SCREENING PART 2 FORM
PROJECT SPECIFIC INFORMATION REQUIREMENTS (PSIR)

1. SUBMISSIONS

The Proponent must submit all information pertaining to the Project as a whole. The information requirements below are designed for the purpose of environmental assessment and are not limited to the scope of a single permit or license application.

IMPORTANT: Please be advised of the following:

1. NIRB does not accept references to an ftp or web sites as a submission.

2. The Proponent must provide NIRB with 1 (one) electronic copy and 1 (one) hardcopy of the required information in English.

3. All maps should be shapefiles, be legible, and should include grids, be of appropriate scale, indicate the scale, include latitude and longitude references, NTS Maps numbers, title, legend and a north arrow. To the extent possible, avoid hand-drawn demarcations and faxed maps; and,

4. Please complete all required information in each section below. If the required information is not applicable to the project proposal, please indicate this in the response with "n/a". If the request has been provided in a different section or report, please note the section or report where the response can be found.

2. GENERAL PROJECT INFORMATION REQUIREMENTS

Project Coordinates and Maps

1. The preferred method for submitting project coordinates information is through the use of a Geographic Information System (GIS) compatible digital file. Although an ESRI ArcView 3.x shape file (in decimal degrees) is the preferred interchange format, the NIRB has the capacity to receive over 100 GIS and CAD related formats, including MapInfo and AutoCAD, provided proper format and projection metadata is also submitted. The NIRB requires coordinates for the project proposal which reflect the entire project area as defined by:

   - Area/sites of investigation;
   - See Attached maps
   - Boundaries of the foreseen land use permit/right-of-way area(s) to be applied for;
   - See attached maps. Boundaries of INAC land use permit; new camp.

- Location of any proposed infrastructure or activity(s); and,
- See attached maps
- Boundaries of the mineral claim block(s) where proposed activities will be undertaken.

The property extent boundaries are approximately:

NW:	Latitude: (68°13' 59" N)	Longitude: (85 °30 ' 15 " W)
NE:	Latitude: (68°13 '24 " N)	Longitude: (85°27' 47" W)
SE:	Latitude: (68°10 ' 51 " N)	Longitude: (85° 28' 52" W)
SW:	Latitude: (68 °10 ' 53" N)	Longitude: (85°31' 54" W)

2. Map of the project site within a regional context indicating the distance to the closest communities.
3. Map of any camp site including locations of camp facilities.
4. Map of the project site indicating existing and/or proposed infrastructure, proximity to water bodies and proximity to wildlife and wildlife habitat.
   Maps are enclosed of the project area, the proposed camp locations and the areas of exploration interest.

Project General Information

5. Discuss the need and purpose of the proposed project.
   - The purpose of the project is to evaluate and define the mineral resource for iron in the claim area; a small drilling program is expected to begin in June 2011.
6. Discuss alternatives to the project and alternative methods of carrying out the project, including the no-go alternative. Provide justification for the chosen option(s).
   - No alternatives exist for the proposed exploration activities; the drilling program designed is small and has a low impact potential on the environment; all efforts will be made to minimize impacts in the environment and avoid disturbing wildlife; Any archaeological sites reported or found will be left undisturbed and upon new discoveries will be reported to the GN and the QIA.
7. Provide a schedule for all project activities.
   - See attached detailed schedule.
8. List the acts, regulations and guidelines that apply to project activities.
   - Article 13 – Nunavut Land Claims Agreement
   - NWB – Water Licensing in Nunavut – Interim Procedures and Information Guide for applicants
   - NWTWB – Guidelines for the Contingency Planning
   - DFO – Freshwater Intake End of Pipe Fish Screen Guideline
   - Fisheries Act –s.35
   - GN – Environment Protection – Spill Contingency Regulations
   - Canadian Drinking Water Quality Guidelines
   - Public Health Act Camp Sanitation Regulations
   - Public Health Act Water Supply Regulations
   - Nunavut Waters and Nunavut Surface Rights Tribunal Act
   - Territorial Land Use Act and Regulations
   -
9. List the approvals, permits and licenses required to conduct the project.
   - 1 INAC commercial lease
   - 1 NWB license

DFO Operational Statement (OS) Conformity

10. Indicate whether any of the following Department of Fisheries and Oceans (DFO) Operational Statement (OS) activities apply to the project proposal:
    - Bridge Maintenance
    - Clear Span Bridge
    - Culvert Maintenance
    - Ice Bridge
    - Routine Maintenance Dredging
    - Installation of Moorings

    Please see DFO's OS for specific definitions of these activities available from DFO's web-site at http://www.dfo-mpo.gc.ca/regions/central/habitat/os-eo/index-eng.htm
11. If any of the DFO's OS apply to the project proposal, does the Proponent agree to meet the conditions and incorporate the measures to protect fish and fish habitat as outlined in the applicable OS? If yes, provide a signed statement of confirmation.

Transportation

12. Describe how the project site will be accessed and how supplies will be brought to site. Provide a map showing access route(s).
    - The proposed camp is fly in/fly out only. Personnel, equipment and goods are brought to the site via a Hercules to Pelly Bay or Hall Beach and then via a Buffalo aircraft to the DEW line airstrip known as the Mackar Inlet airstrip. Twin Otter and helicopter will be required to move supplies to the Fraser Bay 1-3 Property. Helicopters will be used daily throughout the season.
13. If a previous airstrip is being used, provide a description of the type of airstrip (ice-strip/all-weather), including its location. Describe dust management procedures (if applicable) and provide a map showing location of airstrip.
14. If an airstrip is being constructed, provide the following information:
    a. Discuss design considerations for permafrost
    b. Discuss construction techniques
    c. Describe the construction materials, type and sources, and the acid rock drainage (ARD) and metal leaching (ML) characteristics (if rock material is required for airstrip bed).
    d. Describe dust management procedures.
    e. Provide a map showing location of proposed airstrip.
15. Describe expected flight altitudes, frequency of flights and anticipated flight routes.
    - When the camp is in operation a buffalo, twin or similar aircraft will be used 3 times a week; altitudes will be 20000' for a twin and 30000' or similar for a buffalo until landing. Flight routes will be from Rankin Inlet, Yellowknife, Repulse Bay Kugaaruk or Hall Beach to the DEW line airstrip, then shuttled by helicopter to camp.

