



Environment
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Our file: 4703 001

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Via : facsimile

RE: NWB 2REP0305-BHP Billiton Diamonds Inc.-Repulse Project-Amendment

On behalf of Environment Canada (EC), I have reviewed the information submitted with the above-mentioned application. The following 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*.

BHP Billiton Diamonds Inc. has applied for a water license amendment for water use and waste disposal associated with exploratory drilling for the Repulse Project in the Kivalliq region. Expanded operations would include the use of two diamond drills, a reverse circulation drill working largely on lake ice in the winter and from land-based positions after the thaw. This project will also see a base camp established that would support 25 people in winter and up to 50 people in the summer. In addition, a smaller camp for drillers (about 20-24 people) will be set up and used only until the thaw.

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 chemicals, sediment, wastes, or fuels associated with the project 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 deleterious substance that results from the deposit of the deleterious substance, may enter any such water, is prohibited.
- No land-based drilling is to be done within 30 metres of the high water mark of any water body. Drill waste from land-based drilling shall be disposed of in a sump such that it does not enter any water body.
- For on-ice drilling, the return water released must be non-toxic, and not result in an increase in total suspended solids in the receiving waters above that set out in the Canadian Council of Ministers for the Environment Guidelines for the Protection of Aquatic Life (i.e., 10 mg/L for lakes with background levels under 100 mg/L, or 10% for those above 100 mg/L).
- Any drilling additives or muds used shall not be used in connection with holes drilled through the lake ice unless they are re-circulated or contained in such a manner that they do not enter water, or are demonstrated to be non-toxic.
- EC would like to inform the proponent that the *Canadian Environmental Protection Act* has recently listed CaCl as a toxic substance. Therefore, if CaCl is to be used as a drilling additive, the proponent shall ensure that all sumps containing CaCl are properly

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constructed and located in such a manner as to ensure that the contents will not enter any water body.

- If an artesian flow is encountered, drill holes shall be immediately plugged and permanently sealed.
- All sumps and fuel caches shall be located above the high water mark of any waterbody and in such a manner as to prevent the contents from entering any waterbody frequented by fish. Further, all sumps shall be backfilled upon completion of the project and recontoured to match the surrounding landscape.
- Except for immediate use, the permittee shall not store material on the surface ice of any waterbody.
- Drip pans, or other preventative measures, should be used while refueling any equipment used at the site.
- If maintenance work is to be done on the gravel roads near or leading to any water source, EC recommends that measures be taken to ensure that there is no sedimentation of the waterbodies as a result of such work.
- The proponent shall ensure that all hazardous wastes, including waste oil, receive proper treatment and disposal at an approved facility.
- The proponent states that solid waste will be burned in a camp incinerator. Environment Canada recommends the use of an approved incinerator for the disposal of combustible material.
- Given that fuel is to be stored on site, Environment Canada recommends the use of secondary containment such as self-supporting insta-berms.
- All spills are to be documented and reported to the NWT 24 hour Spill Line at (867) 920-8130.

Also, when known, please forward the location of ice airstrips to this office.

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 ivy.stone@ec.gc.ca.

Yours truly,

Ivy Stone
Environmental Assessment

cc: (Mike Fournier, Northern Environmental Assessment Coordinator, Environment Canada, Yellowknife)