Rescan™ Environmental Services Ltd.

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June 20, 2007

Jennifer Wilman
Manager-Research Liaison
Nunavut Research Institute
Box 1720, Iqaluit, NT X0A 0H0

Email: jwilman@nac.nu.ca

Attention: Jennifer Wilman

Dear Ms. Wilman,

Re: 2007 Ferguson Lake Environmental Baseline Studies

Please find the attached application for a Scientific Research Licence (Land, Freshwater & Marine Based Research) to complete surveys this summer for baseline studies for the Ferguson Lake Project. These studies are required to fulfill conditions of a recent screening decision.

The baseline work associated with the Ferguson Lake Project is in response to recommendations and recommended conditions following a screening decision by NIRB (NIRB file no. 07EN001).

In addition to the requirements provided in the application we have provided additional information requested previously by NIRB for an environmental screening of a similar application. Attached are:

- Detailed timeline for all proposed research activities (Table 1)
- Detailed summary of research protocols

Please do not hesitate to contact me if you require further information.

Yours truly,

RESCAN ENVIRONMENTAL SERVICES LTD.
per:

François Landry

François Landry, M.Sc., R.P. Bio.
Project Manager

CANADA EXPORT AWARD

Nunavut Research Institute
Nunavummi Qaujisaqtulirijikkut

Box 1720, Iqaluit, NT X0A 0H0
phone: (867) 979-7279 fax: (867) 979-7109
email: jwilman@nac.nu.ca
Web Site www.nri.nu.ca

SCIENTIFIC RESEARCH LICENCE APPLICATION

(Land, Freshwater & Marine Based Research)

This application fulfills the requirements for NIRB environmental screening

SECTION 1: APPLICANT INFORMATION

1. Applicant's full name and mailing address:
Rescan Environmental Services Ltd.
6th Floor, 1111 West Hastings St.
Vancouver, British Columbia
V6E 2J3

Phone: 604-689-9460

Fax: 604-687-4277

E-mail: flandry@rescan.com

2. Field Supervisor (address, if different from above):
François Landry

Phone:

Sat. phone:

3. Other Personnel list (name and position):
J. Rempel, Hydrologist
T. Robb, Aquatic Biologist
R. Lalonde, Soil Scientist

Total # of personnel: 3 **Total # of person days:** 24

SECTION 2: AUTHORIZATION NEEDED

4. List the organisations you will contact for necessary authorizations associated with the project.
Department of Fisheries and Oceans (licence pending)
Government of Nunavut- Department of Environment (licence pending)
Class 2 Nunavut Archaeology Permit- Nunavut Archaeological and Palaeontological Sites Regulation (permit pending)

5. List the active permits, licences, or rights related to the project and their expiry date:
NWB Water License NWB2FER0507; Expiring July 1, 2007.
Land Use Licence KVL103B303; Expiring March 23, 2007.
Land Use Licence KVL399C150; Expiring April 29, 2007.

SECTION 3: PROJECT PROPOSAL DESCRIPTION

6. Proposed project title: *2007 Ferguson Lake Environmental Baseline Studies*

7. Project duration:
Period of operation: 29 June 2007 to 30 September 2007

8. Location(s) of data collection:

Location Name	Region	Latitude (north)	Longitude (west)	NTS Map sheet #	Land Status
Ferguson Lake Project Camp	Kivalliq	62° 51' 27"	96° 50' 29"	65I/15	Inuit Owned (KIA)

NON-TECHNICAL PROJECT PROPOSAL SUMMARY

9. See attached page for non-technical summary

SECTION 4: MATERIAL USE

10. List equipment (including drills, pumps, aircrafts, etc.):

Equipment type and number	Size-dimensions	Proposed use
Boat with Motor	15 feet	Travel on lakes to sample and assess lake characteristics
GO-FLO water sampler	5 L	To collect water samples from several depths to characterize water quality
Eckman grab sampler	0.0225 m^2	To characterise sediment and invertebrates
Plexiglass plate samplers	21 @ 0.01 m^2	To assess Periphyton community
Hess sampler	0.096 m^2	To characterise stream benthic invertebrates
INW Model PS9800 pressure transducer and Terrascience Elf2 datalogger		Equipment for hydrology stations
Measuring tape, GPS, shovel	-	To conduct soil surveys

11. Detail fuel and hazardous materials use:

Fuels	Number of Containers	Capacity of Containers (gal & litres)
• Gasoline	1	20 L
• Aviation fuel	4	205 L
Hazardous Materials	**Number of Containers/Concentration**	**Capacity of Containers (gal & litres)**
• Nitric Acid	23 (in June), 23 (in July), 58 (in August), 23 (in September) - very small vials (~ 1 ml) for water preservation	1 ml each
• Hydrochloric Acid	23 (in June), 23 (in July), 58 (in August), 23 (in September) - very small vials (~ 1 ml) for water preservation	1 ml each
• Formaldehyde solution	37 % by weight, 1 container	4 L

12. Describe method of fuel transfer:
Fuel storage and chemical product transport are discussed in the attached Starfield Resources Inc. spill contingency plan.

13. Describe any procedures and materials in place to handle accidental spills. Please attach the spill contingency plan and other appropriate information about the hazardous materials associated with the proposed project.
Starfield Resources Inc. has described the method of disposal for sewage, grey water, garbage, overburden, hazardous and other materials in the attached documentation. The attached documentation includes Starfield Resources' most recent Spill Contingency Plan. As Starfield Resources Inc. already has a camp in operation, and is prepared to safely manage all related wastes and spills in accordance

with specified environmental guidance, Rescan staff will not be involved with any of these matters, and will follow all camp rules.

SECTION 5: WASTE DISPOSAL AND TREATMENT FACILITIES

14. Describe amount and methods of disposal:

Type of Waste	**Projected Amount Generated**	**Method of Disposal**	**Additional Treatment Procedures**
Sewage	Unknown	Composted and Incinerated	None
Grey water	Unknown	Sump Collection	Lime
Garbage	Unknown	Incinerated Daily	None
Overburden (organic soil, waste material,tailings)	-	N/A	-
Hazardous waste:	-	N/A	-
Other:	-	N/A	-

SECTION 6: RESTORATION AND ABANDONMENT PLANS

15. Describe or attach the proposed procedure for site restoration upon abandonment of any area associated with the project:

N/A. Starfield Resources will be responsible for restoration and reclamation of areas disturbed by mineral exploration activities.

