ᓄᓇᕗᒻ ᐊᐅᑎᓕᓐᓂᖅᓴᓂᒃ ᑲᑎᒪᔨᖅᑕᐅᓯᒪᔪᓂᒃ ᐃᓕᓴᕐᕕᐅᕕᐊᓂᖅ/NUNAVUT IMPACT REVIEW BOARD/NUNAVUTMI KANOGILIVALIANIKOT ELITTOHAIYEOPLOTIK KATIMAYIIT

April 27, 2000

To: Rita Becker
Licensing Administrtor
Nunavut Water Board
Gjoa Haven, NU

Re: Mineral Exploration Kikerk Lake on Devon Island
NIRB: 00EN101 NWB: NWB2WEL9899

Enclosed is the completed NIRB Screening Decision Report on a application for a water permit for mineral exploration on Devon Island in the Baffin.

NIRB has screened this application for ecosystemic and socio-economic impacts of the proposal.

NIRB's indication to the Minister is: 12.4.4 (a) the proposal may be processed without a review under Part 5 or 6; NIRB may recommend specific terms and conditions to be attached to any approval, reflecting the primary objectives set out in Section 12.2.5;

Please contact me at (867) 983-2593 if you have any questions about the Screening Report.

Yours truly,

Gladys Joudrey
Environmental Assessment Officer

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SCREENING DECISION

Date: April 27, 2000

Mr. Thomas Kudloo
Chairperson, Nunavut Water Board
Gjoa Haven, NT

Dear Mr. Kudloo:

RE: Screening Decision of the Nunavut Impact Review Board (NIRB) on Application: NIRB 00EN101 NWB NWB2WEL9899
Mineral Exploration Kikerk Lake on Devon Isand – Noranda Inc.

Authority:
Section 12.4.4 of the Nunavut Land Claim Agreement states:

Upon receipt of a project proposal, NIRB shall screen the proposal and indicate to the Minister in writing that:

a) the proposal may be processed without a review under Part 5 or 6; NIRB may recommend specific terms and conditions to be attached to any approval, reflecting the primary objectives set out in Section 12.2.5;
b) the proposal requires review under Part 5 or 6; NIRB shall identify particular issues or concerns which should be considered in such a review;
c) the proposal is insufficiently developed to permit proper screening, and should be returned to the proponent for clarification; or
d) the potential adverse impacts of the proposal are so unacceptable that it should be modified or abandoned.

Primary Objectives:

The primary objectives of the Nunavut Land Claims Agreement are set out in section 12.2.5 of the Land Claims Agreement. This section reads:

In carrying out its functions, the primary objectives of NIRB shall be at all times to protect and promote the existing and future well-being of the residents and communities of the Nunavut Settlement Area, and to protect the ecosystemic integrity of the Nunavut Settlement Area. NIRB shall take into account the well-being of the residents of Canada outside the Nunavut Settlement Area.

The decision of the Board in this case is 12.4.4 (a) the proposal may be processed without a review under Part 5 or 6; NIRB may recommend specific terms and conditions to be attached to any approval, reflecting the primary objectives set out in Section 12.2.5;

P.O. Box 2379 Cambridge Bay, NT /EKALUKTUTIAK, NUNATIAMI X0E 0C0 • Phone/HIVAYAOTA: (867) 983-2593 • Fax/FAX-KOT: (867) 983-2594

Reasons for Decision:

NIRB's decision is based on specific considerations that reflect the primary objectives of the Land Claims Agreement. Our considerations in making this decision included:

- the impact of drilling activities on the ecosystem;
- disposal of drill cuttings and waste water;
- impact to water quality, aquatic habitat and wildlife and fish populations from chemicals, drill waste, drill fluids and potential fuel spills;
- storage and disposal of chemicals, fuel, garbage, sewage, and gray water, and impact of these on the ecosystem;
- the impact of noise from drilling activities and their disturbance to wildlife and traditional users of area;
- the impact of campsite and equipment on terrain;
- the impact of exploration activities on archaeological sites or cultural landmarks in the area; and
- clean up/restoration of the camp site and drilling locations upon abandonment.

Terms and Conditions:

That the terms and conditions attached to this screening report will apply.

Drill Sites

1. The Permittee shall not conduct any land based drilling within thirty (30) metres of the normal high water mark of a water body.
2. The Permittee shall conduct any the lake-based winter drilling, in accordance with the Interim Guidelines for On-Ice drilling.
3. The Permittee shall ensure that all drill cuttings are removed from ice surfaces.
4. The Permittee shall not use drilling muds or additives in connection with drill holes unless they are recirculated or contained such that they do not enter the water, or are certified to be non-toxic.
5. The Permittee shall ensure that any drill cuttings and waste water that cannot be re-circulated be disposed of in a properly constructed sump or an appropriate natural depression that does not drain into a waterbody. The Permittee shall ensure that drilling wastes do not enter any water body. The use of biodegradable, salt free drill additives is encouraged over non-biodegradable types.
6. The Permittee shall ensure that the sump/depression capacity is sufficient to accommodate the volume of waste water and any fines that are produced so that there will be no additional impacts.
7. The Permittee shall not locate any sump within thirty (30) metres of the normal high water mark of any water body.

8. The Permittee shall ensure that disturbance of vegetation from deposit of drill fluids/cuttings is restricted to the area of the sump and the ground prepared for revegetation upon abandonment.
9. The Permittee shall, where flowing water from bore holes is encountered, plug, the bore hole in such a manner as to permanently prevent any further outflow of water. The occurrence shall be reported to the Nunavut Water Board and Land Use Inspector within 48 hours.

Water

10. The Permittee shall ensure that all water intake hoses are equipped with a screen with an appropriate mesh size to ensure that there is no entrapment of fish.

Fuel and Chemical Storage

11. The Permittee shall ensure that fuel storage containers are not located within thirty-one (31) metres of the ordinary high water mark of any body of water.
12. The Permittee shall ensure that any chemicals, fuels or wastes associated with the project do not spread to the surrounding lands or enter into any water body.
13. The Permittee shall take all reasonable precautions to prevent the possibility of migration of spilled petroleum fuel or chemicals over the ground surface.
14. The Permittee shall have one extra fuel storage container on site equal to, or greater than, the size of the largest fuel container.
15. The Permittee shall examine all fuel and chemical storage containers daily for leaks. All leaks should be prepared immediately.
16. The Permittee shall seal all container outlets except the outlet currently in use.
17. The Permittee shall mark all fuel containers with the Permittee's name.
18. The Permittee shall dispose of all combustible waste petroleum products by incineration and removal from the site.
19. The Permittee shall have emergency response and spill contingency plans in place prior to the commencement of the operation.
20. The Permittee shall immediately report all spills of petroleum and hazardous chemicals to the twenty four (24) hour spill report line at (867) 920-8130 .

Waste Disposal

21. The Permittee shall not discharge or deposit any refuse substances or other waste materials in any body of water, or on the banks thereof, which will impair the quality of the waters of the natural environment.
22. The Permittee shall not locate any sumps or areas designated for waste disposal within thirty (30) metres of the ordinary high water mark of any body of water, unless otherwise authorized.
23. The Permittee shall construct a sump to contain all greywater discharged and shall ensure drainage is away from any waterbody.

24. The Permittee shall backfill and recontour all sumps to match the natural environment prior to the expiry date of the permit.
25. The Permittee shall incinerate all combustible and food wastes daily.
26. The Permittee shall keep all garbage and debris in a covered metal container until disposed of.
27. The Permittee shall ensure that all wastes generated through the course of the operation are backhauled and disposed of in an approved dumpsite.
28. The Permittee shall not bury any wastes.
29. The Permittee shall deposit all scrap metal, discarded machinery and parts, barrels and kegs, at an approved disposal site.

