



**Environment Environnement
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Our file: 4704 000

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Via Email at licensing@nwb.nunavut.ca

RE: NIRB 04AN002 / NWB2CHU0305 – 4579 Nunavut Ltd. – Mineral Exploration, Rankin Inlet Area

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*.

4579 Nunavut Ltd. has applied for an amendment to their current land use permit and water license to allow for continued exploration in 2004, including the addition of a semi-permanent field camp. The proposed camp will include a maximum of eighteen (18) buildings, including sleeping quarters, an office, kitchen and dry area. It will be occupied by up to forty (40) people during peak operating times. The drill program will include ground geophysical surveys followed by helicopter supported diamond drilling for kimberlite. Fifty to sixty 100-metre drill holes are planned for the 2004 field season.

In order to facilitate the review of the application, EC requests the following information:

- The latitude and longitude of the semi-permanent camp location, if it is determined that the camp will be established.
- Once available, the location of the drill holes, especially in relation to water.

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.
- 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).
- Environment Canada would like to inform the proponent that the *Canadian Environmental Protection Act* has recently listed 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.
- All fuel caches and sumps 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 project and contoured to match the existing landscape.
- The proponent shall not store materials or erect camps on the surface ice of lakes or streams, except for immediate use.
- The application states that if artesian water flow is encountered, the flow will be controlled to prevent erosion. Environment Canada recommends that if an artesian flow is encountered, drill holes shall be immediately plugged and permanently sealed.
- Drip pans, or other such preventative measures, should be used when refuelling equipment on site.
- Environment Canada recommends the use of an approved incinerator for the disposal of combustible camp wastes.
- The Environmental Procedure Plan for the site states that bulk tanks of fuel will be equipped with secondary containment capable of holding 110% of the volume. Environment Canada also recommends secondary containment, such as self-supporting insta-berms, also be used when storing barrelled fuel on location.
- All spills are to be documented and reported to the 24 hour Spill Line at (867) 920-8130.

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.meloche@ec.gc.ca.

Yours truly,

Original signed by

Colette Meloche
Environmental Assessment Specialist

cc: (Pamela Strand, President, Shear Minerals Ltd. – via email at pstrand@compusmart.ab.ca)
(Mike Fournier, Northern Environmental Assessment Coordinator, Environment Canada)