Camp Site

16. Describe all existing and proposed camp structures and infrastructure
    - The proposed camp will have the capacity to house 12-16 people. Structures will include wooden tents, common area, a kitchen, a dry (weatherhaven or similar), a core processing area, a primary and backup generator, and a pacto waste unit.
17. Describe the type of camp:
    a. Mobile

b. Temporary
c. Seasonal
d. Permanent
e. Other

18. Describe the maximum number of personnel expected on site, including the timing for those personnel involved with the project.
    - 16

Equipment

19. Provide a list of equipment required for the project and discuss the uses for the equipment.
    - See attached list
20. If possible, provide digital photos of equipment.

Water

21. Describe the location of water source(s), the water intake methods, and all methods employed to prevent fish entrapment. Provide a map showing the water intake locations.
    - Domestic water will be drawn from the southernmost lake on the property (see map). A mesh screen will be placed over the end of the water intake to prevent any fish entrapment. Water for drills will be drawn from small lakes/ponds and streams that are located on the property (see map).
22. Describe the estimated rate of water consumption (m^3/day).
    - 130 m3 per day for the camp and drills.
23. Describe how waste water will be managed. If relevant, provide detail regarding location of sumps, including capacity of sumps and monitoring.
24. If applicable, discuss how surface water and underground water will be managed and monitored.

Waste Water (Grey water, Sewage, Other)

25. Describe the quantities, treatment, storage, transportation, and disposal methods for the following (where relevant):
    - Sewage - 0.5 cubic metres/day. Blackwater that will be sumped.
    - Camp grey water – 8 cubic metres per day; will treat in sump.
    - Combustible solid waste –be sealed and removed from site; unless papers or cardboards which may be burned.
    - Non-combustible solid waste, including bulky items/scrap metal – stored onsite and shipped off site to Rankin Inlet, Kugaaruk, or Yellowknife for disposal.
    - Hazardous waste or oil –Minimal amount expected, to be stored onsite and shipped to Rankin Inlet, Kugaaruk or Yellowknife for disposal.
    - Contaminated soils/snow –Minimal amounts expected. Contaminated snow will be collected in empty drums and melted. Absorbent matting used to absorb any hydrocarbons; contaminated soil will be collected into empty drums and be shipped from site.
    - Empty barrels/ fuel drums – empty drums will be removed from site on a regularly.
    - Any other waste produced

26. If the project proposal includes a landfill or landfarm, indicate the locations on a map, provide the conceptual design parameters, and discuss waste management and contact-water management procedures.

Fuel

27. Describe the types of fuel, quantities (number of containers, type of containers and capacity of containers), method of storage and containment. Indicate the location on a map where fuel is to be stored, and method of transportation of fuel to project site.
    - See attached Fuel Inventory and map. All fuels will be mobilised to camp by a Hercules or buffalo aircraft.
28. Describe any secondary containment measures to be employed, including the type of material or system used. If no secondary containment is to be employed, please provide justification.
    - Main fuel cache will be bermed.
29. Describe the method of fuel transfer and the method of refuelling.
    - Fuel will be transferred in sealed drums to site; hand operated pumps will be used for refuelling. Any refuelling station will have a spill kit.
30. Describe spill control measures in place.
    - See attached Roche Bay PLC Spill Contingency Plan.

Please refer to Environment Canada's fuel storage tank system regulations (*Storage Tank System for Petroleum and Allied Petroleum Products*) website at http://www.ec.gc.ca/st-rs/ for details on fuel storage requirements.

Chemicals and Hazardous Materials*

**included but not limited to oils, greases, drill mud, antifreeze, calcium or sodium chloride salt, lead acid batteries and cleaners*

31. Describe the types, quantities (number of containers, the type of container and capacity of containers), method of storage and containment. Indicate the location on a map where material is to be stored, and method of transportation of materials to project site.
    - Approximately 60 litres of 5/10W30 motor oil; contained in sealed bottles until used for the generator in camp; used oil will be sealed and shipped to a facility for disposal.
    - Batteries (AAA, AA, C, D sizes) to be stored in camp; dead batteries removed for disposal.
    - Household cleaners for kitchen and bathroom uses in camp to be stored in camp; non-combustible containers to be removed for proper disposal.
    -
32. Describe any secondary containment measures to be employed, including the type of material or system used.
    - N/A
33. Describe the method of chemical transfer.
    - N/A
34. Describe spill control measures in place.
    - See attached Roche Bay PLC Spill Contingency Plan.

Workforce and Human Resources/Socio-Economic Impacts

35. Discuss opportunities for training and employment of local Inuit beneficiaries.

- All personnel to be trained on-site; Potential for local Inuit hires from Kugaaruk or Repulse Bay for seasonal camp and core processing duties.