Wildlife

30. The Permittee shall ensure that there is no damage to wildlife habitat in conducting this operation.
31. The Permittee shall delay the entire exploration program until July 24, 2000. At this time, calves should be at least two weeks old and better able to follow their mothers.
32. The Permittee shall hire members of the Grise Fiord and Resolute Bay HTO(s) to act as observers of the Peary caribou herd and advisors to the proponent on avoiding disturbance to the herd.
33. The Permittee shall contact the regional biologist in Pond Inlet (Mike Ferguson 867-899-8876) to obtain information on procedures required to prevent unintentional harassment.
34. The Permittee shall not feed wildlife.
35. The Permittee shall ensure that aircraft pilots adhere to recommended flight altitudes of greater than 300 m above ground level as to not disturb wildlife. Raptor nesting sites and concentrations of nesting or molting waterfowl should be avoided by aircraft at all times.
36. The Permittee shall ensure compliance with Section 36 of the Fisheries Act which requires that no person shall deposit or permit the deposit of a deleterious substance on any type in water frequented by fish or in any place under any conditions where the deleterious substance may enter such a water body.
37. The harmful alteration, disruption or destruction of fish habitat is prohibited under Section 35 of the Fisheries Act. No construction or disturbance of any stream/lake bed or banks of any definable watercourse is permitted unless authorized by DFO.
38. The Permittee shall not obstruct the movement of fish while conducting the land use operation.
39. The Permittee shall ensure that the drill sites avoid known environmentally sensitive areas (denning, nesting etc.) by a minimum of 250 metres.

Environmental

40. The Permittee shall ensure that the land use area is kept clean and tidy at all times.
41. The Permittee shall prepare the site in such a manner as to prevent rutting of the ground surface.
42. The Permittee shall be required to undertake any corrective measures in the event of any damage to the land or water as a result of the Permittee's operation.

43. The Permittee shall not use any equipment except of the type, size and number that is listed in the accepted application.
44. The Permittee use the latest bear detection and deterrent techniques to minimize man-bear interactions.
45. The Permittee shall not move any equipment or vehicles unless the ground surface is in a state capable of fully supporting the equipment or vehicles without rutting or gouging.
46. The Permittee shall suspend overland travel of equipment or vehicles if rutting occurs.

Camp

47. The Permittee shall not erect camps or store material on the surface ice of lakes or streams.
48. The Permittee shall locate all camps and storage facilities on gravel, sand or other durable land.

Attachments

49. The Permittee shall refer to the attached Department of Sustainable Development comments and recommendations and the Fisheries and Oceans letter of advice addressed to the Permittee.

Archaeological

50. The Permittee shall follow all terms and conditions for the protection and restoration of archaeological resources as outlined by the Prince of Wales Northern Heritage Centre (PWNHC) in attached letter.

Reclamation

51. The Permittee shall remove all scrap metal, discarded machinery and parts, barrels and kegs, buildings and building material upon abandonment.
52. The Permittee shall complete all clean-up and restoration of the lands used prior to the expiry date of the permit.
53. The Permittee shall plug or cap all bore holes and cut off any drill casings that remain above ground to ground level upon abandonment of the operation.

Other Recommendations

1. NIRB would like to encourage the proponent to hire local people and services, to the extent possible.
2. NIRB advises proponents to consult with local residents regarding their activities in the region.
3. An executive summary of the results be provided to the relevant HTO's and Hamlets.
4. Any amendment requests deemed by NIRB to be outside the original scope of the project will be considered a new project.

5. The Environmental Protection Branch (DOE), Department of Fisheries and Oceans (DFO), Nunavut Impact Review Board (NIRB), and the Nunavut Water Board (NWB) should be advised of any material changes to plans or operating conditions associated with the project.

Validity of Land Claims Agreement

Section 2.12.2
Where there is any inconsistency or conflict between any federal, territorial and local government laws, and the Agreement, the Agreement shall prevail to the extent of the inconsistency or conflict.

Dated April 27/00 at Cambridge Bay, NT

Larry Pokok Aknavigak, Chairperson

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NUNAVUT IMPACT REVIEW BOARD
SCREENING FORM

1. General File Information on Screening

NIRB #: 00EN101 (yy-xxx) Authorizing Agency #(s): NWB (permit or licence #) NWB2WEL9899

Project Title: Mineral Exploration Kilerk lake (Title of Project)

Proponent: Noranda Inc. (Company Applicant)

Proponent's Address: 974 Tungsten St.
Thunder Bay, Ontario
P7B 6S3
(Full Address)

Contractor: ______ (Company persons doing the work if different from the proponent)

______ (address and contact numbers)

Proposed Dates of Activity: Start Date June 15/00 (yyyy-mm-dd) End Date Aug 15/00 (yyyy-mm-dd)

EA Starting Date: March 23, 2000 (Date application accepted (yyyy-mm-dd))

Date Application Referred for Comments: March 26, 2000 (yyyy-mm-dd)

Deadline for Comments: April 13, 2000 (yyyy-mm-dd)

NIRB's EA Indication: 12.4.4 (a)

Date of Indication: April 27, 2000 (yyyy-mm-dd)

Project Cancelled: Yes, Give Reason ______

Comments: ______

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2. Authorizing Agencies

Authorizing Agency(ies): Kivalliq I.A., Kitikmeot I.A., QIA, NWB, NWMB, DIAND, DFO, DOE, NRI, RWED, Other: _____

Authorizing Agency Contact Person: Rita Becker
(office where project file is located, contact person, number)

Land Status: Inuit Owned____ Crown ✓ Commissioner's____ Marine Areas____

Type of Application: water licence.
(e.g. water licence, land use permit, quarry permit, research permit, lease, reserve)

Type of Approval being sought: new
(e.g. new, renewal, amendment, cancellation)

Other required approvals, permits or licences: _____
(e.g. water licence, land use permit, quarry permit, lease, reserve)

Present Authorizations (active): _____
(file number)

Previous Authorizations (inactive/expired): _____
(file number)

3. Project Location

Kivalliq ____ Kitikmeot____ Baffin ✓

Land Use Planning Region: North Baffin
(e.g. West Kitikmeot, North Baffin, South Baffin, Kivalliq)

Geographic Place Name: Devon Island
(nearest place name or geographic feature)

Local/Traditional Name: _____

National Topographic Sheet (NTS) Number: 59B Scale: 1:50,000

Latitude/Longitude: 76.42167N, 93.56717W
(degrees, minutes seconds)

Drainage Region and Watershed: Arthur Fiord
(nearest creek, river or lake system)

Nearest Settlement: Grise Fiord, Resolute Bay

Adjacent Settlement/Out-post camps: _____

Special Designation: NO
(Yes/No –e.g. Heritage River, Wildlife Reseserve, Park)

Does the project have Nunavut transboundary implications? Yes ____ No ✓

If yes, what additional procedures/contacts are needed? _____

4. Project Description and Assessment

Physical Work, Activity(ies). exploration

(drilling, construction camp, research, water works, installation, modification, maintenance)

Multiple Activities Yes_____ No ✓

Project Category Code Point Multiple Points Linear (Area)

Phase of Project operations

(exploration, bulk sampling, development, operations, decommissioning, abandonment restoration)

Project Description Summary (non-technical).

(duration of project, size of project, number of personnel on site, related physical activities, machinery used, fuels and chemical use and storage, associated infrastructure, methods of transportation, amount and source of resources needed eg. Gravel)

Attach Project Overview (English and Inukitut)

Alternatives Considered:

(list all alternatives to the project and or components of the project to avoid unnecessary amendments, (e.g. alternatives to location of ice road or camp logistics)

5. The Proponent's Public Consultation Process

Description of Proponent's Public Consultation Process

Proponent has met with various local community representatives (SAO, CLARC, RIA, HTA) in both communities and have had residents working on the project.

Did proponent make use of traditional knowledge? Yes___ No___

Was information available in the community's preferred language? Yes___ No___

In NIRB's opinion, was the proponent's public consultation adequate? Yes___ No___

If no, explain why the proponent's consultation program was found deficient.

Noranda Inc.
Wellington Project Description, 2000
M. Rees, Project Geologist

Noranda Inc. is actively exploring it's prospecting permits on the Grinnell Peninsula, Devon Island, Nunavut. Noranda started this program in 1998, after completing a deal with BHP Minerals Canada to option the permits. The permits cover a large part of the eastern side of the peninsula, where the carbonate rocks are considered to have good potential to host zinc-lead mineralization that is similar to Cominco's Polaris Mine.

The 2000 exploration program will include prospecting, geologic mapping, various types of surficial rock and soil sampling, geophysical surveys (Airborne Electromagnetic, Gravity), and diamond drilling to recover core samples of the subsurface rock. We intend to drill approximately 15 to 20 holes during the current program, totaling approximately 5,000 meters (see map for locations). All of these programs are helicopter-supported and no ground vehicles are used except one ATV in the immediate camp area to facilitate movement of supplies, etc.

The camp site was previously established by BHP, and has been re-used and upgraded by Noranda since 1998 (the camp is located on the east shore of Arthur Fiord, as indicated on the attached map). All fuels and supplies are properly cached at the camp site, which is located on Crown lands. All areas where detailed exploration is being undertaken are also located on Crown lands. One drill is stored on the JG grid, where it will be used this summer. The other drill will be flown up to the camp this summer, and is intended for testing the other priority targets in the area (see map).

