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Our File: 4703 001

Nunavut Water Board
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Attention: Richard Dweyer

via email at: licensing@nunavutwaterboard.org

RE: NWB 2BE-BKL0607– Baker Lake Exploration Project – De Beers Canada Inc.

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*.

It is the understanding of Environment Canada that De Beers Canada Inc. is applying for a renewal and amendment to their current water license to include taking water for the purposes of servicing a camp in support of uranium mineral and kimberlite exploration activities. The temporary camp will be located at 64°06'40"N and 97°52'30"E on the north shore of Princess Mary Lake, approximately 60 miles from Baker Lake. It will be seasonally occupied from July 22- August 31st until 2009, and will accommodate 13 people serviced by a fixed-wing aircraft with helicopter traverses to conduct geological sampling, prospecting, and ground and aerial geophysical exploration activities. Diamond drilling performed with a helicopter-supported, portable core drill may be used for kimberlite exploration in the coming years.

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

- The proponent shall not deposit, nor permit the deposit of any fuel, 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.
- The RCD XXX Spill Contingency Plan submitted with this project application lists incorrect phone numbers for EC. The proponent should update these to the following:
Emergencies: Environment Canada, Jimmy Noble, 867-975-4644, the 24 hour pager service # is (867) 920-5131; please also note the **24 hour spill reporting number: (867) 920-8130**. **All spills** are to be documented and reported to the 24 hour Spill Line.
- The proponent will collect drill cuttings and remove them to Sudbury for processing, and has indicated their intent to discharge drilling fluids "on the tundra at the drill collar location". Environment Canada recommends that the drill fluids be contained in a sump that is at least 30m from the high water mark, and in such a manner as to prevent the contents from entering any water body frequented by fish. Land based drilling should not occur within 30 m of the high water mark of any water body. Sumps should be inspected regularly to ensure there is no erosion or leaching. Further, all sumps shall be backfilled upon completion of the field season and contoured to match the surrounding landscape.
- Sumps created for the disposal of camp sewage or grey water shall be located at least 30m 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.

- Environment Canada would like to inform the proponent that the *Canadian Environmental Protection Act* has listed Calcium Chloride (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.
- The application states that any targets identified under larger water bodies will be drill tested during the winter of 2007. If any lake-base drilling occurs, drilling additives or muds shall not be used for holes drilled through lake-ice, unless they are re-circulated or contained such that they do not enter the water, or unless it can be first verified that they are non-toxic. Further, for any “on-ice” drilling where drill additives are not being used, return water 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 (CCME) Guidelines for the Protection of Freshwater Aquatic Life (100mg/L for lakes with background levels under 100mg/L, or 10% for those above 100mg/L total suspended solids).
- 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, when storing barreled fuel on location rather than relying on natural depressions. De Beers Canada Inc. has stated their intent to remove all caches of fuel drums at the end of the 2007 field season.
- Drip pans, or other similar preventative measures, shall be used when refueling equipment on site.

The following comments and recommendations have been provided by the Canadian Wildlife Service (CWS) 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. Therefore, Environment Canada 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).
2. For activities permitted to occur during the breeding season, Environment Canada 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).
3. In order to reduce disturbance to nesting, moulting, and migrating birds, Environment Canada 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. EC acknowledges that lower altitudes will be required for the airborne geophysical survey. EC notes that the airborne geophysical survey is scheduled to commence in mid to late August; EC contends that this is the best time to conduct the airborne activities to minimize impacts on migratory birds, as it is after the nesting season is done but before the start of fall migration.
4. 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.
5. 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.

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 ²	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, such as the commencement of drilling activities, 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 (780) 951-8942 or by email at jody.klassen@ec.gc.ca.

Yours truly,



Jody Klassen

cc: Carey Ogilvie (Head, Assessment and Monitoring, EPO)
Mike Fournier (Northern Environmental Assessment Coordinator, A&M, EPO)