36. Discuss workforce mobilization and schedule, including the duration of work and rotation length, and the transportation of workers to site.
    - Local hires will work 2 weeks in and 2 weeks out, fly in/fly out. Other personnel work up to six weeks at a time depending on the job and time of year.
37. Discuss, where relevant, any specific hiring policies for Inuit beneficiaries.
    - Roche Bay PLC will hire locally where possible, in addition to purchasing locally.

Public Involvement/ Traditional Knowledge

38. Indicate which communities, groups, or organizations would be affected by this project proposal.
    - The property is located 180 km east of Kugaaruk, 188 km north of Repulse Bay, and 180 km and 200 km southwest of Hall Beach and Igloolik, respectively.
39. Describe any consultation with interested Parties which has occurred regarding the development of the project proposal.
    - Roche Bay PLC will conduct annual community consultations with Kugaaruk and Repulse Bay in addition to meeting with QIA officers and board members to keep everyone updated on the project.
40. Provide a summary of public involvement measures, a summary of concerns expressed, and strategies employed to address any concerns.
    - N/A
41. Describe how traditional knowledge was obtained, and how it has been integrated into the project.
42. Discuss future consultation plans.
    - Roche Bay PLC plans to conduct community consultations.

3. PROJECT SPECIFIC INFORMATION

The following table identifies the project types identified in Section 3 of the NIRB, Part 1 Form. Please complete all relevant sections.

It is the proponent's responsibility to review all sections in addition to the required sections to ensure a complete application form.

Table 1: Project Type and Information Required

Project Type	Type of Project Proposal	Information Request
1	All-Weather Road/Access Trail	Section A-1 and Section A-2
2	Winter Road/Winter Trail	Section A-1 and Section A-3
3	Mineral Exploration	Section B-1 through Section B-4
4	Advanced Mineral Exploration	Section B-1 through Section B-8
5	Mine Development/Bulk Sampling	Section B-1 through Section B-12
6	Pits and Quarries	Section C
7	Offshore Infrastructure(port, break water, dock)	Section D
8	Seismic Survey	Section E
9	Site Cleanup/Remediation	Section F
10	Oil and Natural Gas Exploration/Activities	Section B-3 and Section G
11	Marine Based Activities	Section H
12	Municipal and Industrial Development	Section I

SECTION A: Roads/Trails

A-1. Project Information

1. Describe any field investigations and the results of field investigations used in selecting the proposed route (e.g. geotechnical, snow pack)
2. Provide a conceptual plan of the road, including example road cross-sections and water crossings.
3. Discuss the type and volume of traffic using the road/trail (i.e. type of vehicles and cargo and number of trips annually).
4. Discuss public access to the road.
5. Describe maintenance procedures.
6. Describe whether any portion of the road will be located outside of the Nunavut Settlement Area and whether any other regulatory requirements must be met (e.g. CEAA).

A-2. All-Weather Road/Access Trail

7. Discuss road design considerations for permafrost.
8. Describe the construction materials (type and sources for materials), and the acid rock drainage (ARD) and metal leaching characteristics of the construction materials.
9. Discuss construction techniques, including timing for construction activities.
10. Indicate on a map the locations of designated refuelling areas, water crossings, culverts, and quarries/borrow sources.
11. Identify the proposed traffic speed and measures employed to ensure public safety.
12. Describe dust management procedures.

A-3. Winter Road/Trail

13. Describe the surface preparation, including the use of snow berms or compaction, and any flooding. If flooding is to be used, provide the location of the water source on a map.
14. Describe the operating time period.
15. Identify the proposed traffic speed and measures employed to ensure public safety.
16. Discuss whether the selected route traverses any fish-bearing water bodies.

SECTION B: Mineral Exploration /Advanced Exploration /Development

B-1. Project Information

1. Describe the type of mineral resource under exploration.
    - To evaluate the mineral resource of iron on the property; determine size of deposits and resource present for a direct ship core zone.

B-2. Exploration Activity

2. Indicate the type of exploration activity:
    - Bulk Sampling (underground or other)
    - Stripping (mining shallow bedded mineral deposits in which the overlying material is stripped off, the mineral removed and the overburden replaced)
    - Trenching
    - Pitting
    - Delineation drilling
    - Preliminary Delineation drilling
    - Exploration drilling –drilling is expected to begin in June 2011
    - Geophysical work (indicate ground and/or air) –possible ground and airborne surveys
    - Other –sampling, prospecting, sampling, mapping
3. Describe the exploration activities associated with this project:
    - Satellite remote sensing
    - Aircraft remote sensing
    - Soil sampling –possible 2011
    - Sediment sampling- possible 2011
    - On land drilling (indicate drill type) 2011
    - On ice drilling (indicate drill type)
    - Water based drilling (indicate drill type)
    - Overburden removal
    - Explosives transportation and storage
    - Work within navigable waters
    - On site sample processing 2011
    - Off site sample processing
    - Waste rock storage
    - Ore storage
    - Tailings disposal

- Portal and underground ramp construction
- Landfilling
- Landfarming
- Other

B-3. Geosciences

4. Indicate the geophysical operation type:
    a. Seismic (please complete Section E)
    b. Magnetic
    c. Gravimetric
    d. Electromagnetic
    e. Other (specify)
5. Indicate the geological operation type:
    a. Geological Mapping
    b. Aerial Photography
    c. Geotechnical Survey
    d. Ground Penetrating Survey
    e. Other (specify)
6. Indicate on a map the boundary subject to air and/or ground geophysical work.
    a. Location to be determined
7. Provide flight altitudes and locations where flight altitudes will be below 610m.
   Airborne magnetic or IP may be conducted at 400 m altitude

B-4. Drilling

8. Provide the number of drill holes and depths (provide estimates and maximums where possible).
    - We expect to drill up to 2500m with a diamond drill.
9. Discuss any drill additives to be used.
    - Drill soap, salt
10. Describe method for dealing with drill cuttings.
    - See attached plans.
11. Describe method for dealing with drill water.
    - See attached plans.
12. Describe how drill equipment will be mobilized.
    - Drill equipment will be flown into camp and mobilized with helicopters.
13. Describe how drill holes will be abandoned.
    - See attached plans.
14. If project proposal involves uranium exploration drilling, discuss the potential for radiation exposure and radiation protection measures. Please refer to the *Canadian Guidelines for Naturally Occurring Radioactive Materials* for more information.