The total length of the work program will be between 45 and 60 days, depending on the weather. There will be up to 35 people in the camp at any one time, although the average is likely to be around 25 to 30, indicating a total of approximately 1500 persondays for the program.

Noranda Inc.
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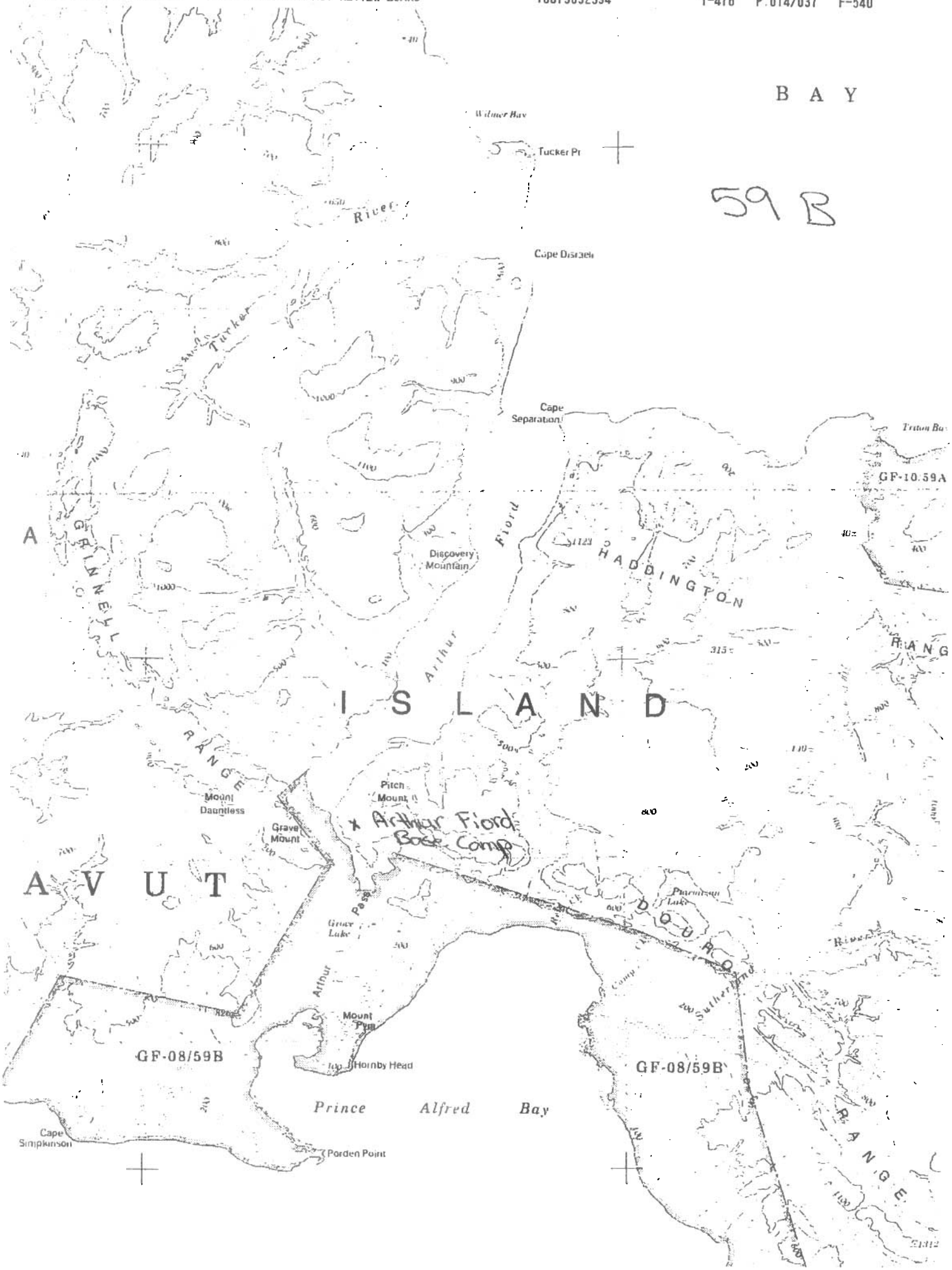
ᒫᑦ ᓂᒃ, ᐅᔭᕋᓯᐅᖅᑎ

Noranda Inc. ᓄᕐᖅᑕᒃᑯᑦ ᒫᓐᓇ ᓴᕕᕐᔭᒃᓴᖅᓯᐅᕈᑕᓂᐊᑦ ᐱᔪᓐᓇᐅᑎᒥᓂᒃ ᐊᑐᖅᓯᑎᑦ Grinnell Peninsula ᔪᓂᓂᐊᓐᑦ ᓄᕗᐊᓂ, ᑕᓐᓗᕈᑎᐅᑉ ᕿᑭᖅᑕᖓᓂ, ᓄᓇᕗᒻᒥ. 1998ᖑᑎᓪᓗᒍ ᓄᕐᖅᑕᒃᑯᑦ ᓴᕕᕐᔭᒃᓴᖅᓯᐅᕐᕕᒥᒥ ᐊᓐᖓᔪᖓ, BHP-ᑯᓐᓂᒃ ᐊᖏᖃᑎᖃᖅᓯᑎᒃ ᐱᔪᓐᓇᐅᑎᑖᖅᑎᑕᐅᔪᓐᓇᔪᔪᑦ. ᐱᔪᓐᓇᐅᑎᑎᒍᑦ ᓴᕕᕐᔭᒃᓴᖅᓯᐅᕐᕕᒋᔭᖓᑦ ᓯᐊᕐᓯᒪᓂᖓ ᐊᖏᔫᒪᓂᒃ ᑲᓇᖕᓇᖅᐸᓯᐊᑕ ᓄᕗᑦ. ᐅᔭᕐᑕᒪᐅᔪᓐᓗ ᓴᕕᕐᔭᒃᓴᖅᑕᖃᕆᓇᕐᓂᖅᓯᕆᔭᐅᓪᓗᑎᒃ ᐅᓪᓗᓂᐊᕐᔪᖅᒥ ᓴᕕᕐᔭᒃᓴᖅᓯᐊᖑᖃᑦᑕᖅᑐᑦ ᐊᒃᐳᐊᒃᐳᐸᓗᒋᓐᓂᒃ.