SECTION 7: ENVIRONMENTAL IMPACT

16. Indicate and describe the components of the environment that are near the project area, as applicable. Attach any relevant maps or information:

Type of species (common name, associated herd, etc.)		**Important Habitat Area** (calving, staging, denning, migratory pathways, spawning, nesting, etc.)	**Critical time periods** (calving, post-calving, spawning, nesting, breeding, etc.)
Fish:	Lake Trout Whitefish Arctic Grayling Slimy sculpin Ninespine Stickleback Longnose Sucker	Shoreline spawning Shoreline spawning Rearing/spawning Rearing/spawning Rearing/spawning Rearing	Fall Fall Spring/Summer Summer Summer Summer
Caribou:	Qamanirjuaq	Calving grounds (northeast of the project area)	Early to mid June
Muskox:		Arctic islands, coast and inland areas	Year-round
Raptor:	Peregrine falcon, rough-legged hawk	Breeding and nesting in steep cliffs	April to June
Migratory Birds:	Lapland Longspur Savannah Sparrow American Tree Sparrow Robin Hoary Redpoll Sandhill Crane	Breeding and nesting in wetland areas	June to July

Type of species (common name, associated herd, etc.)		**Important Habitat Area** (calving, staging, denning, migratory pathways, spawning, nesting, etc.)	**Critical time periods** (calving, post-calving, spawning, nesting, breeding, etc.)
Waterfowl:	Long-tailed Duck Tundra Swan Greater-White Fronted Geese Canada Geese	Breeding and nesting in river edges, melt water areas, grasses and sedges	May to June
Canid family (wolves, wolverines, foxes, etc.):	Arctic Fox Red Fox Wolves	Denning	Year-round
Bears (grizzly, polar, black):	Grizzly	Denning	N/A
Rare species	Bald headed eagle	Breeding and nesting in steep cliffs	April to June
Other:			N/A
Eskers:	None identified in activity areas		
Communities:	Baker Lake, 160 km distant, is the nearest community.		
Historical/Archaeological sites:	Some sites are known and will be further assessed August 2007		

17. Indicate and describe other known uses of the area such as local development, traditional use (hunting/fishing/spiritual), outfitting, tourism, mineral development, research, etc.:

Ferguson Lake is a significant distance inland and has limited access. No outfitting or tourism operations exist in this area. The closest mineral development is located approximately 80 km to the south. Traditionally this land was likely used for hunting and, based on the archaeology study conducted in 2005, some oval to circular rock features exits, most of which appear to be habitation structures.

18. Describe the impacts of the proposed project activity on the environmental components and uses, in the area listed above:

The collection of baseline information on hydrology, lake and stream water chemistry, sediment chemistry, aquatic invertebrates will have a negligible impact on the environment. All sampling techniques were selected to be non-intrusive. Transportation to and from sampling sites will be conducted by a helicopter provided by Starfield Resources which may create some temporary noise disturbance for wildlife. Little impact is expected from boat use during lake water quality and aquatic invertebrate sampling.

Soil (hydrocarbon contaminant assessment) sampling also will have minimal impact on the environment. Any upturned rocks and vegetation will be carefully replaced. Field sampling staff will minimize disturbances to the tundra by treading carefully and by travelling via helicopter to minimize the impact upon the tundra vegetation.

19. What are some suggested mitigation measures for these impacts?

Aircraft usage will be minimal during the sensitive caribou calving period and during the breeding period for sensitive bird species in the area. Rescan personnel will avoid disturbing local wildlife when in the field. There will be on-site environmental technicians that will conduct daily wildlife monitoring and inspections.

SECTION 7: COMMUNITY INVOLVEMENT & REGIONAL BENEFITS

20. List the community representatives that you have contacted about this proposed project:

Community	Name	Organisation	Date Contacted	Means	Telephone #	Fax #
Iqaluit	Cindy Parker	Environment Canada	April 18, 2007	In person		
Iqaluit	Jeff Holwell	INAC	April 18, 2007	In person	867-975-4283	
Iqaluit	Carolanne Inglis-McQuay	NIRB	April 18, 2007	In person	867-983-4607	
Iqaluit	Sophia Granchinho	NIRB	April 18, 2007	In person	867-983-4606	
Iqaluit	Kevin Buck	NIRB	April 18, 2007	In person	867-983-4600	
Iqaluit	Stephanie Briscoe	NIRB	April 18, 2007	In person	867-983-4603	
Baker Lake		CLARC	March 21, 2007	Group meeting		
Baker Lake		Ferguson Lake Native Group	March 22, 2007	Group meeting		

21. Describe the level of involvement that the residents of Nunavut have had with respect to the proposed project. Elaborate on local employment opportunity, training programs, contracts, Inuit Impact Benefit Agreements (if applicable):

The proposed research consists of a small sampling program and requires involvement environmental technicians hired by Rescan. All environmental technicians hired for the current project are from Rankin Inlet. The archaeologist will use an assistant and elders from Ferguson Lake Natives Group based in Baker Lake. Hiring of any additional personnel will be the responsibility of Starfield Resources Inc.

22. Describe and attach documentation regarding community concerns or support for the proposed project:

No concerns have been raised concerning the proposed research program.

23. Is there a Traditional Knowledge (TK) component to this research project?

This portion of the study has minimal inclusion of traditional knowledge because of the baseline nature of the data collection, although any traditional knowledge relevant to the proposed studies will be incorporated into the final document.

24. YES we give NRI permission to release the applicants contact information in the Annual Compendium of Research Undertaken in Nunavut, published by the Nunavut Research Institute.

Applicant:

François Landry **, Project Manager, 20/06/2007**

Signature **Title** **Date**

2007 NRI Non-technical Summary of Proposed Ferguson Lake Environmental Baseline Studies

Starfield Resources Inc. is exploring a significant metals deposit located in an area of Inuit Owned Land at Ferguson Lake in Nunavut.

The proposed research for 2007 under the Nunavut Research Institute scientific research license includes characterizing the local water flow patterns; aquatic biology and water quality of the site; and hydrocarbon content of surface soils. This work is being done to provide additional baseline characterization in the area and in response to recommendations and recommended conditions of a screening decision by NIRB (NIRB File no. 07EN001). The proposed work is to be completed between June 30, 2007 and September 30 2007 by Rescan Environmental Services personnel.

In order to characterize timing and magnitude of stream flow, three hydrology stations will be placed at key stream locations (Figure 1). An existing meteorology station will continue to monitor climate data and together with the hydrology characterization will be valuable in the environmental assessment and the proposed development layout.

To monitor potential changes related to development of the project, water and sediment quality, as well as aquatic biology surveys will be completed. Water samples will be collected from streams on a monthly basis beginning June through to September (see Figure 1 for locations). Sediment will be collected once, from key streams at low flow. Lake water and sediment samples will be collected once in August. Identification and abundance of lake and stream invertebrates and primary producers also will be completed once in August.

Surface soils will be collected for hydrocarbon analysis in order to determine the extent and depth of contaminants previously identified during 2006 baseline studies. This additional information will provide the basis for a soil removal program as part of reclamation of the old camp.

Transportation to the sites will be provided by a helicopter. Lake water quality sampling will be conducted by boat. Visits to each sampling site will be minimized during periods sensitive to wildlife. On site environmental technicians will assist with sampling. All Rescan personnel will stay at Starfield Resources Inc. established camp at Ferguson Lake. No additional structures will be erected for the purpose of this research.

2007-ᒥ NRI -ᑯᑦ ᓴᓇᖅᑯᑎᐅᖏᑦᑐᓄᑦ ᓇᐃᓪᓕᒋᐊᕐᓗᒍ ᐅᓂᒃᑳᖓ ᕘᓚᓴᓐ ᑕᓯᖓᓂ ᐊᕙᑎᓕᕆᔪᑎᓄᑦ ᖃᐅᔨᓴᖅᑕᐅᔪᓂᒃ

Starfield Resources Inc. (ᓯᑖᕙᐊᓕᒃᑯᑦ) ᖃᐅᔨᓴᕐᒪᑕ ᐊᒃᓱᑲᓪᓚᒃ ᓴᕕᕋᔭᒃᓴᕐᕕᐅᔪᒥᒃ ᐃᓄᐃᑦ ᓄᓇᖁᑎᖏᓐᓃᑦᑐᒥᒃ ᕘᓚᓴᓐ ᑕᓯᖓᑕ ᖃᓂᒋᔭᖓᓂ ᓄᓇᕗᒥ.