B-5. Stripping/ Trenching/ Pit Excavation

15. Discuss methods employed. (i.e. mechanical, manual, hydraulic, blasting, other)
16. Describe expected dimensions of excavation(s) including depth(s).
17. Indicate the locations on a map.
18. Discuss the expected volume material to be removed.
19. Discuss methods used to determine acid rock drainage (ARD) and metal leaching potential and results.

B-6. Underground Activities

20. Describe underground access.
21. Describe underground workings and provide a conceptual plan.
22. Show location of underground workings on a map.
23. Describe ventilation system.
24. Describe the method for dealing with ground ice, groundwater and mine water when encountered.
25. Provide a Mine Rescue Plan.

B-7. Waste Rock Storage and Tailings Disposal

26. Indicate on a map the location and conceptual design of waste rock storage piles and tailings disposal facility.
27. Discuss the anticipated volumes of waste rock and tailings.
28. Discuss methods used to determine acid rock drainage (ARD) and metal leaching (ML) potential and results.

B-8. Stockpiles

29. Indicate on a map the location and conceptual design of all stockpiles.
30. Describe the types of material to be stockpiled. (i.e. ore, overburden)
31. Describe the anticipated volumes of each type of material to be stockpiled.
32. Describe any containment measures for stockpiled materials as well as treatment measures for runoff from the stockpile.
33. Discuss methods used to determine acid rock drainage (ARD) and metal leaching (ML) potential and results.

B-9. Mine Development Activities

34. Indicate the type(s) of mine development activity(s):
    - Underground
    - Open Pit
    - Strip Mining
    - Other
35. Describe mine activities.
    - Mining development plan and methods
    - Site access
    - Site infrastructure (e.g. airstrip, accommodations, offshore infrastructures, mill facilities, fuel storage facilities, site service roads)
    - Milling process
    - Water source(s) for domestic and industrial uses, required volumes, distribution and management.
    - Solid waste, wastewater and sewage management
    - Water treatment systems
    - Hazardous waste management
    - Ore stockpile management
    - Tailings containment and management
    - Waste rock management

- Site surface water management
- Mine water management
- Pitting and quarrying activities (please complete Section C)
- Explosive use, supply and storage (including on site manufacturing if required)
- Power generation, fuel requirements and storage
- Continuing exploration
- Other

36. Describe the explosive type(s), hazard class, volumes, uses, location of storage (show on map), and method of storage.

B-10. Geology and Mineralogy

37. Describe the physical nature of the ore body, including known dimensions and approximate shape.
    - The ore body is an Algoma-type banded iron formation hosting the primary ore of iron with potential shear zone quartz hosted gold. The iron formation units can range up to a thickness of ~450m and up to ~2740m in length. Further drilling will further define the resource.
38. Describe the geology/ mineralogy of the ore deposit
    - The ore body host consists of oxide iron formations, with quartz magnetite mineralogy and local hematite.
39. Describe the host rock in the general vicinity of the ore body.
    - The host rocks in the vicinity of the iron ore bodies are: The Prince Albert Group volcanic rocks, iron formations and sedimentary host rocks.
40. Discuss the predicted rate of production.
    - N/A
41. Describe mine rock geochemical test programs which have been or will be performed on the ore, host rock, waste rock and tailings to determine acid generation and contaminant leaching potential. Outline methods and provide results if possible.

B-11. Mine

42. Discuss the expected life of the mine.
43. Describe mine equipment to be used.
44. Does the project proposal involve lake and/or pit dewatering? If so, describe the activity as well as the construction of water retention facilities if necessary.
45. Discuss the possibility of operational changes occurring during the mine life with consideration for timing. (e.g. open pit to underground)
46. If project proposal involves uranium mining, consider the potential for radiation exposure and radiation protection measures. Particular attention should be paid to *The Nuclear Safety and Control Act*.

B-12. Mill

47. If a mill will be operating on the property in conjunction with mining, indicate whether mine-water may be directed to the mill for reuse.
48. Describe the proposed capacity of the mill.
49. Describe the physical and chemical characteristics of mill waste as best as possible.
50. Will or does the mill handle custom lots of ore from other properties or mine sites?

SECTION C: Pits and Quarries

1. Describe all activities included in this project.
   - Pitting
   - Quarrying
   - Overburden removal
   - Road use and/or construction (please complete Section A)
   - Explosives transportation and storage
   - Work within navigable waters
   - Blasting
   - Stockpiling
   - Crushing
   - Washing
   - Other
2. Describe any field investigations and the results of field investigations used in determining new extraction sites.
3. Identify any carving stone deposits.
4. Provide a conceptual design including footprint.
5. Describe the type and volume of material to be extracted.
6. Describe the depth of overburden.
7. Describe any existing and potential for thermokarst development and any thermokarst prevention measures.
8. Describe any existing or potential for flooding and any flood control measures.
9. Describe any existing or potential for erosion and any erosion control measures.
10. Describe any existing or potential for sedimentation and any sedimentation control measures.
11. Describe any existing or potential for slumping and any slump control measures.
12. Describe the moisture content of the ground.
13. Describe any evidence of ice lenses.
14. If blasting, describe methods employed.
15. Describe the explosive type(s), hazard class, volumes, uses, location of storage (show on map), and method of storage.
16. Discuss methods used to determine acid rock drainage (ARD) and metal leaching (ML) potential and results.
17. Discuss safety measures for the workforce and the public.

