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RE: NWB 2BE-BKL – DeBeers Canada Inc. – Baker Lake Exploration Project

On behalf of Environment Canada (EC), 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*.

DeBeers Canada Inc. is proposing to conduct a mineral exploration program in the area surrounding Baker Lake, NU. Proposed activities include localized sampling, prospecting, mapping and ground geophysics, with drilling of selected targets to occur in September. No camps will be established, as project personnel will stay in the Hamlet of Baker Lake.

Environment Canada recommends that the following conditions be applied through all stages of the project:

- The proponent shall not deposit, nor permit the deposit of any fuel, chemicals, wastes, drill cuttings 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.
- Land based drilling should not occur within 30 m of the high water mark of any water body.
- The application states that any targets identified under larger waterbodies, they will be drill tested during the winter of 2007. If any lake-based drilling occurs, 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. Further, 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).
- Drill wastes should be directed to a sump for disposal. The sump 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.
- If an artesian flow is encountered, the drill hole shall be immediately plugged and permanently sealed.

- 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, rather than relying on natural depressions when storing barreled fuel on location.
- The proponent shall ensure that all drill sites kept clean. Domestic garbage shall be removed and backhauled to Baker Lake. The proponent shall ensure that any hazardous wastes, including waste oil, receive proper treatment and disposal at an approved facility.
- All spills shall be documented and reported to the 24 hour Spill Line at (867) 920-8130.
- Drip pans, or other similar preventative measures, shall be used when refueling equipment on site.
- DeBeers Canada Inc. should note that the contact number for the Environment Canada 24 hour pager is incorrectly noted in document RCD 064. The correct number is (867) 920-5131.

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).

1. Section 6 (a) of the Migratory Birds Regulations states that no one shall disturb or destroy the nests or eggs of migratory birds. Although project activities will occur in August after most birds have completed nesting, if active nests (i.e. nests containing eggs or young) are encountered the proponent should avoid the area until nesting is complete (i.e. the young have left the vicinity of the nest).
2. The proposed area for this project approximately 50 km southeast of the Thelon River/Beverly Lake/Aberdeen Lake that has been identified as a Key Migratory Bird Site (See attached page from Latour, P.B., Leger, J., Hines, J.E., Mallory, M.L., Gilchrist, H.G., Smith, P.A., and Dickson, D.L. 2006. Key migratory bird terrestrial habitat sites in the Northwest Territories and Nunavut (3rd edition). Canadian Wildlife Service Occasional Paper. In press.). This area is especially important areas for moulting Canada Geese. Moulting geese are temporarily flightless while they lose their flight feathers and grow new ones, and they are particularly sensitive to disturbance at this time. All moulting flocks should be avoided. Premoulting flocks of geese generally arrive in mid-June and depart after moulting is complete in mid-August. The proponent should avoid activities during mid-June to late August in the area identified as the Key Migratory Bird Site. This includes not flying over this area.
3. 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.
4. 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.
5. 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.
6. 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, EC asks that species listed on other Schedules of SARA and under consideration for listing also be included in this type of assessment.

Species at Risk that may be encountered	Category of Concern	Schedule of SARA	Government Organization with Expertise on Species
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

Impacts could be disturbance and attraction to operations.

Environment Canada recommends:

- Species at Risk that could be encountered should be identified and any potential adverse effects noted. Refer to the Species at Risk registry at www.sararegistry.gc.ca for information on specific species.
- If Species at Risk are encountered, the primary mitigation measure 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 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.

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) 975-4639 or by email at colette.spagnuolo@ec.gc.ca.

Yours truly,

Original signed by

Colette Spagnuolo
Environmental Assessment / Contaminated Sites Specialist

cc: (Stephen Harbicht, Head, Assessment and Monitoring, Environment Canada, Yellowknife)

Location: 64°30'N, 101°45'W

Size: 1873 km^2

Description: This area includes the Thelon River from Eyeberry Lake to Beverly Lake, the Ursus Islands area, the shores of Beverly Lake, and the west half of Aberdeen Lake (to 99°10'W) and 20 km upstream along the Dubawnt River. Baker Lake is 150 km east of the eastern end of this area.

The underlying rock formation is Precambrian sandstone, much of which is obscured by low-relief Pleistocene deposits. The area around Lookout Point is within a sand–silt formation. The Ursus Islands area is largely sandstone and pebbly sandstone (Bird 1951). Most of the Beverly Lake – Aberdeen Lake region is underlain by Dubawnt sandstone. The low and rolling area is covered with unbroken glacial till, which has been sorted into expanses of sand and pebbles. Continuous and discontinuous eskers are common. A late glacial lake inundated much of the area; strandlines and wave-cut beaches are evident (Bird 1967). A large delta occurs on the south side of Beverly Lake.