ᐊᕐᕌᒍᒥ 2000 ᓴᕕᕐᔭᒃᓴᖅᓯᐅᕐᓂᐅᓂᐊᖅᑎᓪᓗᒍ ᑕᐃᒪ ᓴᕕᕐᔭᒃᓴᖅᓯᐅᖃᑦᑖᖅᑐᑦ. ᓄᓇᖑᐊᓕᐅᒪᓗᑕᓗ, ᐅᔭᕐᐃᓪᓗ ᓄᓇᐅᑉ ᖃᓄᐃᓐᖏᑦᑐᓂᒃ ᐊᒻᒪᓗ ᐃᑦᔪᐃᓪᓗ ᓯᑯᑦ ᓇᓗᓴᐃᖅᑐᖅᑎᓯᑎᓐᓂᒃ ᑲᑎᖅᓯᐃᕙᑦᑕᓪᓗᑕ ᓇᓗᓇᐃᖅᑐᖅᑎᕙᑦᑖᖅᑐᑦ ᓴᕕᕐᔭᒃᓴᖅᓯᐊᕐᕕᐅᔪᒥᓇᓂᐊᖓᓂᒃ. ᑎᖅᒥᔫᒃᑯᓪᓗ ᓄᓇᖑᐊᓕᐅᒪᓗᑕ (ᑎᖅᒥᔫᒃᑯᓪᓗ ᓂᐱᑦᑕᖅᑐᕐᓯᓐᓗᑕ ᖃᓄᑎᒥ ᓄᓇᐅᑦ ᐃᓗᐊ ᓴᕕᕐᔭᒃᓴᖅᑕᖃᕆᓇᓂᐊᖓᓂᒃ ᖃᐅᔨᓇᓯᐊᕈᑎᒥᓗᑎᒍ) ᐊᒻᒪᓗ ᐃᓚᓕᐅᔭᒃᓴᖅᑕᖃᕆᓇᓂᐊᖓᓂᓪᓗ ᐃᑯᑕᖅᑐᑦ ᐃᑯᑖᖅᑕᕕᓂᓪᓗ ᓯᓗᑯᑖᖅᑐᑦ ᐃᓗᐃᑦ ᓇᓗᓇᐃᖅᑐᖅᑎᕙᑦᑕᓪᓗᑕ ᓄᓇᐅᑉ ᐃᑭᐊᖑᓂᖅᑐᕕᓂᕐᓂᒃ. ᐊᐱᑎᑦ ᑕᓪᓕᒪᓂᓪᓗᓐᓂᑦ ᐅᐱᓗᓐᓂᑦ ᐊᐱᑎᓂᓪᓗᓐᓂᑦ ᐃᑯᑕᖃᕆᐊᕐᓂᐊᖅᓯᒪᔪᑦ ᑕᒃᐱᓂ ᐊᕐᕌᒍᔪᕐᑎᓐᓂ ᐱᓕᕆᐊᖃᕈᑕᐅᑎᓪᓗᑕ. ᑲᑎᓪᓗᒋᑦ ᐃᑯᑦᑕᑦᑕ 5,000 ᒦᑕᓂᖅᓂᐊᕐᓯᒪᔪᑦ (ᑕᑯᓗᒍ ᓄᓇᐊᖑᐊᖅ ᓯᑯᑦᓯᓪᓚᓂᖅᒥ ᐃᑯᑦᑕᕐᕕᒻᒥᖅᑕᐅᑦ). ᑕᐃᒪᑕ ᑕᒪᒃᑯᐊ ᖁᓛᓂᑦᑯᑦ ᐱᓕᕆᐊᕆᔪᒥᖅᑕᐅᑦ ᓄᓇ/ᖁᑎᓂᒃ ᐊᑐᓚᖑᕐᑐᑦ ᑭᓯᐊᓂ ᐊᑕᐅᓯᕐᒥᒃ Hᐊᓐᑕᒥᒃ ᑐᐱᕐᕕᓕᖅᑕᑦᑎᓐᓂᑐᖅᑕᑲᓚᐅᖅᑐᖅ ᐱᖁᑎᑦᑎᓐᓂᒃ ᑐᐱᕐᕕᑎᓐᓄᑦ ᐊᔭᐅᖅᑐᕆᖃᑦᑕᓪᓗᑎᒍ ᐊᑐᓚᐅᖅᑐᑦ.

ᑐᐱᕐᕕᒃ ᑖᓐᓇ ᑐᐱᕐᕕᒥᔭᐅᕆᐊᖅᖃᑦᑕᖅᑐᐃᓂᖅ BHP-ᑯᓐᓄᑦ ᑐᐱᕐᕕᓕᐅᖅᑕᐅᑦ, 1998ᖑᑎᓪᓗᒍ ᓄᓇᐊᓐᑕᒃᑯᓐᓄᑦ ᐊᑐᖅᑕᐅᖃᑦᑕᓕᔪᖅ ᐊᒻᒪᓗ ᐋᖅᑭᓯᒪᐅᑎᐊᒃᑲᓐᓂᔪᒥᓪᓗᓂᓗ ᓄᓇᐊᓐᑕᒃᑯᓐᓄᑦᑕᐅᖅ (ᑐᐱᕐᕕᒃ ᑖᓐᓇ ᑲᓇᖕᓇᖅᐸᓯᐊᓂᖓᖅ ᓯᑯᐅᑉ Arthur Fiord, ᓄᓇᖑᐊᒥ ᑎᑎᖅᓯᒪᔪᖅ ᑖᓐᓇ). ᐅᖅᓱᖅᓴᐃᑦ ᐊᒻᒪᓗ ᐱᖁᑎᑦ ᑐᖅᑯᖅᑕᐅᓯᒪᓕᖅᓯᐊᖅᑐᑦ ᑕᐃᑲᓂ ᑐᐱᕐᕕᖕᒥ, ᑲᓇᑕᐅᑉ ᒪᓕᒐᖏᑦᑕ ᓄᓇᖁᑎᖏᓐᓂᑐᑦ. ᓴᕕᕐᔭᒃᓴᖅᓯᐅᕐᕕᐅᔪᑦᑕᐅᖅ ᒫᓐᓇ ᑲᓇᑕᐅᑉ ᒪᓕᒐᖏᑦᑕ ᓄᓇᖁᑎᖏᓐᓂᓕᕆᔪᑦᑕᐅᖅ. ᐊᑕᐅᓯᖅ ᐃᑯᑦᑎᑦ IG-ᒥᑦᑐᖅ ᓄᓇᖑᐊᖁᑎᒍᑦ ᑎᑎᖅᓯᒪᓂᖓᓂᑦᑐᖅ, ᐊᐅᔭᖅ ᐊᑐᖅᑕᐅᓚᐅᖅᑐᖅ ᑖᓐᓇ. ᐊᐃᑉᐸᖓ ᐃᑑᑦᑎᖅᑕᐅᖅ ᐊᐅᔭᖅᑕᐅᓚᖁᔪᖅ ᑐᐱᕐᕕᖅᒍᑦ ᐊᐅᔭᖅ, ᓇᓗᓇᐃᖅᑑᑕᐅᔪᒥᖅᑐᓄᑦ ᐊᑐᖅᑕᐅᖃᑦᑕᓚᐅᖅᑐᖅ (ᑕᑯᓗᒍ ᓄᓇᖑᐊᖅ).

ᐅᓪᓗᓂᒃ ᐊᑉᐱᒃ ᒪᕐᕉ ᑕᓪᓕᒪᓪᓗ ᐅᐱᓗᓐᓂᑦ ᑕᖅᑭᖅᓂᒃ ᒪᕐᕉᓗᐊᒃ ᐱᓕᕆᐊᑲᓛᖅᑐᑦ, ᓯᓚᕿᐊᐱᐅᖃᑦᑕᖅᐸᑦ ᑭᓯᐊᓂ. ᐊᐱᑎᑦ ᖁᓕᓪᓗ ᑕᓪᓕᒪᓂᓪᓗ ᐃᓄᒥᐊᖅᓂᖃᖃᑦᑕᖅᑐᖅ ᑖᓐᓇ ᑐᐱᕐᕕᒃ ᐊᑕᐅᓯᖅᑯᑦ ᑲᑎᖕᓚᓕᕐᓚᑕ ᐃᓄᖏᑦ ᑕᒪᓂ, ᑭᓯᐊᓂᖅᑕᐅᖅ ᐃᓚᖓᓂᒃ ᐊᐱᑎᑦ ᑕᓪᓕᒪᓪᓗᐱᓗᒍᑎᒃ ᐅᐱᓗᓐᓂᑦ ᐊᐱᑎᑦ ᖁᓕᓪᓗᐱᓗᑎᓪᓗᓐᓂᑦ ᑲᑎᖕᓗᒧᓐᓂᕐᐃᓚᑕ ᐃᓄᒥᐊᖅᓂᖃᖃᑦᑕᖅᑐᖅ, 1500ᓗᐊᓂᒃ ᐅᓪᓗᓂᒃ ᐃᖃᓇᐃᔭᖅᑎᖃᖃᑦᑕᖅᑐᑦ ᓴᕕᕐᔭᒃᓴᖅᓯᐅᖅᐸᑕᓂᖏᓐᓂ.


B A Y
59 B
Tucker Pt
Cape Disraeli
Cape Separation
GF-10.59A
Discovery Mountain
Arthur Fiord
HADDINGTON
I S L A N D
Mount Dauntless
Grave Mount
Pitch Mount
Arthur Fiord Base Camp
Grave Lake
Mount Pym
Hornby Head
GF-08/59B
GF-08/59B
Prince Alfred Bay
Cape Simpkinson
Porden Point
RANGE

6. Description of the Environment

Description of Biophysical Environment

The Grinnell Peninsula of Devon Island is the best known habitat for the Peary Caribou herd on Devon Island. The Peary Caribou are an endangered subspecies, which must not be harassed in any way.

Description of Socio-Economic and Cultural Environment

Area has minimal Inuit use.

