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via e-mail

RE: Golden Bull Resources Corporation – SLAVE (Contwoyto Lake and Hood River) Project – 07EN067

On behalf of Environment Canada, I have reviewed the information submitted with 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*.

BACKGROUND

Golden Bull Resources Corporation is proposing to conduct non-diamond base metal and precious metal resource exploration activities in the Kitikmeot region of Nunavut at the Contwoyto Lake and Hood River property. Exploration activities will include ground magnetic surveys, Induced Polarization and Electro Magnetic geophysical surveys, mapping and sampling. Approximately 2000-3000m of land based drilling is planned as well as the potential for on-ice drilling of the east arm of Contwoyto Lake. Access to the area will be by charter, float equipped aircraft from Yellowknife to Penthouse Lake/Esker Lake (a small lake east/south of the Zinifex (Wolfden) Ulu Prospect). Fuel will be flown directly to Penthouse Lake/Esker Lake and may, in the subsequent years of the exploration program, be flown (or possibly driven) to the Lupin, Jericho or Ulu airstrip and from there mobilized to the active base camp via charter helicopter.

If the results of the initial geological and geophysical surveys are positive, a short drill program will be undertaken possibly during the 2008 exploration season, the first field season of the program. During the subsequent full exploration season (2009), it is currently proposed that the camp be re-established in the Contwoyto Lake Area on the south shore of the East Arm of Contwoyto Lake; either at 65° 47' 24" North Latitude and 110° 43' 33" East Longitude or at the site of the old Hecla exploration camp (65° 48' 37" North Latitude and 110° 39' 27" East Longitude).

During the program, no permanent structures will be established and all garbage and camp material will be removed at the end of each field season and at the termination of the program. Sewage will be contained using "Pacto-type" toilets and subsequently burned with the ash being buried. Grey water at the camp and at any drill sites will drain into a sump to be filtered. The sump will be remediated after completion of each drill hole or in the case of the camp, at the end of each field season. All refuse will be burnt daily in an approved incinerator and remaining non-combustible solid wastes will be compacted and backhauled for disposal in Yellowknife.

REGULATIONS

The proponent should be aware that in addition to the acts, regulations and guidelines listed in the PSRI the following regulations apply to the SLAVE project: *Migratory Bird Convention Act*, *Migratory Bird Convention Regulations*, *Fisheries Act* section 36(3), and *Species at Risk Act*.

RECOMMENDATIONS

Environment Canada is pleased that Golden Bull Resources has committed to a number of mitigation measures that will help protect the receiving environment in the course of their exploration activities. EC requests that these commitments as outlined throughout the NIRB application and PSRI be incorporated into the NIRB's final screening decision. In addition to the mitigation measures proposed by the proponent EC would like to recommend the following:

DRILLING

- Drilling additives or mud 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, where drill additives are not being used, 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 for the Environment Guidelines for the Protection of Freshwater Aquatic Life (i.e. 10mg/L for lakes with background levels under 100 mg/L, or 10% for those above 100mg/L).
- Land based drilling should not occur within 30 m of the high water mark of any water body. Drilling wastes from land based drilling shall be disposed of properly such that the contents do not enter any water body.
- EC recommends that if artesian flow is encountered, the drill holes be immediately plugged and permanently sealed.

WASTE MANAGEMENT

- The proponent shall burn all combustible waste in an approved incinerator, and shall ensure that all hazardous waste, waste oil and non-combustible waste generated are backhauled and disposed of in an approved waste disposal site. A variety of incineration devices are available and selection of the most appropriate will depend on considerations of technical and economical feasibility for each situation. Installation of an incineration device capable of meeting the emission limits established under the *Canada-wide Standards (CWS) for Dioxins and Furans* and the *CWS for Mercury Emissions* is required (both the Government of Canada and the Government of the Nunavut are signatories to these Standards and are required to implement them according to their respective jurisdictional responsibility). The proponent should review the incineration options available and provide justification for the selected device to the regulatory authority.
- The use of appropriate waste incineration technology should be combined with 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 Plan** 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).
- Recycling whenever possible
- If incineration is required, ensure diligent operation and maintenance of the incineration device and ensure appropriate training is provided to the personnel operating and maintaining the incinerator.

