



Environment Canada
Environnement Canada

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Our file: 4703 001 055

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RE: NWB 2BE-ANI0608 – Renewal – North Arrow Minerals Inc. – Anialik River Project

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*.

North Arrow Minerals Inc. is proposing to conduct a mineral exploration program near the Anialik River, approximately 180 km southeast of Kugluktuk, NU. The exploration work will involve prospecting, geological mapping, sampling, and ground geophysics. Temporary fly camps will be used during the exploration work. Depending on results of the exploration activities, diamond drilling may also take place. If a drill program is warranted, crew will be based out of the established Rush Lake camp (latitude 67°23'28"N, longitude 111°04'55"W).

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

1. The proponent shall not deposit, nor permit the deposit of any fuel, chemicals, wastes, drill cuttings 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.
2. For any "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).
3. 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 are demonstrated to be non-toxic.
4. The proponent shall not store materials on the surface ice of lakes or streams, except that which is for immediate use.
5. Land based drilling should occur a sufficient distance from the high water mark of any water body, to ensure that no deleterious substances enter any water bodies. Drilling wastes from land based drilling shall be disposed of in a sump, such that the contents do not enter any water body.
6. Environment Canada would like to inform the proponent that the *Canadian Environmental Protection Act* has listed CaCl as a toxic substance. If CaCl is to be used as a drill additive during land based drilling, the proponent shall ensure that sumps containing CaCl are properly

constructed and located in such a manner as to ensure that the contents will not enter any water body.

7. If an artesian flow is encountered, the drill hole shall be immediately plugged and permanently sealed upon project termination.
8. The proponent should follow and comply with Canada Wide Standards for Dixons and Furans, and the Canada Wide Standards for Mercury emissions with respect to burning or incineration. In order for these guidelines to be met, at a minimum, an incinerator with dual chamber and forced air to allow for sufficient residence time and temperature to maximize combustion should be used.
9. All fuel caches shall be located above the high water mark of any water body. 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. Further, a copy of the spill plan should be kept at all fuel caches indicated in Spill Contingency Plan.
10. Environment Canada recommends the use of sumps for the disposal of drilling cuttings and sludges, camp greywater and sewage, including sludge. All 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 field season and contoured so as to match the surrounding landscape.
11. The proponent should be aware 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.
12. The contact numbers in the Spill Contingency Plan for Environment Canada's NWT/Nunavut 24-hour Duty Officer should be updated to the following:
 - Phone: 867-766-3737
 - Fax: 867-873-8185
13. Section 6 (a) of the Migratory Birds Regulations states that no one shall disturb or destroy the nests or eggs of migratory birds. If active nests are encountered during project activities, the nesting area should be avoided to prevent disturbance (i.e. the young have left the vicinity of the nest).
14. In order to reduce disturbance to nesting, moulting, and migrating birds, Environment Canada recommends that aircraft used in conducting project activities maintain a flight altitude of at least 650 m during horizontal (point to point) flight unless safety or cloud ceiling do not permit. Environment Canada also recommends that aircraft maintain a vertical distance of 1000 m and minimum horizontal distance of 1500 m from any observed concentrations (flocks / groups) of birds.
15. 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.
16. Section 5.1 of the *Migratory Birds Convention Act* prohibits persons from depositing substances harmful to migratory birds in waters or areas frequented by migratory birds or in a place from which the substance may enter such waters or such an area.
17. 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.

18. 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.
19. 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 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. All direct, indirect, and cumulative effects should be considered. Refer to species status reports and other information on 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.
 - Monitoring should be undertaken by the proponent to determine the effectiveness of mitigation and/or identify where further mitigation is required. As a minimum, this monitoring should include recording the locations and dates of any observations of Species at Risk, behaviour or actions taken by the animals when project activities were encountered, and any actions taken by the proponent to avoid contact or disturbance to the species, its habitat, and/or its residence. This information should be submitted to the appropriate regulators and organizations with management responsibility for that species, as requested.
 - For species primarily managed by 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 and action/management plans.

Once available, please forward the locations of any drill holes.

Environmental Protection Operations (EPO) should be notified of changes in the proposed or permitted activities associated with this application. Please do not hesitate to contact me at (867) 669-4744 or ron.bujold@ec.gc.ca with any questions or comments.

Yours truly,

Jane Fitzgerald
Environmental Assessment Coordinator

cc: Carey Ogilvie (Head, Assessment & Monitoring, EPO)
Mike Fournier (Northern Environmental Assessment Coordinator, A&M, EPO)