7. NIRB's Consultation Process

Date application referred for comments: March 26, 2000 (yyyy-mm-dd)

Deadline for comments: April 13, 2000 (yyyy-mm-dd)

Distribution List:	Contact Person:	Date comments received
NUNAVUT:		
_____NTI		
_____QIA		
_____Kivalliq I.A.		
_____Kitikmeot I.A.		
_____NPC		
_____NWB		
_____NWMB		
_____RWO		
_____Inuit Heritage Trust		
_____Community(s)		
Hamlet _____		
HTO _____		
_____Other?_____		
FEDERAL:		
_____DIAND		
✓ DFO	Lyndon Kivi	April 17, 2000
_____DOE		
_____Heritage Can.		
_____Natural Resources		
CCG Other? (eg. Health DOT, DND)		April 6, 2000
GOVERNMENT OF NUNAVUT:		
✓ Sustainable Dev.	Chris Nichols	April 13, 2000
_____CGHT		
_____HSS		
✓ ~~CLEY~~ PWNHC	Charles Arnold	April 4, 2000
_____Other?		
TRANSBOUNDARY PARTIES		
_____		
OTHER PARTIES		
_____		

Identification of Project Activities and Environmental Effects

Identify all activities of the project under screening and their potential adverse environmental effects.

Project Activities

(✓ check all the items appropriate to this project)

__ access road
- __ winter
- __ construction
- __ abandonment/ removal
- __ modification e.g., widening

✓ air mobile, aircraft or vessel movement helicopter
__ blasting
✓ burning
✓ burning
__ channelling
__ construction
- __ building
- __ shed, warehouse
- __ landing strip

__ cut and fill
__ removal of vegetation
__ dams and impoundments
- __ construction
- __ abandonment/ removal
- __ modification

__ ditch construction
__ drainage alteration
__ drilling other than geoscientific
__ ecological surveys
__ excavation
__ explosive storage
__ fuel storage
✓ garbage
- __ disposal of hazardous waste
- ✓ disposal of sewage or grey water
- ✓ disposal of solid waste

✓ geoscientific sampling
- __ trenching
- ✓ diamond drill
- __ borehole core sampling
- __ bulk soil sampling

__ quarry
__ hydrological testing
__ river, stream/lake crossing/ bridging
__ site restoration
- __ fertilization
- __ grubbing
- __ planting/ seeding
- __ scarification
- __ spraying
- __ recontouring

__ soil testing
__ topsoil, overburden or soil
- __ fill
- __ disposal
- __ removal
- __ storage

__ tunnelling/ underground
✓ other, explain camp

✓ possibility for accidents or malfunctions. Describe.
fuel spill

__ effects of environment on project (e.g., flooding).
Describe. _____

Project Effects

(✓ check all the items appropriate to this project)

Directly-related Socio-Economic & Cultural Effects:

1. __ impact on hunting / trapping / fishing
2. __ impact on __ women
   - __ men
   - __ children
   - __ elders
3. __ impact to traditional use or traditional use area
4. __ impact to outfitters
5. __ impact on recreational use
6. __ impact on family structure
7. __ impact to community health
8. __ change in community economics
9. __ change in community housing or infrastructure
10. __ impact to industry
11. __ change in regional transportation
12. ✓ impact to archaeological or cultural landmarks
13. __ impact on beauty of the landscape
14. __ other, explain _____

Biophysical Environment Effects

15. ✓ deposit into surface or ground water
16. __ deposit to marine environment
17. __ change in surface or ground water flow
18. __ change in water temperature
19. __ change in drainage pattern
20. __ change in air quality
21. __ change in air flow
22. __ micro-climate change
23. __ ice fog
24. ✓ change in ambient noise level
25. ✓ deposit onto ground surface
26. __ change in slope stability
27. __ change in soil structure
28. __ alteration of permafrost regime
29. __ destabilization/ erosion
30. __ soil compaction
31. __ change in access to renewable resources
32. __ depletion of non-renewable resource
33. __ removal of rare/ endangered plant species
34. __ introduction of species
35. __ toxin/ heavy metal accumulation
36. __ removal of rare/ endangered wildlife species
37. __ change in wildlife health
38. ✓ impact to large mammals
39. __ impact to small mammals
40. ✓ impact to fish
41. ✓ impact to birds
42. __ impact to other wildlife
43. ✓ impact in a calving, nesting, staging or spawning area
44. __ removal of wildlife buffer zone
45. __ change in wildlife habitat/ ecosystem
46. __ other, explain _____

Describe biophysical and socio-economic and cultural effects identified from check-list.

Environmental Effect	Describe
#12	Archeological sites in the area.
#15, 25	Fuel spills, drill cuttings, additives may accidentally be deposited into water or onto ground
#24, 36, 41, 43	Increas ambient noise level may disturb large mammals and birds.

9. Cumulative Effects: Identification of Other Resources Used in the Area.

Identify past, current and future (pending applications) physical works and activities in the area (for the proponent, other proponents and nearby communities) and their potential adverse environmental effects.

Other Resource Uses

√ check all the items appropriate to this project

- ✓ harvesting
  - ✓ marine mammals
  - ✓ land mammals
  - __ fur bearers
  - __ birds
  - __ shellfish
  - __ plants
  - __ berries
  - ✓ fish
- ✓ mining
  - ✓ exploration
  - __ open pits
  - __ underground
  - __ off-shore
- __ mineral processing
- __ industry _____ (type)
- __ quarries
  - __ carving stone
  - __ aggregate
- __ transportation/communications
  - __ airport / landing strip
  - __ roads/access routes
  - __ shipping
  - __ channels/canal **
  - __ telephone lines, satellite dishes, cables
  - __ beacons
- __ waste disposal (solid, liquid or gas?)
- __ energy project
  - __ hydro
  - __ pipeline
  - __ transmission line
- __ other water licenses, permits, leases
- ✓ lands
  - ✓ Inuit owned
    - -surface rights
    - -sub-surface rights
  - ✓ Crown
  - __ Commissioner's
  - __ Marine Areas
- __ other private lands held under tenure
- ✓ heritage sites or archaeological sites
- __ recreation (eg. cabins, tent frames)
- __ tourism
- __ municipal (construction)
  - __ commercial
  - __ built structures
  - __ infrastructure
- __ agriculture
- __ forestry
- __ other, explain _____

Effects from Other Resource Uses

√ check all the items appropriate to the scope of this project

Directly-related Socio-Economic & Cultural Effects:

1. __ impact to hunting / trapping / fishing
2. __ impact on: __ women
   - __ men
   - __ children
   - __ elders
3. __ impact to traditional use or traditional use area
4. __ impact to outfitters
5. __ impact on recreational use
6. __ impact on family structure
7. __ impact to community health
8. __ change in community economics
9. __ change in community housing or infrastructure
10. __ impact to industry
11. __ change in regional transportation
12. __ impact to archaeological or cultural landmarks
13. __ impact on beauty of the landscape
14. __ other, explain _____

Biophysical Environment Effects

15. __ deposit into surface or ground water
16. __ deposit to marine environment
17. __ change in surface or ground water flow
18. __ change in water temperature
19. __ change in drainage pattern
20. __ change in air quality
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30. __ soil compaction
31. __ change in access to renewable resources
32. __ depletion of non-renewable resource
33. __ removal of rare/endangered plant species
34. __ introduction of species
35. __ toxin, heavy metal accumulation
36. __ removal of rare/endangered wildlife species
37. __ change in wildlife health
38. __ impact to large mammals
39. __ impact to small mammals
40. __ impact to fish
41. __ impact to birds
42. __ impact to other wildlife
43. __ impact to a calving, nesting, staging or spawning area
44. __ removal of wildlife buffer zone
45. __ change in wildlife habitat/ecosystem
46. __ other _____

10. Cumulative Environmental Effects

Based on a comparision of effects identified in #8 and #9.

Matching Number's	Description of Cumulative Environmental Effects

NO Will the project make large demands on non-renewable energy sources?

___ Will the project encourage further developments within the current project or other developments (other similar projects, energy development, generation, petroleum development and extraction, the building of additional roads)? possibly

NO Will the project encourage a "boom-bust" economy over an economy of permanence?

NO Will the project encourage more wildlife harvesting on account of better access for hunters and fishers?

NO Will the project have an effect on the water quality of the watershed?

NO Will the project have a significant effect on existing land uses?

11. Mitigation Measures

For each environmental effect identified in #8, #9 and #10, describe the required mitigation measures.

Number's (as identified in #8, #9 & #10)	Description of Mitigation Measures
	See Screening Report Terms & conditions.

12. **Significance**

After taking into account the mitigation measures identified in #11, are any of the residual, adverse environmental effects significant?

___ Yes ✓ No

If yes, identify which ones and proceed to #13; if no proceed to # 14.

Numbers: ____ ____

____ ____

____ ____

____ ____

13. **Likelihood of Occurrence**

Of the significant, residual adverse environmental effects identified in #12, are any likely to occur?

___ Yes ✓ No

Numbers: ____ ____

____ ____

14. **Information Sources**

What sources of information were used in the screening process?