SECTION D: Offshore Infrastructure

D-1. Facility

1. Describe any field investigations and the results of field investigations used in selecting the site (i.e. aerial surveys, bathymetric surveys, tidal processes, shoreline erosion processes, geotechnical foundation conditions)
2. Provide a conceptual plan, profile description and drawing(s) indicating shoreline, facility footprint, tidal variations, required vessel draft, keel offset, deck height freeboard
3. Discuss how anticipated loads on the seabed foundation and on the offloading platform will be incorporated into the design.
4. Describe how vessels will manoeuvre around the facility. (e.g. pull alongside or in front)
5. Discuss the anticipated life of the facility.

6. Describe whether part of the facility or project will be located outside of the Nunavut Settlement Area and whether any other regulatory requirements must be met (e.g. CEAA).

D-2. Facility Construction

7. Describe the types of material used for construction (i.e. granular or rock, steel piling or sheet piling, concrete). If material is granular, consider acid rock drainage potential, metal leaching potential, percentage of fines, size.
8. Describe dredging activities.
9. Indicate source of granular or rock material used in construction.
10. List quantities of the various types of material used in construction.
11. Describe construction method(s).
12. Indicate whether a site engineer will be on-site to inspect construction.
13. If proposed construction method involves dumping of fill into water, discuss measures for mitigating the release of suspended solids.

D-3. Facility Operation

14. Describe maintenance activities associated with the facility (e.g. dredging, maintenance to account for potential settlement of facility,)
15. Discuss whether the public will have access to the facility(s) and describe public safety measures.
16. Describe cargo and container handling, transfer and storage facilities.
17. Indicate whether fuel will be transferred from barges at this site and describe the method of that fuel transfer.
18. Discuss frequency of use.

D-4. Vessel Use in Offshore Infrastructure

19. Please complete Section H

SECTION E: Seismic Survey

E-1. Offshore Seismic Survey

1. Indicate whether the survey is 2D or 3D at each site.
2. Describe the type of equipment used, including:
   - Type and number of vessels including length, beam, draft, motors, accommodation capacity, operational speeds when towing and when not towing
   - Sound source (type and number of airguns)
   - Type and number of hydrophones
   - Number, length, and spacing of cables/ streamers
3. On a map, indicate the grid, number of lines and total distance covered by each line, the distance to nearby community/communities and sensitive areas (e.g., National Parks, National Wildlife Areas, Migratory Bird Sanctuaries, recognized breeding grounds or migratory routes).
4. Indicate the discharge volume of the airguns, the depth of airgun discharge, the noise levels of acoustic signal at various distances from the source (e.g.,500 metres,1000 metres), and the frequency and duration of airgun operation at each site.

5. Discuss the potential for dielectric oil to be released from the streamer array, and describe proposed mitigation measures.
6. Indicate whether additional seismic operations are required for start-up of operations, equipment testing, repeat coverage of areas.
7. Indicate whether air gun procedures will include a "ramping up" period and, if so, the proposed rate of ramping up.
8. Indicate whether the measures described in the *Statement of Canadian Practice for Mitigation of Noise in the Marine Environment* will be adhered to for this project.
9. Describe whether any part of the project will be located outside of the Nunavut Settlement Area and whether any other regulatory requirements must be met (e.g. CEAA).

E-2. Nearshore/Onshore Seismic Survey

10. For each site, indicate whether nearshore and onshore surveys will be conducted during the ice season or once the ice has melted
11. Describe how nearshore and onshore areas will be accessed.
12. Describe the survey methods to be used (e.g. explosive charge, vibration, air or water gun, other)
13. Describe equipment to be used
14. If applicable, indicate number, depth and spacing of shot holes
15. Describe explosive wastes including characteristics, quantities, treatment, storage, handling, transportation and disposal methods.

E-3. Vessel Use in Seismic Survey

16. Please complete Section H.

SECTION F: Site Cleanup/Remediation

1. Describe the location, content, and condition of any existing landfills and dumps (indicate locations on a map).
2. Identify salvageable equipment, infrastructure and/or supplies.
3. Provide a list of all contaminants to be cleaned up, anticipated volumes and a map delineating contaminated areas. This includes buildings, equipment, scrap metal and debris, and barrels as well as soil, water (surface and groundwater) and sediment.
4. Describe the degree of pollution/contamination, and list the contaminants and toxicity.
5. Describe technologies used for clean-up and/or disposal of contaminated materials. Include a list of all the physical, chemical and biological cleanup/ remediation methods, operational procedures, and the dosage/frequency of reagents and bacterial medium.
6. Identify and describe all materials to be disposed of off site, including the proposed off site facilities, method of transport and containment measures.
7. Discuss the viability of landfarming, given site specific climate and geographic conditions.
8. Describe the explosive types, hazard classes, volumes, uses, location of storage (indicate on a map), and method of storage (if applicable).
9. If blasting, describe the methods employed.
10. Describe all methods of erosion control, dust suppression, and contouring and re-vegetation of lands.
11. Describe **all** activities included in this project.
    - Excavation (please complete Section B-5)

- Road use and/or construction (please complete Section A)
- Airstrip use and/or construction
- Camp use and/or construction
- Stockpiling of contaminated material
- Pit and/or quarry (please complete Section C)
- Work within navigable waters (please complete Section H)
- Barrel crushing
- Building Demolition
- Other

