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EC file: 4703 001 072
NWB file: 2BE-MCG0810

Richard Dwyer
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Via email: licensingadmin@nunavutwaterboard.org

RE: 2BE-MCG0810 McGregor Lake Project Renewal Application

Environment Canada (EC) has reviewed the information submitted with the above-mentioned application. The following specialist advice has been provided pursuant to the *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

5050 Nunavut Limited (the Company) is applying to renew their Type 'B' water license for water use associated with exploration activities in their field camp located along the north shore of McGregor Lake, 115 15 44 W, 66 51 30N. Since 2007, the camp has been refurbished, historical waste removed and existing structure expanded to accommodate 30 people. The camp is operational seasonally between February and October. The Company intends to complete 6,876 m of diamond drilling from the original 10,000 m program.

EC provides the following comments and recommendations for the NWB's consideration:

Wildlife and Species at Risk

- 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 until nesting is complete (i.e., the young have left the vicinity of the nest).
- EC recommends that food, domestic wastes, and petroleum-based chemicals (e.g., greases, gasoline, glycol-based antifreeze) be made inaccessible to wildlife at all times. Such items can attract predators of migratory birds such as foxes, ravens, gulls, and bears. Although these animals may initially be attracted to the novel food sources, they often will also eat eggs and young birds in the area. These predators can have significant negative effects on the local bird populations.
- 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.
- In order to reduce aircraft disturbance to migratory birds, Environment Canada recommends the following:
 - Fly at times when few birds are present (e.g., early spring, late fall, winter)

- If flights cannot be scheduled when few birds are present, plan flight paths that minimize flights over habitat likely to have birds and maintain a minimum flight altitude of 650 m (2100 feet).
- Minimize flights during periods when birds are particularly sensitive to disturbance such as migration, nesting, and moulting.
- Plan flight paths to avoid known concentrations of birds (e.g., bird colonies, moulting areas) by a lateral distance of at least 1.5 km. If avoidance is not possible, maintain a minimum flight altitude of 1100 m (3500 feet) over areas where birds are known to concentrate.
- Avoid the seaward side of seabird colonies and areas used by flocks of migrating waterfowl by 3 km.
- Avoid excessive hovering or circling over areas likely to have birds.
- Inform pilots of these recommendations and areas known to have birds.
- 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.

Terrestrial Species at Risk ¹	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility ²
Peregrine Falcon (<i>anatum-tundrius</i> complex ⁴)	Special Concern	Schedule 1 (<i>anatum</i>) Schedule 3 (<i>tundrius</i>)	Government of Nunavut
Eskimo Curlew	Endangered	Schedule 1	EC
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 The Department of Fisheries and Oceans has responsibility for aquatic species.

² 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.

³ The *anatum* subspecies of Peregrine Falcon is listed on Schedule 1 of SARA as threatened. The *anatum* and *tundrius* subspecies of Peregrine Falcon were reassessed by COSEWIC in 2007 and combined into one subpopulation complex. This subpopulation complex was listed by COSEWIC as Special Concern. Impacts could be disturbance.

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. 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.
- Eskimo Curlew is designated as Endangered and listed on Schedule 1 of the Species at Risk Act. Eskimo Curlew could potentially occur within the project area. However, there have been no reliable sightings of Eskimo Curlew since 1998 and the National Recovery Team for this species has determined that recovery is not feasible at this time. It is EC's view that, in light of its current status, there is no need for further action with respect to Eskimo Curlew. An appropriate mitigation and monitoring plan will be developed with the Proponent if it is established that this species does occur in the area.
 - 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 and Species at Risk, but will not necessarily ensure that the proponent remains in compliance with the *Migratory Birds Convention Act*, *Migratory Birds Regulations*, and the *Species at Risk Act*. The proponent must ensure they remain in compliance during all phases and in all undertakings related to the project.

It would appear to EC that the above noted application and intended activities are a continuation of their existing mineral exploration program. Comments and recommendations submitted on behalf of EC by I. Stone to the Nunavut Impact Review Board under file number 06EN055 would also still apply to this project (see attached). 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 Paula.C.Smith@ec.gc.ca.