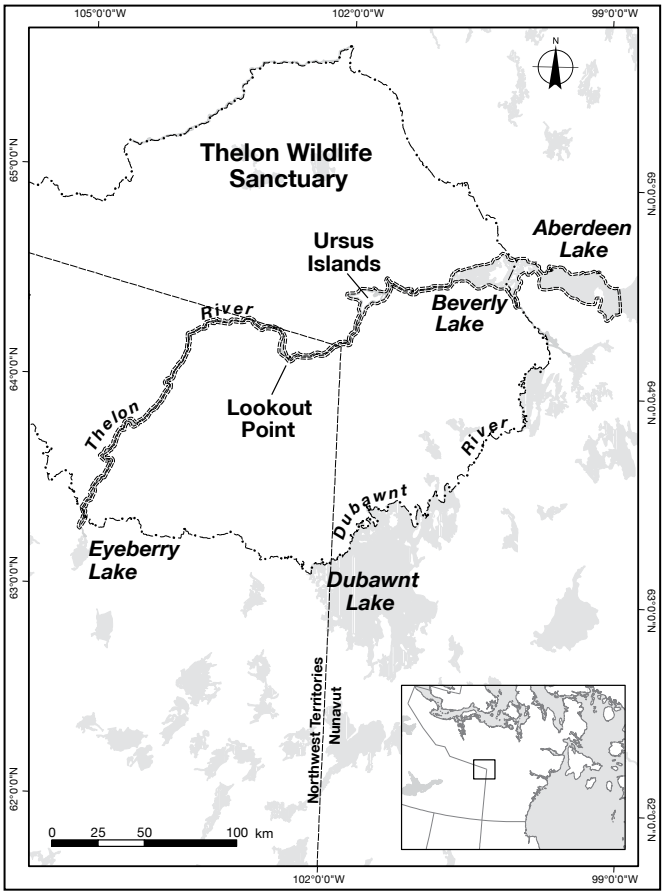
The vegetation belongs to the northern transition section of the boreal forest, giving way to low Arctic around Beverly Lake. From Lookout Point to Ursus Islands, the river banks are wooded with spruce, larch, and willows. The river banks between Ursus Islands and Beverly Lake are high but not precipitous. Adjacent wet sedge meadows and moss-sedge complexes provide suitable grazing areas for geese. A few stunted spruce are found in gullies.

Biological value: Between 10 000 and 13 000 non-breeding Canada Geese, originating in the northern United States and southern Canada, use this area to moult (Kuyt 1966; Alexander 1990). Most of the geese belong to the *B. c. maxima* and *B. c. moffitti* subspecies (Sterling and Dzubin 1967). There is some indication that birds in the western part of the area are from the Pacific, Hi-Line Plains, and Rocky Mountain populations, whereas those east of Beverly Lake are from the Western Prairie and Manitoba Interlake populations (Kuyt 1966; Sterling and Dzubin 1967). The larger estimate of Canada Geese represented 3% of the Canadian population of the two subspecies (Alexander et al. 1991). Flocks of Canada Geese generally appear in mid-June and depart soon after moulting is completed in mid-August (Sterling and Dzubin 1967).

Greater White-fronted Geese are known to breed in the area. In 1960, Kuyt (1962) reported 30 broods between Beverly and Aberdeen lakes. Tundra Swans also breed and moult west of Beverly Lake. Islands in Beverly Lake provide habitat for some of the few inland breeding colonies (numbering up to 140 pairs) of Lesser Snow Geese (Alexander 1990).

Raptor nesting areas are found on the north shores of Beverly and Aberdeen lakes (Kuyt 1980).

Calving grounds for the Beverly caribou herd lie along the northern boundary of the area. Several river crossings used by the herd occur in this area.



Sensitivities: Flightless geese are sensitive to disturbance during their moult.

Potential conflicts: The surrounding area has high potential for uranium. The proposed Kiggavik uranium mine site is located southeast of Aberdeen Lake.

Status: Most of this site occurs within the Thelon Wildlife Sanctuary, which has a subsurface land withdrawal. It is an Important Bird Area in Canada (NU091; IBA Canada 2004) and an International Biological Programme Site (Site 4-6; Beckel 1975).