____ local knowledge
____ traditional ecological knowledge
____ land use plans (and draft land use plans)
✓ authorizing agencies' data
✓ departmental or agency opinions
✓ maps
____ photos
____ reports (scientific, economic, social, or anthropological, archival or historical information)
____ Nunavut Environmental Database (NED)
____ personal communications
✓ Project Registry ~~(NPR)~~ NIRB
✓ previous similar projects
____ service organizations
____ media monitoring
____ experts
____ other _____

For information sources identified above, provide contact person and/or information location (for future follow-up): _____

15. Staff Recommendations

Staff Recommendations: (include rationale)

Project should have a community member to observe the caribou and the potential disturbance.

Prepared By: Gladys Taudrey (Screener) Date: April 26, 2000 (yyyy-mm-dd)

16. NIRB'S Principles

___ The project has significant adverse effects on the ecosystem, wildlife habitat or Inuit harvesting activities.

___ The project may have significant adverse socio-economic effects on northerners.

___ The project will cause significant public concern.

___ The project involves technological innovations for which the effects are unknown.

✓ The project **does not** have significant effects or concerns.

17. Indication to the Minister (12.4.4)

N.B. Transfer this information to Box 1: "EA Indication" and "Date of Indication".

✓ a) the proposal may be processed without a review under Part 5 or 6; NIRB may recommend specific terms and conditions to be attached to any approval, reflecting the primary objectives set out in Section 12.2.5;

___ b) the proposal requires review under Part 5 or 6: NIRB shall identify particular issues or concerns which should be considered in such a review;

___ c) the proposal is insufficiently developed to permit proper screening, and should be returned to the proponent for clarification; or

___ d) the potential adverse impacts of the proposal are so unacceptable that it should be modified or abandoned.

18. Terms and Conditions

If the determination is 12.4.4 "a", NIRB's terms and conditions include those listed in the **Screening Decision Report.**

Specific Terms and Conditions to note include

___ _____

_____

___ _____

_____

___ _____

_____

___ _____

_____

19. Authorization

Approved By: _____ (NIRB Decision Maker) Date: 2000/04/27 (yyyy-mm-dd)

20. Follow-up / Monitoring

Minister's Determination

___ Minister agreed with NIRB's indication.
Action? _____

___ Minister varied NIRB's indication.
Action? _____

___ Minister rejected NIRB's indication
Action? _____

If applicable,

___ Is a follow-up/monitoring program required? If yes, give details.

_____

_____

___ Has screening report information been added to NIRB's GIS/Calyx system?

Fisheries and Oceans / Pêches et Océans

Fish Habitat Management
Suite 101, 5204-50th Avenue
Yellowknife, Northwest
Territories
X1A 1E2

Your file *Votre référence*

Our file *Notre référence*
NU99B029

April 17, 2000

Gladys Joudrey
Environmental Assessment Officer
Nunavut Impact Review Board
P. O. Box 2379
Cambridge Bay, NT
X0A 0C0

RE: NIRB File # 00EN101, Water Licence Application, Mineral Exploration, Noranda Inc., Devon Island.

Dear Ms. Joudrey:

The Department of Fisheries and Oceans, Fish Habitat Management - (DFO-FHM) received the Water Use Application for mineral exploration by Noranda Inc., on Devon Island, Nunavut.

Under the *Nunavut Land Claims Agreement*, DFO-FHM is participating in a NIRB screening by providing specialist information and/or advice. DFO-FHM's assessment takes into consideration fish and fish habitat related concerns only.

Any concerns, comments or mitigation measures that DFO-FHM feels are pertinent to the above mentioned project are outlined in the following letter of advice, addressed to the proponent, and should also be considered specialist information and/or advice for the purposes of a NIRB screening.

If you have any questions, feel free to contact me at (867) 669-4916 or Pete Cott 669-4913 or by fax at (867) 669-4940.

Lyndon Kivi
Area Habitat Biologist
Fish Habitat Management
Department of Fisheries and Oceans- NWT Area

Canada

Fisheries and Oceans / Pêches et Océans

Fish Habitat Management
Suite 101, 5204-50th Avenue
Yellowknife, Northwest
Territories
X1A 1E2

Your file / Votre référence

Our file / Notre référence
NU99B029

April 17, 2000

Matt Rees
Noranda Inc.
874 Tungsten Street
Thunder Bay, Ontario
P7B 6J3

RE: NIRB File # 00EN101, Water Licence Application, Mineral Exploration, Noranda Inc., Devon Island.

Dear Mr. Rees:

This letter is to advise that The Department of Fisheries and Oceans, Fish Habitat Management (DFO-FHM) received your Water Use Application for mineral exploration, on Devon Island submitted on your behalf by Nunavut Impact Review Board. I have reviewed the plans for the proposed work.

Field operations in or near water may result in the harmful alteration, disruption or destruction of fish habitat, which is prohibited under Section 35 of the *Fisheries Act*. In addition to the measures set out in the project proposal, the following mitigation measures, if incorporated into the project, are intended to prevent any potentially harmful impacts to fish and fish habitat:

- All disturbed areas should be stabilized and re-vegetated as required, upon completion of work, and restored to a pre-disturbed state.
- If artesian flow is encountered, drill holes should be plugged and permanently sealed upon completion of the project.
- When using explosives, please follow the *Guidelines for the Use of Explosives In or Near Water* (DFO, 1998) available on request. If, for any reason these guidelines cannot be followed, please contact DFO, as an Authorization may be required.
- If the drilling requires water in sufficient volume that the source waterbody may be drawn down please submit details (volume required, size of waterbody, etc.) to DFO-FHM for review. DFO-FHM does not recommend the use of streams as a water source.
- All water intakes should be properly screened to prevent the entrainment of fish. Refer to the *Freshwater Intake End-of-Pipe Fish Screen Guideline* (DFO 1995), available on request.

- Winter lake/stream crossings should be located to minimize approach grades. Cutting or filling of crossing approaches below the normal high water mark will require prior review and approval by DFO-FHM.

- The use of material other than ice or snow to construct a temporary crossing over any ice-covered watercourse is prohibited by regulations under *Fisheries Act* unless authorized by a Fishery Officer.

- All winter crossings should be removed prior to spring breakup.

- No material should be left on the ice when there is the potential for that material to enter the water (i.e. spring break-up).

Depositing deleterious substances into fish bearing waters is prohibited as stated under Subsection 36(3) of the *Fisheries Act*. The following are additional measures to mitigate habitat disturbance or loss as well as the deposition of deleterious substances.

- Sediment and erosion control measures should be implemented prior to, and maintained during the work to prevent entry of sand or sediment into the water.

- All activities, including maintenance procedures and vehicular refuelling, should be controlled to prevent the entry of petroleum products, debris, slash, rubble, or other deleterious substances into the water.

- All wastes, drill cuttings, sewage containments and fuel caches should be located a minimum of thirty (30) metres from the normal high water mark of any water body, and be sufficiently bermed or otherwise contained to ensure that these substances do not enter any water body.

- Drill cuttings should be disposed of in a sump such that they do not enter any water body. The use of biodegradable, salt free drill additives is encouraged over non-biodegradable types.

- All spills of oil, fuel, or other deleterious material should be reported immediately to the 24-Hour Spill Line at (867) 920-8130.

If the proposed work is carried out as described in the plans provided to DFO-FHM and if the additional mitigation measures specified above are implemented, the proposed work will not be considered as contravening Subsection 35(1) of the *Fisheries Act* which reads:

> *"No person shall carry on any work or undertaking that results in the harmful alteration, disruption or destruction of fish habitat."*

Therefore, an authorization under Subsection 35(2) of the *Fisheries Act* will not be necessary. If a harmful alteration, disruption or destruction of fish habitat and/or the deposition of deleterious substances into fish bearing waters occurs as a result of a change in the plans for the proposed works or failure to implement the additional mitigation measures specified above, prosecution under Subsection 35(1) and/or Subsection 36(3) of the *Fisheries Act* may be initiated.

Canada

Please note that this letter of advice does not release the proponent of the responsibility for obtaining any other permits that may be required and will apply for the proposed activities for the period of the Water Licence.

If you have any questions concerning the mitigation measures or should there be any changes to the proposed work, please contact me at (867) 669-4916 or Pete Cott at 669-4913 or by fax at (867) 669-4940.