Yours truly,



Paula C. Smith
Environmental Assessment Coordinator

cc: Carey Ogilvie (Head, Environmental Assessment-North, EPO, Yellowknife, NT)
Ron Bujold (Environmental Assessment Technician, EPO, Yellowknife, NT)



Environment Environnement
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June 26, 2006

Carolanne Inglis
Technical Advisor
Nunavut Impact Review Board
P.O. Box 2379
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Our file:

Via Email

Re: NIRB 06EN055 – MIE Exploration Project Proposal
Proponent – 5050 Nunavut Limited (Adriana Resources Inc.), Vancouver, BC

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*.

5050 Nunavut proposes to set up a camp on the southwest shore of McGregor Lake to support their staking, prospecting and exploration work covered under KIA Land Use License KTL104C033, as well as to conduct a drilling project on their MIE property. Activities will include fuel mobilization, camp setup and a spring geophysical program with drilling to take place in the summer. Project drilling would be helicopter supported in summer and snowmobile supported in winter. Access to the property will be via floatplane in summer and via ski plane in winter.

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.

With respect to the transport, handling and storage of fuels and hazardous materials, Environment Canada has the following recommendations.

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. 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.
4. The proponent shall have a Spill Contingency Plan in place prior to establishing any fuel caches.
5. Locations of fuel caches shall be provided to Environment Canada and these shall be inspected on a regular basis.
6. A supply of spill kits, shovels, barrels, sorbents, pumps, etc. shall be consistently maintained and readily available onsite.

7. Environment Canada recommends the use of drip pans, or other similar preventative measures, when refueling equipment on site.
8. The proponent shall ensure that any fuel or hazardous wastes associated with the proposed project are properly handled, transported and disposed of.
9. Please note that fuels or hazardous materials cached for this study must be removed at the end of the project.
10. To ensure compliance with Section 36(3) of the *Fisheries Act* and Section 35 of the *Migratory Birds Regulations* all spills of fuel or hazardous materials, **regardless of quantity**, shall be reported immediately to the NWT 24-hour Spill Line where the release:
 - a. Is near or into a water body (including frozen)
 - b. Is near or into a designated sensitive wildlife habitat
 - c. Poses a threat to a listed species at risk or its critical habitat
11. Except for immediate use, the permittee shall not erect camps or store materials on the surface ice of any water body.
12. Environment Canada's contact number is (867) 920-5131, a 24-hour emergency pager monitored by Emergency and Enforcement Officers.

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

13. If artesian flow is encountered, drill holes shall be plugged and permanently sealed upon project termination.
14. 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).
15. Drilling additives or mud shall not be used in connection with holes drilled through lake ice unless they are re-circulated, contained such that they do not enter the water, or are demonstrated to be non-toxic.
16. Drilling waste from land-based drilling should be disposed of in such that they do not enter any body of water.
17. Effluent water quality limits should be set such that the limits will be protective of the receiving environment.
18. Please note that drilling waste water and mine water should be contained in an area (e.g., sump) that is adequate for that purpose.
19. Except for immediate use, the permittee shall not erect camps or store materials on the surface ice of any water body.
20. All equipment and material brought to site for this project should be packed out on project completion.

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

21. All sumps shall be backfilled upon completion of the project and recontoured to match the surrounding landscape.
22. Environment Canada recommends that equipment and material brought to site for this project should be packed out on project completion.
23. For disposal of combustible material that cannot be shipped out, Environment Canada recommends the use of an approved incinerator.
24. All non-combustible solid wastes (e.g., potable water bottles) shall be disposed of at an appropriate facility, e.g., Iqaluit, NU. The proponent is encouraged to make use of recycling facilities for all recyclable materials.

25. 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.

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).

26. 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 May 1 to 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 vicinity of the nest).
27. 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).
28. Also, 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.
29. 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.
30. 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.
31. 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.
32. 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.
33. 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 falcon (subspecies *tundrius*) and Short-eared Owl are listed as species of Special Concern on Schedule 3 of SARA. The wolverine, barren ground caribou (Bluenose West and Bathurst herds) and barren ground grizzly are in the SARA listing process, but no determination has yet been made on their status under 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 / Contaminated Sites Specialist

cc: Steve Harbicht (Head, Environmental Assessment, North, EPOD, Environment Canada, Yellowknife, NT)
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