliance with the *Migratory Birds Convention Act* (the *Act*) and *Migratory Birds Regulations* (the *Regulations*). The proponent must ensure they remain in compliance with the *Act* and *Regulations* during all phases and in all undertakings related to the project.
- CWS recommends that camp waste be made inaccessible to wildlife at all times. Camp waste can attract predators of migratory birds (e.g., foxes and ravens) to an area if not disposed of properly. Incineration of camp waste is a recommended option.



The following comments are pursuant to the Species at Risk Act (SARA), which came into full effect on June 1, 2004. Section 79 (2) of SARA, states that during an assessment of effects of a project, the adverse effects of the project on listed wildlife species and its critical habitat must be identified, that measures are taken to avoid or lessen those effects, and that the effects need to be monitored. This section applies to all species listed on Schedule 1 of SARA. However, as a matter of best practice, EC asks that species listed on other Schedules of SARA and under consideration for listing also be included in this type of assessment.

<b>Species at Risk</b>	<b>Category of Concern</b>	<b>Schedule of SARA</b>
Barren-ground Caribou (Dolphin and Union Population)	Special Concern	Pending
Polar Bear	Special Concern	Pending
Wolverine (Western Population)	Special Concern	Pending
Peregrine Falcon (subspecies tundris)	Special Concern	Schedule 3

Impacts to these species could be disturbance and attraction to operations.

Environment Canada recommends:

- The primary mitigation measure for each species should be avoidance. The proponent should avoid contact with or disturbance to each species.
- The proponent should consult with the Government of the Nunavut and appropriate status reports, recovery strategies, action plans, and management plans to identify other appropriate mitigation measures to minimize effects to these species from the project.
- The proponent should develop monitoring plans for each species in accordance with any applicable status reports, recovery strategies, action plans, and management plans posted on the Species at Risk Public Registry and in consultation with Government of Nunavut and Environment Canada. Monitoring plans should record the locations and frequency of observing species of special concern and note any actions taken to avoid contact or cause disturbance to the species, its residence, and its critical habitat.

If there are any changes in the proposed project, 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).

Sincerely,

David W. Abernethy  
Environmental Assessment Technician

cc. Colette Spagnuolo – Environmental Assessment / Contaminated Sites Specialist, Environment Canada, Iqaluit  
Myra Robertson – Environmental Assessment Coordinator, Canadian Wildlife Service - Environment Canada, Yellowknife