SECTION G: Oil and Natural Gas Exploration/Activities

G-1. Well Authorization

1. Identify the location(s) of the well centre(s) by latitude and longitude. Attach a map drawn to scale showing locations of existing and proposed wells.
2. Indicate if the site contains any known former well sites.
3. Include the following information for each well:
    a. Well name
    b. Surface location
    c. Proposed bottomhole location
    d. Ground elevation (in metres)
    e. Spacing area (in units)
    f. Identify the well type:
        i. Production
        ii. Injection
        iii. Disposal
        iv. Observation
        v. Storage
        vi. Experimental
        vii. Other (specify)
    g. Identify the well classification:
        i. Exploratory wildcat
        ii. Exploratory outpost
        iii. Development
    h. Drilling operation (deviation):
        i. Vertical
        ii. Directional
        iii. Horizontal
        iv. Slant
    i. Objective Zones (copy chart style below)

Objective Formation	Fluid (oil/gas/water)	Depth (mTVD)	Core (Y/N)

    j. Proposed Total Depth in mTDV and mMD.
    k. Formation of Total Depth
    l. Sour well? (yes or no)

i. If Yes: Maximum H_2S concentration in mol/kmol
Emergency planning zone radius in km

m. Blowout Prevention (Well Class I – VI)
n. Deviation Surveys
   i. Will be run at intervals less than 150m? (yes or no)
o. Wireline logs
   i. Will run logs in hole for surface casing? (yes or no)
   ii. Will run a minimum of 2 porosity measuring logs? (yes or no)

G-2. On-Land Exploration

4. Indicate if the site contains any known:
   a. Waste Dumps
   b. Fuel and Chemical Storage Areas
   c. Sump Areas
   d. Waste Water Discharge Locations
5. Attach maps drawn to scale showing locations of existing and proposed items identified in (2) above, as well as all proposed:
   a. Sumps
   b. Water sources
   c. Fuel and chemical storage facilities
   d. Drilling mud storage areas
   e. Transportation routes
6. If utilizing *fresh water*, estimate maximum drawdown and recharge capability of the river or lake from which water will be drawn.
7. Indicate if permafrost is expected to be encountered under:
   a. Camp Facilities
   b. Well Site
   c. Access Routes
   d. Sumps
   e. Other: _____
8. Indicate any potential for encountering artesian aquifers or lost circulation within the surface hole (to casing depth).
9. Will drilling wastes contain detrimental substances (including, but not limited to, oil-based or invert mud and high salinity fluids)? If yes, indicate the substances and estimated volumes.
10. Indicate methods for disposal of drilling wastes:
    a. Sump
    b. Down Hole (requires NEB approval)
    c. On-Site Treatment (provide plan)
    d. Off-Site (give location and method of disposal)
11. If a sump is being used, attach the following information:
    a. scale drawings and design of sumps
    b. capacity in cubic metres
    c. berm erosion protection
    d. soil permeability and type
    e. recycling/reclaiming waters
    f. surface drainage controls
    g. abandonment procedures

12. Attach the proposed or existing contingency plan which describes the course of action, mitigative measures and equipment available for use in the event of system failures and spills of hazardous materials.
13. Attach an outline of planned abandonment and restoration procedures.

G-3. Off-Shore Exploration

14. Will drilling wastes contain detrimental substances (including, but not limited to, oil-based or invert mud and high salinity fluids)? If yes, indicate the substances and estimated volumes.
15. Attach the proposed or existing contingency plan which describes the course of action, mitigative measures and equipment available for use in the event of system failures and spills of hazardous materials.
16. Attach an outline of planned abandonment and restoration procedures.
17. Please complete Section H.

G-4. Rig

18. Type of Rig. Draw works, make and model
19. Derrick/Mast make and model
20. H.P. available to draw-works

SECTION H: Marine Based Activities

H-1. Vessel Use

1. Describe the purpose of vessel operations.
2. List classes and sizes of vessels to be used.
3. Indicate crew size.
4. Indicate operating schedule.
5. Provide a description of route to be traveled (include map).
6. Indicate whether the vessel will call at any ports. If so, where and why?
7. Describe wastes produced or carried onboard including the quantities, storage, treatment, handling and disposal methods for the following:
    a. Ballast water
    b. Bilge water
    c. Deck drainage
    d. Grey and black water
    e. Solid waste
    f. Waste oil
    g. Hazardous or toxic waste
8. List all applicable regulations concerning management of wastes and discharges of materials into the marine environment
9. Provide detailed Waste Management, Emergency Response and Spill Contingency Plans
10. Does the vessel(s) possess an Arctic Pollution Prevention Certificate? If yes, indicate the date of issue and the name of the classification society.
11. Describe the source of fresh water and potable water

12. Indicate whether ice-breaking will be required, and if so, approximately where and when? Discuss any possible impacts to caribou migration, Inuit harvesting or travel routes, and outline proposed mitigation measures.
13. Indicate whether the operation will be conducted within the Outer Land Fast Ice Zone of the East Baffin Coast. For more information on the Outer Land Fast Ice Zone, please see the Nunavut Land Claims Agreement (NLCA), Articles 1 and 16.
14. Indicate whether Fisheries or Environmental Observers or any other *Qualified Marine Observer* will be onboard during the proposed project activities. If yes, describe their function and responsibilities.
15. Describe all proposed measures for reducing impacts to marine habitat and marine wildlife (including mammals, birds, reptiles, fish, and invertebrates).
16. Describe whether any part of the project will be located outside of the Nunavut Settlement Area and whether any other regulatory requirements must be met (e.g. CEAA).