ᑕᒪᒃᑯᐊ ᖃᐅᔨᓴᕈᑕᐅᓂᐊᖅᑐᑦ 2007-ᒥ ᓄᓇᕗᒥ ᓯᓚᑦᑐᒃᓴᐅᑎᓂᒃ ᖃᐅᔨᓴᖅᑏᑦ ᑎᒥᖁᑎᖓᓄᑦ ᐊᑐᐊᖅᓯᓗᑎᒃ ᓚᐃᓴᖓᓂᒃ ᒪᑯᐊᖑᔪᑦ ᑖᓂ ᐃᒪᐃᑦ ᑰᖕᓂᖏᓐᓂᒃ; ᐆᒪᔪᖃᕐᓂᖏᓐᓂᒃ ᐊᒻᒪᓗ ᖃᓄᐃᑦᑐᒪᖔᑕ ᐃᒪᐃᑦ ᑖᓂ, ᕿᒥᕈᓚᖓᔪᑦ ᖃᓄᑎᒋ ᐅᖅᓱᐊᓗᕈᔪᖃᕐᒪᖔᑕ. ᒫᓇ ᖃᐅᔨᓴᕈᑕᐅᔪᖅ ᒪᓕᒃᑐᖅ ᖃᐅᔨᓴᕈᑕᐅᔪᔪᓂᒃ ᑕᒪᑐᒪ ᓄᓇᖓᑕ ᑐᓐᖓᕕᒋᔭᖏᓐᓂᒃ ᐃᓚᔭᐅᓂᐊᖅᑐᖅ ᖃᐅᔨᓴᕈᑕᐅᔪᔪᓄᑦ 1999-ᒥ, 2005-ᒥ ᐊᒻᒪᓗ 2006-ᒥ. ᑐᓐᖓᕕᒋᔭᐅᓗᓂ ᐃᑲᔪᖅᓴᓚᖓᔪᑦ ᑭᖑᓂᖓᒍᑦ ᐊᕙᑎᓄᑦ ᐃᒃᐱᖕᓇᕐᓂᖅᑲᖅᑐᑦ ᖃᐅᔨᓴᖅᑕᐅᓕᖅᐸᑕ. ᖃᐅᔨᓴᖅᑐᑦ ᐱᓕᕆᐊᕆᔭᐅᓚᖓᔪᑦ ᔫᓐ 30, 2007 ᐊᒻᒪᓗ ᓯᑎᐱᕆ 30, 2007 ᐊᑯᓐᓂᖓᓂ ᕆᔅᑳᓐᑯᑦ ᐊᕙᑎᓕᕆᔩᖏᓐᓂᒃ ᖃᐅᔨᓴᖅᑎᖃᖅᓗᑎᒃ.

ᐅᔾᔨᖅᓱᖅᑕᐅᓂᐊᕐᒪᑕ ᐊᕙᑎᒧᑦ ᐃᒃᐱᖕᓇᕐᓂᖅᑲᕈᓐᓇᖅᑐᑦ ᖃᐅᔨᓴᖅᑕᐅᖃᑦᑕᖅᓗᑎᒃ ᐃᒪᐃᑦ ᖃᓄᐃᓕᖅᐸᓪᓕᐊᓂᖏᑦ, ᑕᔫᓪᓗ ᐃᖅᑲᖑᓄᑦ ᑲᑕᕐᓗᑯᐃᑦ ᖃᓄᐃᑦᑑᓕᕐᓂᖏᑦ ᐆᒪᔪᑦ ᓈᓴᖅᑕᐅᕙᓗᑎᒃ. ᐃᒪᕐᓂᒃ ᐱᖃᑦᑕᕐᓂᐊᖅᑐᑦ ᐃᓗᓕᖏᑦ ᐆᒃᑐᕋᖅᑕᐅᓂᐊᕐᒪᑕ ᑕᒫᖓᑦ ᑕᓯᕐᓂᑦ ᑰᒐᓛᓂᓪᓗ ᑕᖅᑭᑕᒫᑦ ᐱᒋᐊᕐᓗᑎᒃ ᔫᓐ ᓯᑎᐱᕆᒧᒃ ᑎᑭᓪᓗᒍ (ᑕᑯᒍᒃ ᓄᓇᖑᐊᖅ 1 ᓇᒦᒋᐊᖏᑦ). ᑕᔫᑦ ᐃᖅᑲᖑᓂ ᑲᑕᕐᓂᕐᓗᑯᐃᑦ ᖃᐅᔨᓴᖅᑕᐅᓚᖓᔪᑦ ᐊᕝᕗᖅᑕᐅᓗᑎᒃ ᐋᑭᓯᒥ. ᓇᓗᓇᐃᔭᖅᑕᐅᓗᑎᒃ ᐊᒻᒪᓗ ᓈᓴᖅᑕᐅᓗᑎᒃ ᐅᓄᕐᓂᖏᑦ ᐆᒪᔪᑦ ᖁᐱᕈᐃᑦ ᐅᕕᓗᐃᓪᓗ ᐱᕚᓪᓕᐊᓂᖏᑦ ᐋᑭᓯᒥ ᐱᐊᓂᒃᑕᐅᓚᖓᖕᒥᔪᑦ.

ᒪᓂᕋᖓᓂ ᓄᓇᑦ ᐊᕝᕗᖅᑕᐅᓚᖓᖕᒥᔪᑦ ᐅᖅᓱᐊᓗᖃᐅᕆᐊᖏᑦ ᐆᒃᑐᖅᑕᐅᓗᑎᒃ ᖃᓄᑎᒋ ᐃᑎᓂᖃᕐᒪᖔᑕ ᐆᒃᑐᕋᐅᑕᐅᓂᐊᖅᑐᓂᒃ ᑯᕕᓯᕕᐅᔪᕕᓃᑦ 2006-ᒥ ᖃᐅᔨᓴᕈᑕᐅᓗᑎᒃ. ᑕᐃᒪᐃᓕᐅᕐᓂᐊᖅᑐᑦ ᐊᕝᕗᐃᓇᓱᐊᕐᓗᑎᒃ ᓱᕈᔪᒃᓯᒪᔪᓂᒃ ᓄᓇᓂᒃ ᐲᔭᐃᓂᐊᖅᑐᑦ ᑕᖅᒫᕐᕕᕕᓂᕐᒥᓂᑦ.

