



**Environment Environnement
Canada Canada**

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Our file: 4703 001

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Via Email at licensing@nwb.nunavut.ca

RE: NWB2CHU – Shear Minerals Ltd & 4579 Nunavut Ltd. – Churchill Diamond 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*.

Shear Minerals Ltd. and 4579 Nunavut Ltd. are proposing to carry out a diamond drilling project in the Rankin Inlet area. The proposed project includes ground geophysical surveys, diamond drilling, prospecting, rock and soil sampling and geological mapping. The work would be supported out of the existing Josephine Lake campsite. The proposed work is to be carried out from February 15, 2005 – November 2005. A similar program would be carried out over a similar period in 2006.

The application indicates a planned start date of February 15, 2005. Environment Canada would like to remind the proponent that all permits and approvals must be in place prior to the commencement of any work.

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, 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 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, 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 drill additive, the proponent shall ensure that 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.
- 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 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 in a sump such that the contents do not enter any water body.
 - The application states that if an artesian flow is encountered, the water flow will be controlled. Environment Canada recommends that if an artesian flow is encountered, the drill hole be immediately plugged and permanently sealed.
 - The proponent shall not store materials on the surface ice of lakes or streams, except that which is for immediate use.
 - 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.
 - Environment Canada recommends the use of an approved incinerator for the disposal of combustible camp wastes. Non-combustible wastes shall be disposed of properly at an approved facility.
 - The proponent shall ensure that any hazardous materials, including waste oil, receive proper treatment and disposal 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.
 - Drip pans, or other similar preventative measure, shall be used when refueling equipment on site.
 - The application states that the sewage will be bagged and shipped off site for disposal. Environment Canada requests that the location to which the sewage will be sent be identified.
 - The Spill Contingency submitted with the application lists the Environment Canada contact number as (867) 975-4639. This number should be changed to (867) 975-4644, or to (867) 920-5131, 24 hour emergency pager staffed by EC Emergencies and Enforcement personnel.
 - Environment Canada recommends that all activities be conducted outside the migratory bird breeding season, which extends from approximately June 1-July 15. 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 nest). Paragraph 6(a) of the *Migratory Birds Regulations* states that no one shall disturb or destroy the nests or eggs of migratory birds.

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)