Environment Canada **Environnement Canada**

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RE: Comaplex Minerals Corporation – Meliadine West Gold Underground Exploration and Bulk Water License Amendment – 2BE-MEL

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*.

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

General

- 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.

Incineration

- The proponent should ensure that the installation of an incineration device is capable of meeting the emission limits established under the *Canada-wide Standards (CWS) for Dioxins and Furans* and the *CWS for Mercury Emission* (both the Government of Canada and the Government of the Nunavut are signatories to these Standards and are required to implement them according to their respective jurisdictional responsibility).
- EC is concerned with possible effects of dioxin and furan emissions which can occur due to the incineration of certain types of plastics. Therefore, we request that, to the extent possible, plastics be included in the non combustible solid material sent to the Rankin Inlet landfill.
- EC strongly recommends that **used absorbent materials, oily or greasy rags, and equipment servicing wastes** (such as used engine oil, antifreeze, hydraulic oil, lead acid batteries, brake fluid and other lubricants) be safely stored and transported in marked, sealed containers (odour free to prevent animal attraction) and safely transported to a facility that is authorized for the treatment and disposal of industrial hazardous wastes.
- Incineration ash can be contaminated with incineration byproducts (listed above) and therefore should be tested to ensure the ash is suitable for disposal or removed from site and disposed of appropriately.
- An incineration management plan should be developed in consultation with EC. The management plan should include annual reports to provide details on the following:
    - Initial stack test upon commission of the incinerator
    - Recycling/segregation waste program

- Incineration technology selected
- The amount and types of waste incinerated
- Operational and maintenance records
- Operator training
- Emission measurements
- Incineration ash disposal

Waste disposal

- EC request clarification if a landfill is being considered for the disposal of non-combustible wastes. EC recommends that all non-combustible wastes and hazardous materials be removed from site and disposed of in 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.
- Sumps should be inspected regularly to ensure there is no erosion or leaching.

Drilling

- Environment Canada would like to inform the proponent that the Canadian Environmental Protection Act has 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.
- EC recommends the use of secondary containment, such as self-supporting insta-berms, when storing chemicals on-site.
- Land based drilling should not occur within 30 m of the high water mark of any water body.
- If an artesian flow is encountered, the drill hole shall be immediately plugged and permanently sealed.

Fuel Storage/Spill Contingency Plan

- All fuel caches shall be located above the high water mark of any water body.
- The proponent should note that Environment Canada is proposing to repeal the existing "Registration of Storage Tank Systems for Petroleum Products and Allied Petroleum Products on Federal Lands and Aboriginal Lands Regulations" and replace it with a regulation that has a broader scope of application. The new regulation under the *Canadian Environmental Protection Act* (CEPA) 1999, Part 9 will incorporate mandatory technical requirements (secondary containment, leak detection, corrosion protection, overfill, spill containment) and be more in line with those regulations that already exist in most provincial and territorial jurisdictions. Compliance with the proposed regulations will be mandatory, and EC will conduct inspections to ensure compliance with the regulations. The proponent is encouraged to consult and implement the recommendations found in the 2003 CCME Guidance Document PN 1326 entitled "Environmental Code of Practice for Above Ground and Underground Storage Tank Systems containing Petroleum Product and Allied Petroleum Products". This document provides up to date information regarding best practices for the storage of petroleum products and allied petroleum products. EC recommends that the double-wall storage tank and fuel bladders be placed entirely within a dyked area, with an impermeable barrier in the floor of the containment area. EC requests that this be incorporated as a term and condition of the NWB water license as a preventive and safety measure for spill containment.
- Drip pans, or other similar preventative measures, shall be used when refueling equipment on site. Further, EC recommends the use of secondary containment, such as self-supporting insta-berms, when storing barreled fuel on location.
- All releases of harmful substances, <u>regardless of quantity</u>, are immediately reportable where the release:
  - is near or into a water body;
  - is near or into a designated sensitive environment or sensitive wildlife habitat;
  - poses an imminent threat to human health or safety; or
  - poses an imminent threat to a listed species at risk or its critical habitat.

Surface water quality

- Question #42 of the Supplementary Questionnaire states "surface runoff from the area of the pads and waste rock may carry sediments, dissolved blasting residue and other substances that may be deleterious to aquatic organisms in down stream environments". The proponent should provide greater details on how drill return-water and run-off from ore pads and waste rock pile will be managed in a manner that will not pose a negative impact on the quality of nearby freshwater sources. The proponent shall ensure that mitigation measures are implemented before potential environmental impacts occur by ensuring there is no surface runoff from the ore storage pad and waste rock pile. The proponent should also provide justification for using spray irrigation as a method of handling contaminated water, and provide complete details on the location of disposal, proximity to water bodies, topography and vegetation cover that would ensure the up take of ammonia.

Portal/Waste Rock/Quarries

- Figure 4 shows the location of quarries adjacent to a major water body. It is recommended that an undisturbed buffer zone of at least 100 meters be maintained between the proposed quarry and burrow pit operation and the normal high water mark of any water body, not 30 m as proposed by the proponent.
- The proponent shall apply erosion control measures are applied at all times to ensure that no deleterious substances are entering near by water bodies during quarry activities.
- It is recommended that the proponent not use any potentially problematic rock, which is subject to acid rock drainage (ARD) and metal leaching, in the construction of various structures that would be associated with this proposed development. If the proponent wishes to use such materials, EC recommends that the proponent develop a good quality control program for the separation of the rock so that the problematic rock types are not used.
- Kinetic testing should be part of the environmental assessment work for the ARD/ML potential of waste rock to provide information needed to estimate water quality

Wildlife

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, EC 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, EC 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.
- EC 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. EC 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 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 Specialist

cc: (Carey Ogilvie, Manager Environment Canada, Yellowknife, NWT)