H-2. Disposal at Sea

17. Provide confirmation you have applied for a *Disposal at Sea* permit with Environment Canada.
18. Provide a justification for the disposal at sea.
19. Describe the substance to be disposed of, including chemical and physical properties.
20. Indicate the location where the disposal is to take place.
21. Describe the frequency of disposals (disposals per day/week or month).
22. Describe the route to be followed during disposal and indicate on a map.
23. Indicate any previous disposal methods and locations.
24. Provide an assessment of the potential effects of the disposal substance on living marine resources.
25. Provide an assessment of the potential of the disposal substance, once disposed of at sea, to cause long-term physical effects.
26. Describe all mitigation measures to be employed to minimize the environmental, health, navigational and aesthetic impacts during loading, transport and disposal.

SECTION I: Municipal and Industrial Development

1. Describe the business type, including public, private, limited, unlimited or other.
2. Describe the activity (e.g. development of quarry, development of hydroelectric facility, bulk fuel storage, power generation with nuclear fuels or hydro, tannery operations, meat processing and packing, etc.).
3. Describe the production process or service provision procedures.
4. Describe the raw materials used in this activity, the storage and transportation methods. If hazardous materials are included in raw materials, products or by-products; include safety regulations methodology.
5. Provide detailed information about the structure and/or building in which the activity will be conducted.
6. List the PPE (personal protective equipment) and tools to be used to protect personal health and safety.
7. Describe the firefighting equipment that are or will be installed.
8. Describe the noise sources, noise level in work area, technical measurements that will be adopted to abate the noise levels and regulatory requirements for noise abatement and noise levels.

9. Describe the type of gaseous emission that will be produced during this activity. Include the allowable thresholds and mitigation measures.
10. Describe odours that the activity might release and include corresponding allowable threshold. Describe mitigation measures if thresholds are exceeded.
11. Describe radiation sources that might be emitted during the activity. Include type and source and include mitigation measures. Also describe preventative measures for human exposure (i.e. PPE).
12. Discuss the employee safety and environment protection training program.
13. If the activity involves a bulk fuel storage facility, include drawings showing the bulk fuel storage facility location in proximity to natural water courses, high water marks, etc.
14. If the activity involves the development of a new quarry or expansion of an existing quarry, complete Section C.

4. DESCRIPTION OF THE EXISTING ENVIRONMENT

Describe the existing environment, including physical, biological and socioeconomic aspects. Where appropriate, identify local study areas (LSA) and regional study areas (RSA).

Please note that the detail provided in the description of the existing environment should be appropriate for the type of project proposal and its scope.

The following is intended as a guide only.

Physical Environment

Please note that a description of the physical environment is intended to cover all components of a project, including roads/trails, marine routes, etc. that are in existence at present time.

- Proximity to protected areas, including:
  i. designated environmental areas, including parks;
  ii. heritage sites;
  iii. sensitive areas, including all sensitive marine habitat areas;
  iv. recreational areas;
  v. sport and commercial fishing areas;
  vi. breeding, spawning and nursery areas;
  vii. known migration routes of terrestrial and marine species;
  viii. marine resources;
  ix. areas of natural beauty, cultural or historical history;
  x. protected wildlife areas; and
  xi. other protected areas.
- Eskers and other unique landscapes (e.g. sand hills, marshes, wetlands, floodplains).
- Evidence of ground, slope or rock instability, seismicity.
- Evidence of thermokarsts.
- Evidence of ice lenses.
- Surface and bedrock geology.
- Topography.
- Permafrost (e.g. stability, depth, thickness, continuity, taliks).
- Sediment and soil quality.

- Hydrology/ limnology (e.g. watershed boundaries, lakes, streams, sediment geochemistry, surface water flow, groundwater flow, flood zones).
- Tidal processes and bathymetry in the project area (if applicable).
- Water quality and quantity.
- Air quality.
- Climate conditions and predicted future climate trends.
- Noise levels.
- Other physical Valued Ecosystem Components (VEC) as determined through community consultation and/or literature review.

The region has been modified by glaciations leaving undulating tops of the Prince Albert Hills as well as numerous small lakes and streams. Thick glacial deposits are present on the west coast; glacial drift deposits are common along the shore line. At this point there is no evidence of ground, slop or rock instability.

Bedrock geology of the Melville Peninsula comprises of Archean metamorphic, metasedimentary and metavolcanics as well as sandstones, conglomerates, Archean to Proterozoic metadiabase and diabase dykes and Paleozoic carbonate rocks. The Fraser Bay 1-3 Property is underlain by granitic gneiss basement and overlain by sedimentary and volcanic rocks.

Water quality in the area is pristine and the climate conditions can be summarized as cold winters and cool summers. Roche BAY PLC does not anticipate any impacts to the water quality or climate from this program. Noise levels in the arctic are quite low; and increase in noise levels will be due to helicopter and drills

Biological Environment

- Vegetation (terrestrial as well as freshwater and marine where applicable).
- Wildlife, including habitat and migration patterns.
- Birds, including habitat and migration patterns.
- Species of concern as identified by federal or territorial agencies, including any wildlife species listed under the *Species at Risk Act (SARA)*, its critical habitat or the residences of individuals of the species.
- Aquatic (freshwater and marine) species, including habitat and migration/spawning patterns.
- Other biological Valued Ecosystem Components (VEC) as determined through community consultation and/or literature review.

The project area is above the tree line and thus vegetation comprises of arctic tundra; plants are usually less than six inches in height and include grasses, heathers, low-brush evergreens, and arctic wildflowers.

