



Environment Environnement
Canada Canada

Environmental Protection Branch
Qimugjuk Building 969 P.O. Box 1870
Iqaluit, NU X0A 0H0
Tel: (867) 975-4639
Fax: (867) 975-4645

May 2, 2005

Our file: 4703 001 028 / 4703 001 014

Phyllis Beaulieu
Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0
Tel: (867) 360-6338
Fax: (867) 360-6369

Via email at licensing@nwb.nunavut.ca

RE: NWB2MEL0507 – Complex Minerals Corp. – Meliadine Project Amendment

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*.

Complex Minerals Corp. is proposing to amend their current water license to include a number of changes. These changes include the construction of a short all weather road between the campsite and the nearby Tiriganiaq Gold deposit, a drilling program at this deposit using up to four drills, and a larger camp, with a maximum capacity of 50 people.

The proponent is reminded that all necessary permits and authorizations must be in place prior to the start of any work associated with this amendment.

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

All-weather Road and Quarry Development:

- The application provides differing lengths of the all weather road (from 2 km to 2.5 km), as well as differing amount of land that will be disturbed as a result of its construction (from 2.7 ha to 5 ha). Environment Canada requests confirmation regarding the length of the proposed road.
- The proponent shall not deposit, nor permit the deposit of sediment into any water body. It is recommended that an undisturbed buffer zone of at least 100 metres be maintained between the proposed quarry operation and the normal high water mark of any water body.
- The application indicates that quarry development will require working from the ice of Meliadine Lake. Environment Canada recommends that preventative measures be employed to prevent the release of sediment into Meliadine Lake. Further, the proponent shall not store materials on the surface ice of Meliadine Lake, or any other lake or stream, except that which is for immediate use.



Additional Drill Locations:

- 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.
- 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.
- 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.
- If an artesian flow is encountered, the drill hole shall 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.
- The application makes reference in several places to the potential for an underground exploration program. The proponent shall submit additional information regarding this proposed underground program prior to any work being completed.

Expanded Camp Size:

- Environment Canada recommends the use of an approved incinerator for the disposal of combustible camp wastes.
- 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.
- The proponent shall ensure that any non-combustible waste is disposed of appropriately 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.

Field Operations and Spill Contingency Plan:

- Environment Canada recommends that the Field Operations Manual and the Spill Contingency Plan be updated to include the proposed all weather road and camp upgrades, if approved. The current plans do not reflect these changes to the project design.



**Environment Environnement
Canada Canada**

- The contact number for Environment Canada currently included in the Spill Contingency Plan should be changed to (867) 920-5131. This is the telephone number for the 24 hour pager manned by Emergencies and Enforcement Officers.
- The Spill Contingency Plan should clearly indicate that all spills are to be documented and reported to the 24 hour Spill Line at (867) 920-8130.
- 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* state 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)