ᐅᓯᑲᖅᑕᖅᑕᐅᓚᖓᔪᑦ ᑕᒪᐅᖓ ᑕᖅᒫᕐᕕᖓᓄᑦ ᖁᓕᒥᒎᓕᒃᑯᑦ. ᐃᒪᓐᓂᐊᖅᑕᐅᓂᐊᖅᑐᓪᓕ ᐅᒥᐊᒃᑯᑦ ᑕᓯᕐᓂ. ᐊᑐᓂ ᐆᒃᑐᕋᐅᑎᖃᕐᕕᐅᔪᑦ ᑕᑯᔭᖅᑐᖅᑕᐅᖃᑦᑕᓚᖓᔪᑦ ᐅᒥᐊᒃᑯᑦ ᓂᕐᔪᑎᖃᐅᓗᐊᖏᓐᓂᖓ ᓱᓕ. ᐊᕙᑎᓕᕆᔨᓂᒃ ᐱᓕᕆᔨᖃᕐᒪᑕ ᓴᓇᔅᕕᖏᓐᓂ ᐃᑲᔪᖅᑎᐅᓂᐊᖅᑐᑦ. ᑕᒪᐃᑕ ᕆᔅᑳᓐᓄᑦ ᐱᓕᕆᔩᑦ ᓯᑖᕙᐊᓕᒃᑯᑦ ᑕᖅᒫᕐᕕᖓᓂᓕᖓᔪᑦ ᑕᐃᑲᓂ ᕘᓚᓴᓐ ᑕᓯᖓᓂ. ᐊᓯᐊᒍᑦ ᓴᓇᖅᑯᑎᓂᒃ ᐋᕿᒃᓱᐃᒃᑲᓐᓂᓚᖓᖏᑦᑐᑦ ᖃᐅᔨᓴᕈᑕᐅᓂᐊᖅᑐᓂᒃ.

Proposed Research for 2007 Ferguson Lake Environmental Baseline Studies

1.1 Introduction

Detailed below is a brief outline of the research protocols that will be used in 2007 as part of the baseline study for Ferguson Lake Project and submitted to Nunavut Research Institute for a scientific research license application.

Although the information presented below is as concise as possible, site-specific situations may require slight changes in the methodology. As such, the information presented should be interpreted as a guide to the techniques that will be utilized.

Previous work has been completed in the area in 1999, 2005 and 2006 and as outlined below data collected in 2007 will provide either supplemental information or continue baseline work necessary to support an Environmental Impact Assessment.

All research will be conducted from Starfield Resources Inc. current exploration camp located on the shores of Ferguson Lake. Rescan staff will follow all rules, guidelines, spill contingency plans, safety plans, waste disposal plans, bear deterrent plans and other regulations associated with camp operation.

In addition, all Rescan field staff will be certified for basic CPR and first aid, trained in bear deterrence techniques and helicopter safety. Bear Bangers and/or pepper spray will be carried by all field staff when beyond the camp perimeter.

Transportation to survey sites will be accomplished by helicopter.

1.2 Hydrology

The main objective of the hydrologic monitoring program will be to characterize the timing and magnitude of stream flow at three locations within the project area which may be potentially affected by mine development activities. In addition, on-site flow data will be used to help develop estimates of key hydrological parameters (*e.g.*, annual runoff volumes) that can be used as inputs to engineering design and the development of the mine plan. Hydrologic estimates using the on-site data will be supported by a regional hydrologic analysis of available long-term Water Survey of Canada data from flow monitoring stations in Northern Canada.

For northern watersheds, the hydrologic year typically begins and ends in October, with the onset of freezing conditions. Water is stored in the watershed as snow and ice through the winter. Initial temperatures above freezing in May or June mark the onset of the open-water season. Peak flows generally occur once the air temperature remains above freezing for four to seven consecutive days. Following peak flows, discharge steadily declines through the summer typically reaching minimum levels in August.

During this time flows can increase in response to rain events. Once, the air temperature drops below freezing in September or October, this marks the end of the hydrological year, and the beginning of another.

In order to capture all the hydrological events within a water year, continuous monitoring of stream flow is required over an entire open-water season. It is especially important to have monitoring stations established early in the season in order to observe the peak flows in freshet. This is often a challenge in northern watersheds, where the transition from completely frozen conditions to peak flow conditions occurs within days.

It is proposed that three continuous monitoring stations will be constructed, two on creeks close to the proposed pit area and a reference station. Manual, spot flow measurements will also be taken at one additional site, close to the east pit. Stream flows at this station are likely to be too low and to warrant continuous flow measurement, but the spot flow measurements will allow comparison of the hydrological response of this watershed to the other three sites. Approximate locations of each monitoring station are shown in Figure 1 (attached). The exact locations of the monitoring stations will be identified after a site reconnaissance, and will be determined based on local hydraulics, channel conditions and hydrology.

The hydrometric stations will consist of a standard Water Survey of Canada staff gauge, INW Model PS9800 pressure transducer and Terrascience Elf2 datalogger. The staff gauge is a semi-permanent installation that provides a visual indication of water depths in the stream. Benchmarks will be established, and both the station and the channel cross section will be surveyed. The combination of pressure transducer and data logger automatically collect water depth readings every 10 minutes.

Water depth readings are subsequently converted to discharge estimates by use of a stage-discharge curve. A stage-discharge curve is an empirical relationship between water depth and discharge. The stage-discharge curve is generated using manual stream flow measurements recorded at known water levels. Manual stream flow measurements are made by measuring the velocity of the water across a channel cross-section at regular intervals. The cross-sectional area of the stream (m^2) along with the velocity of the water (m/s) is used to calculate flow (m^3/s). To establish an accurate stage-discharge curve for each station, a minimum of five to eight manual flow measurements are required throughout the open-water season, covering a range of high and low flow conditions. We propose to collect four to five flow measurements during the current field program; one or two measurements during installation (end of June), and additional measurements during July, August and September. Additional flow measurements will be obtained during subsequent years.

Hydrometric stations will be installed at the end of June in order to monitor spring freshet, and will be operated during the open-water season until late-September or early-October. The installation and demobilization of the monitoring stations will be conducted by a Rescan hydrologist, while summer flow monitoring will be undertaken by trained on-site technicians.

1.3 Aquatic Biology and Water Quality

In order to monitor potential changes related to development of the project, water and sediment quality, as well as aquatic biology surveys are recommended. Aquatic baseline studies proposed for the Ferguson Lake Area project include:

- Water Quality;
- Physical limnology;
- Sediment Quality;
- Primary Producers (phytoplankton and periphyton); and
- Secondary Producers (zooplankton and benthic macroinvertebrates (benthos)).

Studies will be conducted in streams, rivers and lakes of the mine area receiving environment. This will provide baseline information critical to the development of the upcoming environmental impact assessment for this project.

The first year of aquatic baseline work was undertaken for the Ferguson Lake Project area in 1999. In 1999, water quality and fisheries studies were conducted. Subsequent work such as water quality and physical limnology has been conducted in 2005 and 2006. The following work plan outlines the fourth year of work for the Ferguson Lake Project Area Water Quality Baseline Program, to be carried out in 2007. Aquatic study components were organized into two separate groups: lakes and streams. Table 1.3-1 provides a summary of the entire 2007 Aquatic Resources Work Plan.