Lyndon Kivi
Area Habitat Biologist
Fish Habitat Management
Department of Fisheries and Oceans- NWT Area

c.c. Gladys Joudrey, Nunavut Impact Review Board
Pete Cott – A/Arctic Habitat Co-ordinator, DFO-FHM
Winston Fillatre – A/C&P Supervisor/Fishery Officer

Canada

RECEIVED BY
MAR 29 2000
NAVIGABLE WATERS PROGRAMS

COMMENT FORM FOR NIRB SCREENINGS

The Nunavut Impact Review Board has a mandate to protect the integrity of the ecosystem for the existing and future residents of Nunavut. In order to assess the environmental and socio-economic impacts of project proposals, NIRB would like to hear your concerns, comments and suggestions about the following project application:

Project Title: _Mineral Exploration Kikerk Lake____________
Proponent: __Noranda______________
Location: __Devon Island______________, **NIRB#:** _00EN101
Comments Due By: ___Thursday April 13, 2000______________

Indicate your concerns about the project proposal below:

- ☐ no concerns
- ☐ water quality
- ☐ terrain
- ☐ air quality
- ☐ wildlife and their habitat
- ☐ marine mammals and their habitat
- ☐ birds and their habitat
- ☐ fish and their habitat
- ☐ heritage resources in area
- ☐ traditional uses of land
- ☐ Inuit harvesting activities
- ☐ community involvement and consultation
- ☐ local development in the area
- ☐ tourism in the area
- ☐ human health issues
- ☐ Other:______________

Please describe the concerns indicated above:

Do you have any suggestions or recommendations for this application?

Navigable Waters Protection
Sarnia, Ontario
NO INTEREST
April 6/00

Do you support the project proposal? YES ☐ NO ☐
Any additional comments?

Name of person commenting: ______________ **of** ______________
Position:______________ **Organisation:**______________
Signature:______________ **Date:** ______________

COMMENT FORM FOR NIRB SCREENINGS

The Nunavut Impact Review Board has a mandate to protect the integrity of the ecosystem for the existing and future residents of Nunavut. In order to assess the environmental and socio-economic impacts of project proposals, NIRB would like to hear your concerns, comments and suggestions about the following project application:

Project Title: ___Mineral Exploration Kikerk Lake_____
Proponent: _Noranda_____
Location: _Baffin Region ____, NIRB#: __00EN101_____
Comments Due By: _____April 13, 2000_____

Indicate your concerns about the project proposal below:

☐ no concerns	☐ traditional uses of land
☐ water quality	☐ Inuit harvesting activities
☐ terrain	☐ community involvement and consultation
☐ air quality	☐ local development in the area
✔ wildlife and their habitat	☐ tourism in the area
☐ marine mammals and their habitat	☐ human health issues
☐ birds and their habitat	☐
Other:___✔_____	
☐ fish and their habitat	_____
☐heritage resources in area	_____

Please describe the concerns indicated above:

The Grinnell Peninsula of Devon Island (the area in which the proponent intends to conduct mineral exploration activities) is the best known habitat for the Peary Caribou Herd on Devon Island. The Peary Caribou are an endangered subspecies, which must not be harassed in any way. The applicant should be instructed to contact the Regional biologist in Pond Inlet (Mike Ferguson 867-899-8876) to obtain information on procedures required to prevent unintentional harassment.

The potential disruption and harassment of calving caribou on Devon Island during June and July 2000 by exploratory geological crews with helicopter support will probably be unavoidable during normal exploration activities unless the calving and early post-calving periods are avoided entirely. It is also unlikely that the crews can easily make slight adjustments in their daily programs to mitigate this potential harassment and disruption.

As per the attached text from a scientific poster presented at the Arctic Ungulate Conference in Norway in August 1999, the proponents and environmental managers should note that the timing and duration of caribou calving in the northern Baffin and High Arctic Region differ significantly from those of mainland migratory caribou (e.g., the Kaminuriak herd). Differences that most directly influence appropriate disturbance mitigative measures are as follows:

1. Calving by Arctic Island caribou begins about one week later than calving by the migratory mainland herds.
2. Calving by Arctic Island caribou occurs of a period of about three weeks (i.e., not a synchronized within a one week

period as with the Kaminuriak herd).
3. The dispersion of calving caribou on Arctic islands is much wider and scattered than within the mainland calving areas.
4. The locations of calving caribou on Arctic islands are more variable from year to year, although some general areas are used more predictably than others.

The result is that the potential for disturbance involves a somewhat later and much longer period of time over larger areas than within the calving grounds of the Kaminuriak, Beverly and other migratory mainland herds. Based on scientific research conducted by DSD officials and information from Inuit elders, Arctic island caribou in Baffin Region have never been known gather together into "herds" as do the mainland migratory caribou during calving and post-calving.

As a result, we recommend that the start of the entire exploration program should be delayed until about July 24, 2000. At that time, calves should be at least two weeks old and better able to follow their mothers.

Nevertheless, even during late July and early August the exploration crews should avoid any overt disturbance of caribou that they will likely encounter within the area. In that regard, during July 24- August 7, please request the proponents to follow the guidelines established for the post-calving period in the Kivalliq region.

I further suggest that, in cooperation with the local HTOs, the proponent consider hiring a local people from Resolute Bay and possibly Grise Fiord to participate in the work. This person(s) could assist the crew in their efforts, but also report back to the HTO(s) regarding their observations of caribou, other wildlife and the potential disturbance if any. It may also help expose the local persons to exploration protocols, and perhaps even lead the participants to become prospectors or geologists in the future.

I hope the above information and recommendations are clear and helpful.
Please contact Mike Ferguson with any questions.

Do you have any suggestions or recommendations for this application?
Do you support the project proposal? YES ☐ NO☐ **Any additional comments?**
Name of person commenting: __Sustainable Development incorporates a team approach when commenting on NIRB screenings and Reviews. No one person comments for the Department. **Position:_____Organisation:___Sustainable Development _** **Signature:_____Chris Nichols _____ Date: April 14, 2000**

Wildlife and Their Habitat

- The applicant should be made aware that there is some potential of encountering polar bears when undertaking this type of a trip.
- Potential human-bear encounters can result in injury or death to either the bear or the humans, all possible efforts to avoid human-bear encounters must be made.
- The applicant is encouraged to obtain and read, government publications such as 'Safety in Polar Bear Country'
- The applicant is strongly encouraged to meet with the Wildlife Officer in Resolute (Tony Romito) in order to receive a briefing on proper procedures to avoid bear encounters, proper procedures should a bear be encountered, and proper procedures to follow should any kind of an incident related to such an encounter occur
- The proponent should be made aware that any polar bears killed during the trip (defense kill) would come off the quota of the nearest community. As such, the proponent will be expected to compensate the community. If they do not, future applications may not be supported by DSD on the grounds of there being unacceptable impacts from this venture.
- Also, if a defense kill does occur, the proponent must record the location of the carcass, sex of the bear and ensure the hide does not spoil. This means they may have to skin the bear if assistance is not readily available. Other specimens such as the jaw, Baculum (penis Bone), ear tags and lip tattoos must be submitted to the wildlife Officer. This information must be reported to the Wildlife Officer in Resolute Bay as soon as possible.
- All defense kills are investigated by an Officer to determine the nature of the incident.
- The applicant should be made aware that it is contrary to the Wildlife Act to harass wildlife in any manner.

Community Involvement and Consultation

- The applicant is strongly encouraged to negotiate in advance the amount to be compensated, in the event that a defense kill of a polar bear occurs
- The applicant should be made aware that any defense kills of polar bears might jeopardize approval of applications to conduct trips in future.

Other

- Bear deterrents (cracker shells, thunder flashes and rubber bullets) should be on site.
- The proponent should consider the use of electric fencing within the camp design, especially around sleeping quarters.

DEPARTMENT OF SUSTAINABLE DEVELOPMENT

ENVIRONMENTAL PROTECTION SERVICE

STANDARD RECOMMENDATIONS FOR LAND USE APPLICATIONS
(AS APPLICABLE)

Spill Contingency Plan

The applicant should have a contingency plan for responding to chemical and petroleum spills which might occur during the proposed activity. The plan should include a list of available spill response equipment and the names of trained personnel who will be on-site and available in the case of a spill.

The proponent is referred to DSD's *Spill Contingency Planning and Reporting Regulations* and *A Guide to the Spill Contingency Planning and Reporting Regulations.*

Fuel Storage

To prevent spreading in the event of a spill, fuel stored in drums should be located, whenever practical, in a natural depression a minimum distance of 90 feet from all streams, preferably in an area of low permeability. All fuel storage containers should be situated in a manner that allows easy access and removal of containers in the event of leaks or spills. Large fuel caches in excess of 20 drums, should be inspected daily.

