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RE: NWB 2BE-MEL Comaplex Minerals Corp. - Meliadine Lake Project - Renewal

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*.

Comaplex Minerals Corp. has been active with the Meliadine West Gold Project since 1989 and has been operator of the project since 2004. The goal of the project is to identify enough gold resources and reserves on the property to sustain a profitable mining operation. During 2007 Comaplex will continue to explore the gold potential of the property through diamond drilling.

Water resources are required both to service a seasonal exploration camp on Meliadine Lake and for the diamond drills. A total of up to 40 people will be at the exploration camp engaged in diamond drilling, prospecting, geological mapping and geophysical surveying. Domestic water supply for the camp, by way of submersible pump in Meliadine Lake will provide approximately 5000 liter per day. Water for the operation of up to 3 drills simultaneously, will be 25,000 liters/day per drill. Field operations will be conducted between March and December.

Environment Canada has reviewed the renewal application and notes that the proponent has not submitted their revised 2007 Spill Contingency Plan and their Abandonment and Restoration Plan. EC recommends the proponent submit their Spill Plan and A & R Plan for review before project activities commence.

The Meliadine Lake Spill Plan should include a clear chain of command and list of personnel that should be contacted in the event of a spill. The chain of command should identify specific individuals and provide their contact information. The Plan should also provide direction regarding how to respond to spills on various environments, such as snow, ice, muskeg, etc… The Plan should also include a list of key personnel or organizations that should be contacted in the event of a spill. Mr. James Noble, Emergencies and Enforcement Officer for Environment Canada should be included on that list. Mr. Noble can be reached by telephone at 867-975-4644.

Environment Canada requests additional information regarding the proponents disposal of grey water into a "wetland, holding pond treatment" including location of the discharge point, direction and path of wastewater flow from the area, proposed discharge criteria, distance of the wetland/holding pond from fish bearing waters, the use of additives to treat the water prior to discharge and a monitoring plan for the receiving environment.

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

Drilling

- 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.
- EC strongly recommends that any drill additives and mud used for the project be biodegradable and non-toxic. Drilling additives or mud 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* lists 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, where drill additives are not being used, 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 30m 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 drill area is to be kept orderly and any garbage is to be removed daily from the area to an approved disposal site.
- Upon completion, exposed drill casings are to be removed or cut off at or below the surface of the ground.
- Sumps 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.

Waste treatment and disposal

- Given the size of the camp and the amount of sewage expected to be produced, EC recommends that camp sewage (i.e. toilet waste) be confined to latrine pits and that the proponent monitor the receiving water body for BOD_5, fecal coliforms, and TSS to determine if there have been any impacts to the receiving water body. If the monitoring results indicate impacts are occurring, the proponent should be prepared to have a sewage treatment system in place.
- Latrines 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, including shall be backfilled upon completion of the field season and contoured to match the surrounding landscape.
- EC recommends the use of an approved incinerator for the disposal of combustible camp wastes and that the disposal of combustible camp wastes comply with the *Canada-Wide Standards for Dioxins and Furans*, and the *Canada-Wide Standard for Mercury*. Hazardous and non-

combustible wastes shall be removed from site and disposed of properly at an approved facility including waste fuel and used oil.

- EC further recommends the use of appropriate waste incineration technology be combined with a comprehensive waste management strategy (especially waste segregation) that is designed to reduce and control the volumes of wastes produced, transported, and disposed of.
    - The **Waste Management Plan** should consider and include:
        - Purchasing policies that focus on reduced packaging,
        - Commitment to recycling where possible
        - On-site diversion and segregation programs (i.e. the separation of non-food waste items suitable for storage and subsequent transport and disposal or recycling).
        - If incineration is required, ensure diligent operation and maintenance of the incineration device and ensure appropriate training is provided to the personnel operating and maintaining the incinerator.

The objective should be to ensure that only food waste and food-contaminated waste is burned (the use of paper, cardboard and clean wood as supplementary fuel is acceptable).

Fuel Storage

- 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.
- Transfer operations should be attended by trained personnel at all times.
- Decanting of snow or water from the berm area should proceed only if the appropriate chemical analysis has determined the contents meet the requirements of Section 36.3 of the *Fisheries Act*.
- Fuel containers, including barrels, should be marked with the responsible party's name, product type, and year purchased or filled.
- Waste tracking, or "manifesting," should be implement to ensure proper use, storage, and management of materials. Manifests provide detailed information to first responders in the event of an accident and serve as a tool for confirming that shipments of dangerous or hazardous waste are properly handled, transported, and disposed of.
- Drip pans, or other similar preventative measures, should be used when refueling equipment on site.
- **All spills** are to be documented and reported to the 24 hour Spill Line at (867) 920-8130.

The Canadian Wildlife Service of Environment Canada has reviewed the above-mentioned submission and makes the following comments and recommendations pursuant to the *Migratory Birds Convention Act* (the *Act*) and *Migratory Birds Regulations* (the *Regulations)*, and the *Species at Risk Act* (SARA).

- 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).
- If activities are 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 until nesting is completed (i.e. the young have left the vicinity of the nest).
- In order to reduce disturbance to nesting 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.

- 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.
- Environment Canada recommends that camp waste be made inaccessible to wildlife at all times. Camp waste can attract predators of migratory birds (e.g., foxes and ravens) to an area if not disposed of properly.
- 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.
- All mitigation measures identified by the proponent, and the additional measures suggested herein, should be strictly adhered to in conducting project activities. This will require awareness on the part of the proponents' representatives (including contractors) conducting operations in the field. Environment Canada recommends that all field operations staff be made aware of the proponents' commitments to these mitigation measures and provided with appropriate advice / training on how to implement these measures.
- Implementation of these measures may help to reduce or eliminate some effects of the project on migratory birds, but will not necessarily ensure that the proponent remains in compliance with the *Migratory Birds Convention Act* (the *Act*) and *Migratory Birds Regulations (*the *Regulations)*. The proponent must ensure they remain in compliance with the *Act* and *Regulations* during all phases and in all undertakings related to the project.

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]
Peregrine Falcon (subspecies tundrius)	Special Concern	Schedule 3	Government of Nunavut
Short-eared Owl	Special Concern	Schedule 3	Government of Nunavut
Grizzly Bear	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 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, action plans, and management plans.

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 cindy.parker@ec.gc.ca.

Yours truly,

Original signed by

Cindy Parker
Environmental Assessment Technician

cc: (Colette Spagnuolo, Environmental Assessment & Contaminated Sites Specialist, Environment Canada, Iqaluit)