Table 1.3-1
Summary of Ferguson Lake Aquatic Baseline Program, 2007

	Water Quality	Sediment Quality	Primary Producers	Secondary Producers
Lakes				
Grizzly Bear Lake	X*			
L2	X*	X	X	X
L3	X*	X	X	X
L4	X*			
L5	X*	X	X	X
L6	X*	X	X	X
L7	X*	X	X	X
L8	X*			
L9	X*			
L10	X*			
Pond 4	X*	X	X	X
Reference Lake	X*	X	X	X
Y Lake	X*			
Total Lakes	13	7	7	7

(continued)

Table 1.3-1
Summary of Ferguson Lake Aquatic Baseline Program, 2007 (completed)

	Water Quality	Sediment Quality	Primary Producers	Secondary Producers
Streams				
Badger Lake Outflow	X			
Banana Lake Outflow	X			
C1	X	X	X	X
C2	X			
C3	X			
C4	X	X	X	X
C5	X	X	X	X
E2	X	X	X	X
Ferguson Lake Outflow	X			
Grizzly Bear Lake Outflow	X			
R1	X			
Reference Lake Outflow	X			
S1	X			
W1	X	X	X	X
W2	X	X	X	X
W3	X			
W4	X	X	X	X
Total Streams	17	7	7	7

***Limnology conducted in August at lake stations.**
Water quality to be sampled in August at lakes, and in June, July and August at stream stations.
Sediment quality, primary and secondary producers to be sampled in August only.

1.3.1 Lakes

1.3.1.1 Lake Water Quality and Limnology

Water sampling is proposed at 13 lake stations (see attached Figure 1). A total of 12 lake water quality sampling stations have previously been established in the Ferguson Lake Project Area (Table 1.3-2). Of the 10 established lake sampling stations, 9 of them are on Ferguson Lake. Several sample locations were selected near the project development (*i.e.*, L2, L3, and L10). Others were established along a transect extending from the North end of the lake towards the Ferguson Lake Outflow in order to provide information on the spatial extent of any future changes in water quality. It is recommended that, in 2007, one lake sampling station (Pond 4) be added.

In 1999, 2005 and 2006, water quality sampling in lakes was conducted once during the summer in either July (1999) or August (2005, 2006) (Table 1.3-2). August represents the most stable time of year for lake dynamics, and is a good time to collect samples representative of a given year. In addition to water samples, profile measurements of physical parameters were collected at each lake station. These parameters include Secchi depth, dissolved oxygen, and temperature. It is recommended that, in 2007, lake water quality samples and profiles of physical parameters be measured at each lake station, as in previous years.

Table 1.3-2
Summary of Data Collected for Lake Summer Water Quality and Physical Limnology

Lake Station	1999	2005	2006	2007
Grizzly Bear Lake	-	x	x	x
L2	x	x	x	x
L3	x	x	x	x
L4	x	x	x	x
L5	x	x	x	x
L6	-	x	x	x
L7	-	x	x	x
L8	-	x	x	x
L9	-	x	x	x
L10	-	x	x	x
Pond 4	**-**	**-**	**-**	**x**
Reference Lake	-	x	x	x
Y Lake	-	x	x	x

Lake sampling station added in 2007 is bolded.

Two samples from each lake site will be collected in clean, well-labelled acid-rinsed bottles. A single sample will be collected at surface (1 m below surface) and one at mid depth using separate GO-FLO casts. For quality assurance and quality control (QA/QC) purposes, duplicate samples will be collected at 10% of sites. Field and travel blanks will also be collected on each sampling trip to assess potential contamination during transit/field work. Travel and field blanks will comprise 5% of the total number of lake water quality samples. An equipment blank will be collected from the water sampler used to collect lake water samples to quantify any potential contamination from the sampler. Lake water samples will be collected using a Teflon-lined, acid-cleaned 5 L GO-FLO bottle. Sample bottles will be rinsed and filled directly from the GO-FLO bottle and preserved (if necessary). Starting in 2007, the analyses for polycyclic aromatic hydrocarbons (PAHs) and total extractable hydrocarbons (TEHs) are recommended for three lake stations, during the August sampling period.

Preservatives will be added for total metals (ultra-pure nitric acid), and total organic carbon (hydrochloric acid). No preservation is used for general parameters (physical, anions, nutrients), total polycyclic aromatic hydrocarbons (PAHs), total extractable hydrocarbons (TEHs), or dissolved metals samples; the latter are kept cool and sent immediately to the lab for filtering and preservation with nitric acid prior to analysis. No air bubbles are left in any of the bottles.

After preservation is added, samples will be stored in a dark, cool place until shipment. All water samples will be analyzed by ALS Environmental Services in Vancouver, B.C., a fully accredited analytical laboratory, for the parameters identified in Table 1.3-3. The lowest detection limit available will be used for all variables so as to facilitate comparison with both Federal and Territorial water quality guidelines.

Table 1.3-3
Water Quality Parameters and Detection Limits

Parameter	Detection Limit (mg/L)	Parameter	Detection Limit (mg/L)
Physical/Dissolved Anions		Total and Dissolved Metals	
Colour (Cu)	5	Aluminium	0.001
Conductivity (µmhos/cm)	2	Antimony	0.0001
pH (pH units)	0.01	Arsenic	0.0001
Total Suspended Solids	3	Barium	0.00005
Turbidity (NTU)	0.1	Beryllium	0.0005
Total Organic Carbon	0.5	Bismuth	0.0005
Total Dissolved Solids	1	Boron	0.01
Hardness	0.50	Cadmium	0.00005
Total Alkalinity (as CaCO3)	1	Calcium	0.02
Acidity	1	Chromium	0.0005
Bromide	0.05	Cobalt	0.0001
Chloride	0.5	Copper	0.0001
Fluoride	0.02	Iron	0.03
Sulphate	0.5	Lead	0.00005
		Lithium	0.005
Hydrocarbons		Magnesium	0.005
LEPH	0.3	Manganese	0.00005
HEPH	1.0	Mercury	0.00001
Total Polycyclic Aromatic Hydrocarbons	0.000050	Molybdenum	0.00005
		Nickel	0.0005
Nutrients		Phosphorous	0.3
Ammonia Nitrogen	0.005	Potassium	0.05
Nitrate	0.005	Selenium	0.001
Nitrite	0.001	Silicon	0.05
Total Kjeldahl Nitrogen	0.05	Silver	0.00001
Total Nitrogen	0.02	Sodium	2
Total Phosphorus	0.002	Strontium	0.0001
		Thallium	0.0001
Cyanides		Tin	0.0001
Total Cyanide	0.005	Titanium	0.01
		Uranium	0.00001
		Vanadium	0.001
		Zinc	0.001

1.3.1.2 Lake Sediment Quality

Sediment samples will be collected in the three zones of 7 identified lake stations (Table 1.3-1). To ensure that limnology, water and pelagic plankton sampling will be uncompromised, both sediment and benthos will be sampled following all other sampling to avoid contaminating the water column with drifting sediment and benthos. Within each of the three zones, one composite replicate sample will be collected, to be comprised

of three field sub-samples taken from areas a minimum of 5 to 25 m apart (depending on lake size).

Each sub-sample will be obtained using a standard Ekman grab with a surface area of 0.0225 m^2. The Ekman will then be cleaned and sampling will continue until three complete grabs are obtained. For each sample, contents of the Ekman are carefully released onto a clean plastic white tray. Samples will be photo-documented and sample characteristics/depth will also be recorded. The top 2 to 4 cm of sediment will be collected using a clean stainless steel spoon and bowl. Contents from three complete grabs will be manually homogenized in the bowl for one minute, after which approximately 300 g of sediment will be spooned into a clean, pre-labeled Whirl-Pak bag with no air inside, double-bagged by lake/zone in ziplock freezer bags, and stored refrigerated in coolers until analysis by ALS Environmental (Vancouver, B.C.). Samples will be analyzed for nutrients, total metals, cyanides, total organic carbon and particle size distribution (Table 1.3-4).