The objective should be to ensure that only food waste and food-contaminated waste is burned (the use of paper, cardboard and clean wood as supplementary fuel is acceptable).

- Used absorbent materials, oily or greasy rags, and equipment servicing wastes (such as used engine oil, antifreeze, hydraulic oil, lead acid batteries, brake fluid and other lubricants) should be safely stored and transported in sealed containers and safely transported to a facility that is authorized for the treatment and disposal of industrial hazardous wastes.

FUEL STORAGE/SPILL CONTINGENCY

- Drip pans, or other similar preventative measures, should be used when refuelling equipment on site.
- All fuel caches shall be located above the high water mark of any water body.
- Transfer operations should be attended by trained personnel at all times.
- Decanting of snow or water from the berm area should proceed only if the appropriate chemical analysis has determined the contents meet the requirements of Section 36.3 of the *Fisheries Act*.

WILDLIFE

- Section 6 (a) of the Migratory Birds Regulations states that no one shall disturb or destroy the nests or eggs of migratory birds. Therefore, EC recommends that all activities in which there is a risk of disturbing or destroying nests or eggs 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).
- For activities permitted to occur during the breeding season, EC 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 in the nesting area until nesting is completed (i.e. the young have left the vicinity of the nest).
- In order to reduce disturbance to nesting, moulting, and migrating birds, EC recommends that aircraft used in conducting project activities maintain a flight altitude of at least 610 m during horizontal (point to point) flight unless safety or cloud ceiling do not permit.
- In order to reduce disturbance to resting, feeding, or moulting birds, Environment Canada 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.
- EC 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.
- Section 5.1 of the *Migratory Birds Convention Act* prohibits persons from depositing substances harmful to migratory birds in waters or areas frequented by migratory birds or in a place from which the substance may enter such waters or such an area.
- 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.
- 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, Environment Canada suggests that species on other Schedules of SARA and under consideration for listing on SARA, including those designated as at risk by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), be considered during an environmental assessment in a similar manner.

Species at Risk that may be encountered	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility ¹
Short-eared Owl	Special Concern	Schedule 3	Government of Nunavut
Peregrine Falcon (subspecies tundrius)	Special Concern	Schedule 3	Government of Nunavut
Grizzly Bear	Special Concern	Pending	Government of Nunavut
Wolverine (Western Population)	Special Concern	Pending	Government of Nunavut

¹ Environment Canada has a national role to play in the conservation and recovery of Species at Risk in Canada, as well as responsibility for management of birds described in the *Migratory Birds Convention Act* (MBCA). Day-to-day management of terrestrial species not covered in the MBCA is the responsibility of the Territorial Government. Thus, for species within their responsibility, the Territorial Government is best suited to provide detailed advice and information on potential adverse effects, mitigation measures, and monitoring.

Impacts could be disturbance and attraction to operations.

Environment Canada recommends:

- Species at Risk that could be encountered or affected by the project should be identified and any potential adverse effects of the project to the species, its habitat, and/or its residence noted. Refer to species status reports and other information on the Species at Risk registry at www.sararegistry.gc.ca for information on specific species.
- If Species at Risk are encountered or affected, the primary mitigation measure should be avoidance. The proponent should avoid contact with or disturbance to each species, its habitat and/or its residence.
- The proponent should record the locations and frequency of any observations of Species at Risk and note any actions taken to avoid contact or disturbance to the species.
- For species under the responsibility of the Territorial Government, the Territorial Government should be consulted to identify other appropriate mitigation and/or monitoring measures to minimize effects to these species from the project.
- Mitigation and monitoring measures must be taken in a way that is consistent with applicable recovery strategies and action/management plans.

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 with any questions or comments with regards to the foregoing at (867) 975-4631 or by email at cindy.parker@ec.gc.ca.

Yours truly,

Original signed by

Cindy Parker
Environmental Assessment Specialist

cc: (Carey Ogilvie, Head- EA North, Environment Canada, Yellowknife, NWT)
(Myra Robertson, Environmental Assessment Coordinator, CWS, Yellowknife, NWT)