The project area is not located within any migration areas for caribou although an area exists south of the project area. Small numbers of wolves and muskoxen may be seen in the project area. Smaller mammals include the wolverine, foxes, ermines and ground squirrels, mice and voles. Due to lack of food, the area contains few bird species and the area is used for nests or stop over migration routes. Wolverines are identified under the Species of Risk Act.

Aquatic organisms in the area are freshwater.

Socioeconomic Environment

- Proximity to communities.

- Archaeological and culturally significant sites (e.g. pingos, soap stone quarries) in the project (Local Study Area) and adjacent area (Regional Study Area).
- Palaeontological component of surface and bedrock geology.
- Land and resource use in the area, including subsistence harvesting, tourism, trapping and guiding operations.
- Local and regional traffic patterns.
- Human Health, broadly defined as a complete state of wellbeing (including physical, social, psychological, and spiritual aspects).
- Other Valued Socioeconomic Components (VSEC) as determined through community consultation and/or literature review.

Roche Bay PLC will be conducting extensive community consultation this year and more information will be available after the community visits.

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5. IDENTIFICATION OF IMPACTS AND PROPOSED MITIGATION MEASURES

1. Please complete the attached Table 1 – Identification of Environmental Impacts, taking into consideration the components/activities and project phase(s) identified in Section 4 of this document. Identify impacts in Table 1 as either positive (P), negative and mitigable (M), negative and non- mitigable (N), or unknown (U).
2. Discuss the impacts identified in the above table.
3. Discuss potential socioeconomic impacts, including human health.
4. Discuss potential for transboundary effects related to the project.
5. Identify any potentially adverse effects of the project proposal on species listed under the *Species at Risk Act (SARA)* and their critical habitats or residences, what measures will be taken to avoid or lessen those effects and how the effects will be monitored.
6. Discuss proposed measures to mitigate all identified negative impacts.

The majority of proposed work is not expected to negatively impact the environment. Positive impacts of the proposed work are related to the employment of local people as, but not limited to field assistants, prospectors and camp personnel; and to the influx of money to local business and services.

Roche Bay PLC recognizes the potential disturbance of caribou and will conduct itself and its operations to minimize any potential disturbances.

Waste generated in the camp will be sealed and sent to disposal facilities; upon growth of the camp an incinerator may be brought in to burn combustible wastes. Sump pits will collect grey water before draining naturally into the surrounding soil. Black water will be sumped as well.

All fuel caches will have a spill kit and an empty drum for the unlikely event of a spill as well as a fire extinguisher. Field fuel caches will be in natural depressions and be a minimum of 31 metres from a normal high-water mark.

Used oil and greases will either be removed from site. All drill water will be treated in sumps which will be a minimum of 31 metres from a normal high-water mark. All equipment will be removed from the drill sites upon completion of drilling; Drill collars will be capped and drill holes will have the casing removed and be capped upon the completion of the drill program.

6. CUMULATIVE EFFECTS

A cumulative impact (or effect) can be defined as the impact on the environment that results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions. Cumulative impacts can also result from individually minor but collectively significant actions taking place over a period of time.

Discuss how the effects of this project interact with the effects of relevant past, present and reasonably foreseeable projects in a regional context.

Since the transfer of ownership to Roche Bay PLC in 1997, all exploration projects on the property have seen minimal cumulative impacts.

7. SUPPORTING DOCUMENTS

Where relevant, provide the following supporting documents:

- Abandonment and Decommissioning Plan
- Existing site photos with descriptions
- Emergency Response Plan
- Comprehensive Spill Prevention/Plan (must consider hazardous waste and fuel handling, storage, disposal, spill prevention measures, staff training and emergency contacts)
- Waste Management Plan/Program
- Monitoring and Management Plans (e.g. water quality, air pollution, noise control and wildlife protection etc.)
- If project activities are located within Caribou Protection Areas or Schedule 1 Species at Risk known locations, please provide a Wildlife Mitigation and Monitoring Plan

In addition, for Project Type 9 (Site Cleanup/Remediation), please provide the following additional supporting documents:

- Remediation Plan including cleanup criteria and how the criteria were derived.
- Human Health Risk Assessment of the contaminants at the site.

Roche Bay PLC submitted an Abandonment and Reclamation Plan, A Spill Contingency Plan and other relevant plans. Please refer to these plans for more information and details.

TABLE 1 - IDENTIFICATION OF ENVIRONMENTAL IMPACTS

PROJECT ACTIVITIES		ENVIRONMENTAL COMPONENTS	PHYSICAL	designated environmental areas (ie. Parks, Wildlife Protected areas)	ground stability	permafrost	hydrology/ limnology	water quality	climate conditions	eskers and other unique or fragile landscapes	surface and bedrock geology	sediment and soil quality	tidal processes and bathymetry	air quality	noise levels	other VEC:	other VEC:	other VEC:	BIOLOGICAL	vegetation	wildlife, including habitat and migration patterns	birds, including habitat and migration patterns	aquatic species, incl. habitat and migration/spawning	wildlife protected areas	other VEC:	other VEC:	other VEC:	SOCIO-ECONOMIC	archaeological and cultural historic sites	employment	community wellness	community infrastructure	human health	other VSEC
CONSTRUCTION	Camp Infrastructures					M						M		M	N					M	M	M								P			
OPERATION																																	
DECOMMISSIONING																																	

Note: Please indicate in the matrix cell whether the interaction causes an impact and whether the impact is

P = Positive
N = Negative and non-mitigatable
M = Negative and mitigatable

U = Unknown
If no impact is expected please leave the cell blank