1.3.1.3 Lake Phytoplankton

Three replicate samples of phytoplankton (one from each of the three lake zones) will be collected at the same 7 lakes that will be sampled for sediment quality and other biology (Table 1.3-1). Sampling will be conducted in August concurrently with the other biological surveys and sediment sampling.

Phytoplankton samples will be collected from 1 m depth (using a GO-FLO bottle) within each sampling zone. Two 1 L bottles will be collected at each zone; one for taxonomy and one for chlorophyll *a* biomass. Taxonomic samples will be preserved with Lugol's iodine solution and analysed for taxonomic identification and enumeration by a qualified expert (Biologica Environmental Services, Victoria, BC). Biomass samples will be kept cool and in the dark until filtration at camp. Chlorophyll *a* samples (directly related to phytoplankton biomass) will be prepared by filtering water from the other 1 L of sample through a 0.45 µm filter, wrapping it in labeled tinfoil, and freezing it until analysis (ALS Environmental).

1.3.1.4 Lake Zooplankton

Zooplankton communities will be sampled for taxonomic composition and enumeration at the 7 identified lake stations sampled for sediment and other biology. As with other biological sampling, three separate zones will be sampled to provide three composite replicates per site. Each replicate sample will be composed of the contents of three separate zooplankton hauls using a 0.3 m diameter net (118 µm mesh size). Zooplankton samples will be collected in pre-labeled, clean, 500 ml wide mouth plastic jars. Buffered formalin preservative will be added to a final concentration of 5% by volume. Samples will be analyzed for taxonomic identification and enumeration by a qualified expert (Biologica Environmental Services, Victoria, BC).

1.3.1.5 Lake Benthos

Benthic macroinvertebrate community sampling will be conducted at the 7 lake stations sampled for sediment and other biology. The five zones of each lake will be sampled to provide three separate composite benthic samples. Subsample Ekman grabs will be

collected a minimum of 5 to 25 m apart, depending on lake size, as planned for sediment sampling. Grab contents will be sieved in the field (500 µm mesh sieve size) prior to transferring to pre-labeled 500 mL plastic jars. Sample jars will then be filled up with 10% formalin to entirely submerge materials, and will be transported to Biologica Environmental Services (Victoria, BC) for taxonomic identification and enumeration.

Table 1.3-4
Sediment Quality Parameters and Detection Limits

Variable	Detection Limits	Variable	Detection Limits
Physical Tests		Total Metals	
Moisture	0.1%	Aluminium	50
pH	0.01 pH units	Antimony	20
Particle Size	n/a	Arsenic	0.05
		Barium	1
Nutrient/Inorganic/Organic Variables		Beryllium	0.5
Available Phosphorus	1.0	Bismuth	20
Total Nitrogen	0.01%	Cadmium	0.1
Total Organic Carbon	0.05 %	Calcium	50
		Chromium	2
Cyanides		Cobalt	2
Total Cyanide	3	Copper	1
		Iron	50
		Lead	2
		Lithium	2
		Magnesium	50
		Manganese	1
		Mercury	0.005
		Molybdenum	4
		Nickel	5
		Phosphorous	50
		Potassium	200
		Selenium	50
		Silicon	50
		Silver	2
		Sodium	200
		Strontium	0.5
		Thallium	50
		Tin	10
		Titanium	1
		Vanadium	2
		Zinc	1

Expressed as mg/kg dry weight unless otherwise noted.

1.3.2 Streams

A total of 17 stream stations are included in the 2007 work plan, including two references (see attached Figure 1). Five of these sites are within the area of influence of the new camp, thereby characterizing the impact of these facilities on water draining the area. Four of these stations are near the massive sulphide deposit: one upstream, one at, and one downstream the deposit's outcrop. These water quality samples will characterize

stream water quality before development, and document naturally-occurring metals and nutrients. Three of these stations establish long-term baseline data collection for significant geographical locations, such as the outflow of Ferguson Lake, and the furthest downstream point within the Starfield lease area. Data from all sampling stations will help illustrate that Starfield is managing their property in an environmentally responsible manner, and prove the water existing their property has not been affected by project development in the future.

As the plan for development of the Ferguson Lake Area has evolved over the past years, the sampling program has been adjusted and additional water quality stations have been added to better assess baseline conditions at important locations for the project.

1.3.2.1 Stream Water Quality

Water quality sampling has been conducted in several streams within the Project area in the recent past. The water quality monitoring program for the current year incorporates previously sampled stream sites to extend the available baseline database for the Ferguson Lake project.

In 1999, stream water quality was sampled once in July. In 2005 and 2006, stream water quality sampling was conducted four times during the year, approximately monthly through the summer (Table 1.3-5). It is recommended that in 2007, the same sampling frequency be maintained, with the exception of Stations C1, C2 and C3 which will only be sampled during freshet as these stations dry up in the latter part of the summer. As in previous years, it is recommended that Rescan personnel conduct the first water survey of the year with the assistance of the environmental technicians so that the technicians can conduct the subsequent water surveys. However, Rescan personnel can continue to conduct surveys if they are on site for other work (*i.e.,* the lake biology survey in August).

A single sample will be collected from each stream site. To collect stream water samples, the scientist will stand mid-stream facing upstream and fill the sample bottle, after rinsing the bottle and cap three times, leaving room for any necessary preservatives as described in Section 1.3.1.1. Analytical parameters, detection limits, and sampling methods (field and travel blanks, and duplicates) are identical to those described for lake water sampling (Table 1.3-3).

1.3.2.2 Stream Sediment Quality

Sediment quality will be assessed once in August at 7 of the stream and river sites (Table 1.3-1). Sampling will follow guidance provided by Metal Mining Effluent Regulations. At each site, a stainless steel bowl and spoon will be used to collect a total of three replicate station samples from each stream area (*i.e.,* site). Sediment will be spooned from the top 4 cm at three to four sub-sampling points along the stream, covering a minimum of 25 m length of the stream, and composited into one replicate sample. Three distinct replicate zones (different braids, or different stretches of the main channel separated by a minimum of 25 m) will be sampled at each stream site, covering a minimum length of 75 m.). Excess water will be drained off from the bowl, and sediment will be manually homogenized for one minute. Sediment will be then carefully spooned

into clean, pre-labeled Whirl-Pak bags, and sealed with no air bubbles. These composite replicates will be kept cool in the dark until analysis (ALS Environmental, Vancouver, B.C.). Duplicate split samples will be collected at 10% of sites for QA/QC purposes. Analytical parameters are the same as those listed for lake sediment (Table 1.3-3).