Chemical Storage

All chemicals should be stored in a safe and chemically-compatible manner a minimum of 90 feet from all bodies of water. The applicant should be required to remove unused chemicals for reuse or disposal to an approved site using methods approved by the Land Use Inspector. Material safety data sheets (MSDS) should be provided for each chemical and be posted in a central location; accessible by all camp personnel. Camp personnel should be conversant in the handling of these chemicals as well as able to deal with any accidents or spills.

Location of Hazardous Materials

Hazardous materials stored on-site should be marked so they will be visible under all conditions, in all seasons. This recommendation is intended to help prevent possible injuries to camp personnel and/or damage to the containers. Unless otherwise specified by the land use inspector or licence -issuing agency, all hazardous materials should be removed from the site upon completion of the activity. The proponent is referred to DSD's *Environmental Guideline for the General Management of Hazardous Waste.*

Waste Oil/Waste Fuel Disposal

Waste oil and waste fuel should be removed and returned for recycling when the land use activity is completed. Alternative methods of disposal that provide and equivalent level of environmental protection will be considered on a case by case basis.

Used Drums

Used fuel and oil drums should be removed from the site, returned for deposit, or reused.

Contaminated Soils

Soil contaminated by fuel (e.g., soils under an old storage tank) should be treated on site or removed to an approved disposal site and replaced with new soil. The proponent is referred to DSD's *Environmental Guideline for Site Remediation*.

Winter Roads

Existing winter road routes and trails should be used whenever possible, to avoid unnecessary land clearing.

Drill Sumps

The sumps should only be used for inert drilling fluids, not any other materials or substances. The sumps should be properly closed out.

Garbage Disposal

Garbage should be removed from the camp periodically; alternatively, all combustible wastes can be incinerated on site and non-combustibles collected and removed upon termination of the activity or periodically.

Incineration

For camps of less than 10 people, it is recommended that a draught barrel be employed to burn wastes. A draught barrel is essentially a 45 gallon drum or equivalent, with a hole in the bottom to facilitate air intake, and is closed at the top with a lid and a chimney for the exhaust. EPS does not consider burning wastes in a draught barrel to be true incineration, however, for small camps, this is an acceptable means to deal with camp wastes. The draught barrel should be operated so that a high temperature burn is maintained at all times. This will promote complete combustion and eliminate pollutant and odor concerns.

For camps of more than 10 people, it is recommended that a forced air incinerator be used to manage wastes. Once again maintaining a high temperature burn to reduce wastes is imperative.

Kitchen wastes, cardboard, paper products, packaging and untreated wood wastes are suitable for burning in a draught barrel and a forced air incinerator. Industrial wastes and non combustible wastes should be removed from the camp and disposed of at a designated landfill or other approved facility. Under no circumstance should hazardous wastes be managed through burning or incineration.

For camps of greater than 50 people, it is recommended that a municipal waste incinerator, which produces emissions that meet CCME air quality guidelines, be used to dispose of camp wastes. The manufacturer will specify operating conditions and types of wastes that can be disposed of in the incinerator in order to meet the specified CCME standards. It is recommended that municipal waste incinerators be operated to meet manufacturer specifications.

The aforementioned comments are a brief thumbnail sketch of what DSD suggests that a proponent should be implementing to mitigate any damage or alterations to the environment during the course of their proposed activities. The proponent is referred to the Government of Nunavut's acts, regulations and environmental guidelines for a details.

Acts, Regulations and Environmental Guidelines

The Environmental Protection Service, Department of Sustainable Development derives its regulatory authority and operational mandate from the Government of Nunavut's *Environmental Protection Act* (EPA). A number of regulations and guidelines have been developed and adopted under the EPA; some, or all of which might prove to be of assistance to a proponent in planning their activities. The guidelines are listed here for the information of the proponent and are available to the public at any DSD office in Nunavut or from DSD's Headquarters office located at:

Department of Sustainable Development
Environmental Protection Service
Government of Nunavut
Box 1340
Iqaluit, NU
X0A 0H0
(867) 979-5119
e-mail: reno@gov.nu.ca or ebaddaloo@gov.nu.ca

Acts and Regulations

{PRIVATE }Environmental Protection Act{tc \l 5 "Environmental Protection Act"}

Environmental Protection Act: Simplified Summary

Environmental Rights Act

{PRIVATE }Spill Planning and Reporting Regulations{tc \l 5 "Spill ContingencyPlanning and Reporting Regulations"}

{PRIVATE }A Guide to Spill Contingency Planning & Reporting{tc \l 5 "A Guide to Spill Contingency Planning & Reporting"}

{PRIVATE }Asphalt Paving Industry Emission Regulations{tc \l 5 "Asphalt Paving Industry Emission Regulations"}

{PRIVATE }Pesticide Act{tc \l 5 "Pesticide Act"}

{PRIVATE }Pesticide Regulations{tc \l 5 "Pesticide Regulations"}

Used Oil and Waste Fuel Management Regulations (undergoing completion; proposed for June 2000)

{PRIVATE }Environmental Guidelines{tc \l 5 "Environmental Guidelines"}

{PRIVATE }Dust Suppression{tc \l 5 "Dust Suppression"}

{PRIVATE }General Management of Hazardous Waste{tc \l 5 "General Management of Hazardous Waste"}

{PRIVATE }Industrial Projects on Commissioner's Lands{tc \l 5 "Industrial Projects on Commissioner's Lands"}
{PRIVATE }{tc \l 5 ""}
{PRIVATE }Industrial Waste Discharges{tc \l 5 "Industrial Waste Discharges"}

{PRIVATE }Ozone Depleting Substances{tc \l 5 "Ozone Depleting Substances"}

{PRIVATE }Site Remediation{tc \l 5 "Site Remediation"}

{PRIVATE }Sulphur Dioxide & Suspended Particulates{tc \l 5 "Sulphur Dioxide & Suspended Particulates"}

{PRIVATE }Waste Antifreeze{tc \l 5 "Waste Antifreeze"}

{PRIVATE }Waste Asbestos{tc \l 5 "Waste Asbestos"}

{PRIVATE }Waste Batteries{tc \l 5 "Waste Batteries"}

{PRIVATE }Waste Paint{tc \l 5 "Waste Paint"}

Waste Solvents

Wildlife

1. Bear-People Conflicts

The operation is in an area where bears may be encountered. Proper food handling and garbage disposal procedures should be
followed to reduce the likelihood that bears will be attracted to the operation. Careful planning and attention to details of camp design and maintenance will decrease the attraction of bears to camp.

The applicant should follow procedures outlined in the "Safety in Bear Country Manual", and should contact the Regional/Area Biologist or the Renewable Resource Officer

indicated below for information and advice on measures which should be taken to minimize the possibility of bear-people conflicts.

DSD Contacts

Manager, Wildlife, Fisheries
- Alden Williams, (867) 975-5955

Renewable Resource Officer,
- Tony Romito, (867) 252-3879

Biologist, Baffin Region, Pond Inlet
- Mike Ferguson, (867) 899-8876

2. Caribou Protection Measures

See attached. [Recommendation of these conditions is not restricted to the Kaminuriak and Beverly herds (i.e., they may be applied to other herds as well).]

3. Peary Caribou (for Banks Island and High Arctic islands; not for Victoria Island)

Peary Caribou are a critically endangered subspecies which must not be harassed in any way. The applicant should be instructed not to harass these caribou, and to contact the Regional Biologist or Caribou Biologist in Pond Inlet (867) 899-8876 to obtain information on procedures required to prevent unintentional harassment.

4. Raptor Nesting Areas

The project area includes known raptor nesting sites and other areas where it is likely that raptors nest. To minimize negative impacts of this operation on raptors, the applicant should be advised to:

(a) take care not to disturb nesting raptors from 15 April to 1 September by staying at least 1.5 km away from them when in transit by aircraft, and to avoid approaching them closely while on foot, and

(b) contact the Regional Biologist in Arviat (857-2828) to identify areas which should be avoided.

The following clause could be included in the covering letter: "If raptors are disturbed during the nesting period, they often abandon the eggs or young. Loud, repeated noises and close approach by humans on foot are particularly harmful."

5. Low Level Flights

Aircraft activity with no specific requirements for low level flying should be restricted to a minimum altitude of 300m above ground level.

6. Storage of Chemicals Containing Salts

Chemicals containing salts, which may attract wildlife to the site, should be stored so that they are inaccessible to wildlife.