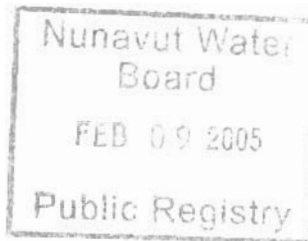


Environment Environnement
Canada Canada

Environmental Protection Branch
Suite 301, 5204 - 50th Avenue
Yellowknife, NT, X1A 1E2

February 9, 2005

Environmental Assessment Officer
Nunavut Water Board
P.O. Box 19
Gjoa Haven, NU
X0E 1J0



Our file: 4703 003 019

Via facsimile

Re: **NWB2ARC – Arcadia Project, Exploratory Drilling**
Proponent – Full Metal Minerals Ltd., Vancouver, BC

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On behalf of Environment Canada (EC), I have reviewed the information submitted with the above-mentioned application. The following comments are 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*.

Full Metal Minerals Ltd. of Vancouver, BC has applied for a water license for a mineral exploration program on the Arcadia Property located on Coronation Gulf, Nunavut. The proposed mineral exploration program will consist of 2000 m of diamond drilling for gold and silver mineralization. The program is planned to take place in March and April of 2005, and may resume in the summer of 2005 and/or the winter of 2006. This program will require the support of 9-10 people and will be based from a temporary camp on an unnamed lake. Drill moves will be carried out by helicopter and crew movement will be primarily by snowmobile.

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

1. Meeting the requirements of the *Fisheries Act* is mandatory, irrespective of any other regulatory or permitting system. Section 36(3) of the *Fisheries Act* specifies that unless authorized by federal regulation, no person shall deposit or permit the deposit 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. The legal definition of deleterious substance provided in subsection 34(1) of the *Fisheries Act*, in conjunction with court rulings, provides a very broad interpretation of deleterious and includes any substance with a potentially harmful chemical, physical or biological effect on fish or fish habitat.
2. All sumps, pits, spill basins and fuel caches shall be located above the high water mark of any waterbody and in such a manner as to prevent the contents from entering any waterbody frequented by fish. Therefore, please note that maintaining a buffer of 30 m may not always be an adequate preventative measure.
3. All sumps shall be backfilled upon completion of the project and recontoured to match the surrounding landscape.
4. Environment Canada recommends the use of secondary containment with an impervious liner, such as self-supporting insta-berms, for storage of all barreled fuel rather than relying on natural depressions to contain spills.
5. The proponent shall have a Spill Contingency Plan in place prior to establishing any fuel caches.
6. Fuel caches shall also be inspected on a regular basis.
7. A supply of spill kits, shovels, barrels, sorbents, pumps, etc. shall be consistently maintained and readily available onsite.
8. Environment Canada recommends the use of drip pans, or other similar preventative measures, when refueling equipment on site.

9. The proponent shall ensure that any fuel or hazardous wastes associated with the proposed project are properly handled, transported and disposed of.
10. Please note that any spill of fuel or hazardous materials adjacent to, or into a water body, regardless of quantity, shall be reported immediately to the NWT 24-hour Spill Line, (867) 920-8130.
11. Environment Canada's contact number is (867) 920-5131, a 24-hour emergency pager monitored by Emergency and Enforcement Officers.
12. Except for immediate use, the permittee shall not erect camps or store materials on the surface ice of any water body.

With respect to camp waste disposal, Environment Canada recommends that the following conditions be applied through all stages of the project:

13. Environment Canada recommends that equipment and material brought to site for this project should be packed out on project completion.
14. For disposal of combustible material that cannot be shipped out, Environment Canada recommends the use of an approved incinerator.
15. All non-combustible solid wastes (e.g., potable water bottles) shall be disposed of at an appropriate facility, e.g., Yellowknife, NWT or Inuvik, NWT. The proponent is encouraged to make use of recycling facilities for all recyclable materials.
16. 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. Incineration of camp waste is a recommended option.

With respect to exploration and drilling activities, Environment Canada recommends that the following conditions be applied through all stages of the project:

17. If artesian flow is encountered, drill holes shall be plugged and permanently sealed upon project termination.
18. If ice-based drilling occurs, the Interim guidelines for On-Ice drilling will apply. Return water released to the lake must be non-toxic. Return water release must not result in an increase in total suspended solids in the waters of the lake that exceeds Canadian Council of Ministers of the Environment (CCME) Guidelines for the Protection of Freshwater Aquatic Life (i.e., 10 mg/L for lakes with background levels under 100 mg/L, or 10% for those above 100 mg/L).
19. Drilling additives or mud shall not be used in connection with holes drilled through lake ice unless they are recirculated, contained such that they do not enter the water, or are demonstrated to be non-toxic.
20. Drilling waste from land-based drilling should be disposed of in such that they do not enter any body of water.
21. Please note that drilling waste water should be contained in an area (e.g., sump) that is adequate for that purpose. Is Full Metal Minerals Ltd. prepared for a situation where quantities of wastewater are significantly more than anticipated?

The Canadian Wildlife Service (CWS) 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).

22. Section 6 (a) of the Migratory Birds Regulations states that no one shall disturb or destroy the nests or eggs of migratory birds. Therefore, CWS recommends that all activities be conducted outside the migratory bird breeding season, which extends from approximately June 1 to August 1. 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).
23. If activities are permitted to occur during the breeding season, CWS 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).

24. Please note that 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. Therefore, CWS recommends that sumps be backfilled or made otherwise inaccessible to migratory birds prior to their arrival in spring and that the proponent ensure all spills are thoroughly cleaned up. Also, activities on frozen water that will later in the year become habitat for migratory birds must be mitigated according to the measures proposed by the proponent. If harmful substances do come into contact with bodies of water that are frequented by migratory birds during the open water season, then these must be completely cleaned up following the procedures identified by the proponent and subject to final approval by an Inspector.
25. In order to reduce disturbance to nesting birds, CWS recommends that aircraft used in conducting project activities maintain a flight altitude of at least 610 m during horizontal (point to point) flight.
26. In order to reduce disturbance to resting, feeding, or moulting birds, CWS 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.
27. 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.
28. 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.
29. The Species at Risk Act (SARA) came into full effect on June 1, 2004. Species at risk that may be encountered in this area include: Peregrine Falcons (subspecies *tundrius*) and Polar Bears, both listed as species of Special Concern on Schedule 3 of the *Species at Risk Act* (SARA). While conducting their operations, the proponent should be aware of the special status, and minimize disturbance to, or contact with, these 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) 669-4708 or by email at ivy.stone@ec.gc.ca.

Sincerely,



Ivy Stone
Environmental Assessment

cc: Steve Harbicht (Head, Assessment & Monitoring, EPB, Environment Canada, Yellowknife, NT)
Mike Fournier (Northern Environmental Assessment Coordinator, EPB, Environment Canada, Yellowknife, NT)