Environment Canada **Environnement Canada**

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

8 June 2007 Our File 4703 001 071

Phyllis Beaulieu
Manager of Licencing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0 Fax: (867) 360-6369

Re: 2007N-2BE-MSX: Silvermet Inc. – Muskox Project – Type "B."

EPO's contribution to your request for specialist advice is based on the mandated responsibilities for the enforcement of **Section 36(3)** of the ***Fisheries Act***, the ***Canadian Environmental Protection Act*** (CEPA), the ***Migratory Birds Convention Act*** (MBCA) ***Regulations*** and the ***Species at Risk Act*** (SARA).

Comments and recommendations submitted by Cindy Parker with Environment Canada for, NIRB 07EN017, Silvermet's Muskox Project in the McGregor Lake area would apply to Water Licence 2007N-2BE-MSX. I have attached a copy of her response.

The proponent has listed under their Reporting Procedures the Environment Canada Yellowknife contact number as 867-669-4710, this number should be changed to the following:

- **24/7 Environment Canada Duty Officer at 867-766-3737**

EC also recommends that the following general conditions be applied throughout all phases of the project:

- The proponent shall ensure that any chemicals, fuel or wastes associated with the proposed land use permit application do not enter waters frequented by fish. It is a requirement of Section 36(3) of the ***Fisheries Act*** that all effluent discharged into water frequented by fish, be non-deleterious

- The proponent should ensure that combustible waste is burned in a device that promotes efficient combustion and reduction of emissions and is capable of meeting the emissions limits established under the Canada-wide Standards (CWS) for Dioxins and Furans and the CWS for Mercury Emissions. Both the Government of Canada and the Government of Nunavut are signatories to these standards and are required to implement them according to their respective jurisdictional responsibility

- 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 NT/NU 24-hour Spill Line, (867) 920-8130

- The proponent should be aware 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

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,

Ron Bujold
Environmental Assessment Technician

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

FACSIMILE MESSAGE

Environment Canada Environnement Canada

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

DATE:	**8 June 2007**		
TO:	**Phyllis Beaulieu**	**FROM:**	**Ron Bujold**
	Manager of Licencing		**Environmental Assessment Technician**
	Nunavut Water Board		
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Number of pages including cover: **7**

Subject:

2007N-2BE-MSX: Silvermet Inc. – Muskox Project – Type "B."

MESSAGE:

Environmental Protection Operations
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Leslie Payette
Manager of Administration
Nunavut Impact Review Board
Cambridge Bay, NU
Tel: (867) 983-4611
Fax: (867) 983 2594 *via email*

RE: Silvermet Corporation – NIRB 07EN017 - MacGregor Lake Area 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*.

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, 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.
- Any sumps created for the disposal of camp sewage or grey water 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.
- The proponent shall not store materials on the surface ice of lakes or streams, except that which is for immediate use.

- Environment Canada recommends the use of an approved incinerator for the disposal of combustible camp wastes. Installation of an incineration device capable of meeting the emission limits established under the *Canada-wide Standards (CWS) for Dioxins and Furans* and the *CWS for Mercury Emissions* is required (both the Government of Canada and the Government of Nunavut are signatories to these Standards and are required to implement them according to their respective jurisdictional responsibility).
- The use of appropriate waste incineration technology should 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. EC recommends that incineration technology be combined with a **Waste Management Plan**.
    - The Waste Management Plan Waste should consider and include:
        - Purchasing policies that focus on reduced packaging;
        - 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);
        - Commitment to recycling where possible;
        - 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.
    - 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) should be safely stored and transported in sealed containers and safely transported to a facility that is authorized for the treatment and

disposal of industrial hazardous wastes. Only clean wood (i.e. wood that has not been coated with chemicals or paint) should be burned.

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).

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.
- 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.
- For "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).
- Land based drilling should not occur within 30 m 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**.**

Fuel Storage

- Secondary containment or a surface liner (drip pans, fold-a-tanks, etc) should be placed under all container or vehicle fuel tank inlet and outlet points, hose connections and hose ends during fuel or hazardous substance transfers. Secondary containment should be of adequate size and volume to contain and hold fluids for the purpose of preventing spills (the worst-case scenario). Appropriate spill response equipment and clean-up materials (absorbents, containment devices, etc) must be on hand during any transfer of fuel or hazardous substances and at vehicle-maintenance areas.
- 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.
- All staff shall be instructed regarding these spill/clean-up procedures.
- All releases of harmful substances, regardless of quantity, 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.
- The Spill Contingency Plan should include Jimmy Noble, Environment Canada's Enforcement Officer. Mr. Noble can be contacted at (867) 975-4644.

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).

- 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).

- For activities 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 in the nesting area until nesting is completed (i.e. the young have left the vicinity of the nest).
- In order to reduce disturbance to nesting birds, EC recommends that aircraft used in conducting project activities maintain a flight altitude of at least 610 m during horizontal (point to point) flight unless safety or cloud ceiling do not permit.
- 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. 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]
Short-eared Owl	Special Concern	Schedule 3	Government of Nunavut
Peregrine Falcon (subspecies tundrius)	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 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.
- 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 and action/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)