Table 1.3-5
Summary of Data Collected for Seasonal Stream Water Quality

Stream Station	1999	2005	2006	2007
Badger Lake Outflow	-	Aug, Sep, Oct	May, Jun, Jul, Aug	Jun, Jul, Aug, Sep
Banana Lake Outflow	-	-	Jul, Aug	Jun, Jul, Aug, Sep
C1	-	-	May, Jun	Jun
C2	-	-	May	Jun
C3	-	-	May, Jun	Jun
C4	-	-	Aug	Jun, Jul, Aug, Sep
C5	-	-	Aug	Jun, Jul, Aug, Sep
E2	Jul	Jun, Aug, Sep, Oct	May, Jun, Jul, Aug	Jun, Jul, Aug, Sep
Ferguson Lake Outflow	-	Jun, Aug, Sep, Oct	May, Jun, Jul, Aug	Jun, Jul, Aug, Sep
Grizzly Bear Lake Outflow	-	Jun, Aug, Sep, Oct	May, Jun, Jul, Aug	Jun, Jul, Aug, Sep
R1	Jul	Jun, Aug, Sep, Oct	May, Jun, Jul, Aug	Jun, Jul, Aug, Sep
Reference Lake Outflow	Jul	Jun, Aug, Sep, Oct	May, Jun, Jul, Aug	Jun, Jul, Aug, Sep
S1	-	Jun, Aug, Sep, Oct	May, Jun, Jul, Aug	Jun, Jul, Aug, Sep
W1	Jul	Jun, Aug, Sep, Oct	May, Jun, Jul, Aug	Jun, Jul, Aug, Sep
W2	Jul	Jun, Aug, Sep, Oct	May, Jun, Jul, Aug	Jun, Jul, Aug, Sep
W3	-	Jun, Aug, Sep, Oct	May, Jun, Jul, Aug	Jun, Jul, Aug, Sep
W4	-	Jun, Aug, Sep, Oct	May, Jun, Jul, Aug	Jun, Jul, Aug, Sep

1.3.2.3 Stream Periphyton

Periphyton community sampling will be conducted at the 7 stream and river sites sampled for sediment. Periphyton taxonomy and biomass samples will be obtained using 10 cm x 10 cm Plexiglass plate samplers which will be affixed to submerged rocks with fishing line. Three replicate samplers will be installed at each site (during July water sampling), spaced out a minimum of 25 m apart, and will remained submerged for one month, until the August biological survey trip. At this time, a known surface area on each of the samplers will be scraped and contents rinsed into 500 mL sample containers. A portion of these samples will be filtered for chlorophyll *a* biomass (as described for lake phytoplankton above), and the remainder of each sample will be preserved with Lugol's solution and sent to a qualified expert for taxonomic identification and enumeration (Biologica Environmental Services, Victoria, BC). Biomass samples will be analysed by ALS Environmental.

1.3.2.4 Stream Benthos

Benthic invertebrates ("benthos") will be sampled once in August at the same 7 stream sites where stream periphyton and sediment sampling is proposed (Table 1.3-1). A total of five composite replicates will be collected to better capture variability in benthic community distributions for all sites.

For each stream composite sample, a total of three field sub-samples will be collected from spatially separated (10 to 50 m depending on stream width) and distinct riffle habitats (separate side braids if available). Stream sampling of benthos will be conducted using a 500 μm mesh size Hess sampler with a sampling surface area of 0.096 m^2. Sampling will be done in mid-summer when the benthic invertebrate community is fully developed, but prior to emergence. Samples will be collected into 500 mL plastic jars, preserved with formalin (to a 10% final concentration) and shipped to Biologica Environmental Services (Victoria, BC) for identification and enumeration.

1.4 Hydrocarbon Contamination Assessment

The Ferguson old camp and airstrip are located on bedrock outcropping with soils in depression areas. The concern for hydrocarbon contamination arose because a number of types of fuel and lubricants are stored on the camp site including JET-B, P-50 diesel motive, gasoline, propane, and an assortment of hydraulic oils and motor oils. JET-B is helicopter fuel and also is used for heating purposes. All JET-B products are contained in 205 litre drums. P-50 diesel motive also is used for heating purposes and powering generators, pumps, and other related heavy equipment. P-50 is stored in pre-inspected barrels that previously contained sealed JET-B fuel. Gasoline is used for the snowmobiles and propane is used for heating and cooking purposes. Oils and lubricants are used on the heavy equipment.

A preliminary assessment of the site was carried out in 2006. Surface soils were collected for hydrocarbon analysis at sites most likely to be contaminated. Sites included beneath the heating fuel tanks mounted on the sides of the sleeping quarter huts, the machine and tractor sheds that have dirt floors, around the two incinerators, a helicopter fuel storage area near the runway and the runway itself. Many of the buildings have wooden floors so the soils below them could not be sampled. The preliminary assessment indicated these sites were contaminated with hydrocarbons (Rescan, 2007). One of the commitments from the NIRB screening was to conduct additional sampling to delineate the area extent and depth of contamination in order to conduct a soil removal program.

1.4.1 Methodology

The delineation of the area and depth of contaminated sites requires a detailed sampling program. This program will be carried out in the summer, 2007. Following the results, the excavation program will be designed and the contaminated soils removed. A follow-up sampling program will be required to ensure all contaminated material has been removed.

1.4.1.1 Sampling Locations

Ten areas were sampled for the preliminary assessment, however, fuel barrels and equipment were located throughout the camp (Plates 1.9-1 and 1.9-2). As well, two helicopter pads located on the north side of the camp were not sampled. Based on these observations, several more sites require sampling in addition to the initial ten sites.

To ensure all sites are sampled, a detailed grid of the camp will be developed by company staff prior to the field visit. The location and dimensions of each of the sheds, Quonsets,

fuel storage areas, machine storage sites and any other locations where fuel has been stored will be located on the grid. A detailed description of each of these units will include the number of fuel barrels stored, the nature of the building (*e.g.*, whether the floors are wood or soil, the nature of their use), and any other relevant details. This information will be used as basis for the detailed sampling program.

Due to the fact contamination occurs below the barrels and other storage devices, these should be removed prior to sampling. Therefore, the sites at which these areas of interest occur should be flagged with stakes and labelled at the outer corners to ensure sampling will occur in the designated areas.

1.4.1.2 Sampling Depth

As the soils occur in pockets in bedrock, sampling will be labour intensive and generally not uniform due to the bedrock outcropping. Further, the camp area has been generally traversed or covered with heavy structures or equipment so the soils are very compact. Therefore, a piece of equipment may be required to break up the soil to collect the samples. The soils will be sampled at depths of 10, 30, and 50 cm in areas of high contamination unless bedrock is reached. Sampling sites will radiate out from these possibly contaminated areas in a grid to delineate the area extent of the contamination. These samples will be analyzed immediately and if concentrations are high at depth, deeper sampling may be required to confirm the depth of contamination before the soils are excavated. All sampling sites and depths will be located on the detailed grid map and flagged on-site.

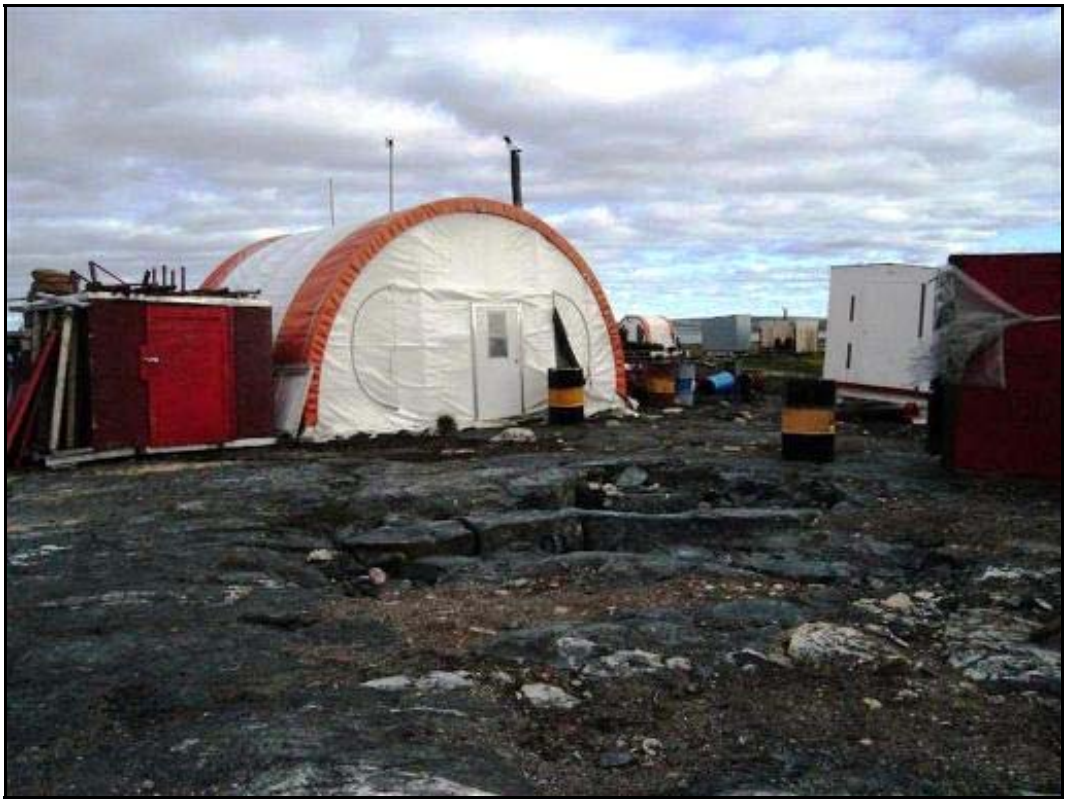

Plate 1.9-1. Various fuels storage areas and structures located throughout camp.

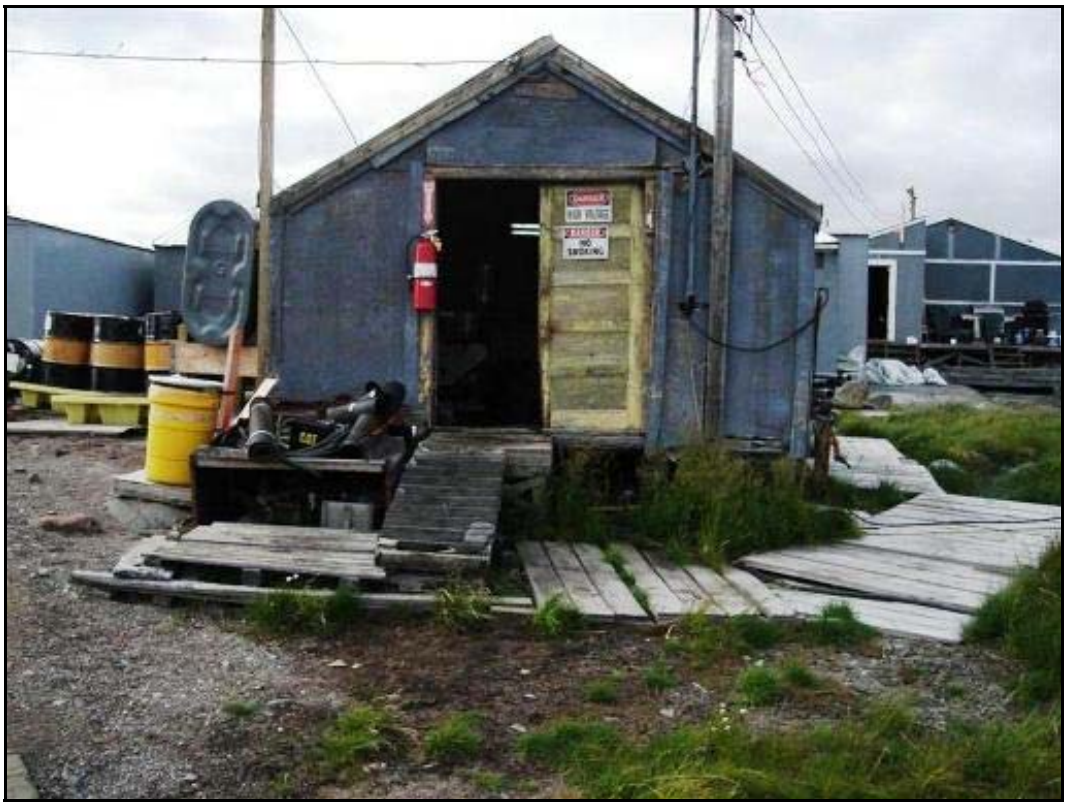

Plate 1.9-2. Fuel storage shed with extra fuel barrels located outside.

1.4.1.3 Laboratory Analysis

To avoid cross contamination, a clean plastic scoop will be used for each sample collected. Samples will be placed in glass jars and sent to ALS Environmental Services in Vancouver, British Columbia. The results of the analysis will be compared to the Canadian Council of Ministers of the Environment (CCME) (1999) standards for assessing contaminated sites.

The Canada wide standards (CWS) capture the F1 (C6-C10), F2 (C10-C16), and F3 (C16-C34) compounds. The F1 compounds capture the majority of most unweathered gasolines, mineral spirits, and paint thinners. These compounds are highly volatile so this analysis will not detect them. The F2 fraction includes most diesel fuels, lubricating oils, greases, hydraulic oils, and waxes. The F3 fraction captures lubricating oils, greases, waxes, asphalts, and heavy fuels.

600000 610000 620000 630000

6990000 6980000 6970000 6960000 6950000

N

Reference Lake
Reference Lake Outflow
Ferguson Lake
Y Lake

Inset 1
L5
Banana Lake Outflow
C3
L10
C2
Badger Lake Outflow
C1
W3
C4
W4
C5
L9
W2
L2
W1
L6
L4
S1
L8
R1
Inset 2
L3
E2
Grizzly Bear Lake
Ferguson Lake Outflow
Grizzly Bear Lake Outflow
L7
Scotty Rapids

Inset 1
L5
Banana Lake Outflow
C3
L10
New Camp Site
C2
Proposed Airstrip
Pond 4
C1
C4
W3
C5
L9
L2
W4
W2
Pumphouse Lake
L6
W1
1:70,000
0 1,000 2,000
Metres

Inset 2
L3
E2
Pond E2
1:32,000
0 500 1,000
Metres

Proposed Camp
Lake Sampling Site
Stream Sampling Site
Hydrology Station
Ore Zone
Proposed Airstrip
1:150,000
0 2,500 5,000
Metres
Projection: UTM14, NAD83

FIGURE 1

STARFIELD RESOURCES INC.

2007 Ferguson Lake Environmental Baseline Studies

Rescan™

Table 1
Proposed Sampling Schedule: Ferguson Lake Project 2007 Baseline Studies

Component	Personnel Days: June	July	Aug.	Sept.	Total Estimated Personnel Days on Site
Hydrology	2			2	4
Water Quality and Aquatic Biology	2	2	10		14
Hydrocarbon Soil Sampling		3	3		6
Total Estimated Personnel Days on Site	**4**	**5**	**13**		**24**

Estimates include Rescan staff only