



Indian and Northern  
Affairs Canada

Affaires indiennes  
et du Nord Canada

Nunavut Regional Office  
P.O. Box 2200  
Iqaluit, NU, X0A 0H0

Date March 30, 2006

Phyllis Bealieu  
Manager of Licensing  
Nunavut Water Board  
P.O. Box 119 Gjoa Haven,  
Nunavut X0B 1J0 Canada

**RE: Annual Report for Water Licence Number NWB 5EKA0406 Type B (FOX-C)**

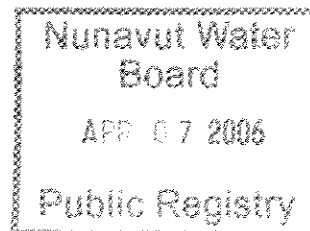
As per Clause 1 of PART B: GENERAL CONDITIONS of the above license, attached please find the required annual report.

If you have any questions or comments regarding this project, please do not hesitate to contact the Project Manager, Bob Martin at [martinro@inac.gc.ca](mailto:martinro@inac.gc.ca), or by telephone at (867) 979-7931.

Sincerely,

Natalie Plato  
Director, Contaminated Sites  
Building 1553, P.O. Box 2200  
Iqaluit, NU, X0A 0H0  
Tel (867) 979-7934 Fax (867) 979-6445  
Email: [platon@inac.gc.ca](mailto:platon@inac.gc.ca)  
Indian and Northern Affairs Canada, Nunavut Regional Office

Attachments



---

# ANNUAL REPORT

Water Licence No. NWB5EKA0406 TYPE "B"

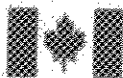
## EKALUGAD FJORD PROJECT

*Report submitted to:*



**NUNAVUT WATER BOARD**

*by:*



**Indian and Northern  
Affairs Canada**

**Affaires indiennes  
et du Nord Canada**



**ᑭᑭᑭᑭᑭᑭ ᑭᑭᑭᑭᑭᑭ  
QIKIQTAAALUK CORPORATION**



**ᑭᑭᑭᑭᑭᑭ ᑭᑭᑭᑭᑭᑭ  
QIKIQTAAALUK ENVIRONMENTAL**

March 2006

---

## **EXECUTIVE SUMMARY**

As part of the Ekalugad Fjord clean up Project, Qikiqtaaluk Corporation (QC) holds, on behalf of Indian and Northern Affairs Canada (INAC), a Water Licence (NWB5EKA0406 TYPE "B") from the Nunavut Water Board. The annual report, in compliance with the licence, presents various information in the following sections:

- a. Fresh Water Quantities
- b. Sewage Water Quantities
- c. Waste Discharge
- d. Summary of Construction Work
- e. Surveillance Network Program
- f. Environmental Monitoring Program
- g. Anticipated Work
- h. Studies Requested
- i. Unauthorized Discharges
- j. Communication Exercises
- k. Contingency Plan Revisions
- l. Trenches and Sumps
- m. Clean Up Procedures
- n. Public Consultation
- o. Concerns Addressed
- p. Other Details
- q. Inuktitut Executive Summaries

In reference to this annual report, several documents are appended. In summary, during the 2005 season all conditions of the Water Licence were complied with.

## GENERAL CONDITIONS

As licensees, Qikiqtaaluk Corporation (QC) and Indian and Northern Affairs Canada (INAC) have implemented various procedures to comply with conditions described in the Water Licence (issued on June 12<sup>th</sup>, 2005) related to the Ekalugad Fjord Project. The following document summarises water use data and describes various activities conducted on-site as required by the General Conditions of the Permit.

### A. Fresh Water Quantities

During the 2005 season only one load of water was taken to the camp. Only one load of water was needed because bottled water was used for drinking and food preparation and the toilets were not used. The fresh water was pumped from a small creek that passes under the road from the camp to the lake approximately 600 m along the road from the 2 beach POL reservoirs. During the work season fresh water was pumped from the creek into a 13,000 litre polyethylene tank mounted on a roll off platform. The tank was moved using a roll off truck and emptied into a polyethylene lined steel storage tank (26,500 litres) located in one of the main camp trailers. Fresh water was mainly used for showers, clothes washing and dishwashing. The following table presents the monthly and annual quantities of fresh water used for the project. Small amounts of fresh water was also used for dishwashing in the kitchen. Not all of the water brought to the main camp reservoir was used, and it was emptied onto the land at the end of the season.

Period	June	July	August	September
Water volume used (m <sup>3</sup> )	0	0	0	10
Total volume (m <sup>3</sup> )	10			

The permit stipulates that no more than 10 m<sup>3</sup> of fresh water per day be used. This requirement was met.

Work on the water supply system will be done next season when the camp setup is complete.

### B. Sewage Water Quantities

Sewage water generated during the 2005 season consisted of grey water only. There were no toilets (cat holes were used) so no black water was generated. The grey water was discharged on the land more than 100 m away from any water body. Approximately 2,000 litres of grey water was generated since it was for use in the showers and washing clothes only. The remainder of the water in the camp reservoir was discharged on the land at the end of the season.

Period	June	July	August	September
Grey water volume generated (m <sup>3</sup> )	0	0	0	2
Total volume (m <sup>3</sup> )	2			

### C. Waste Discharge

Solid waste produced during on-site activities was transferred to a covered metal vault outside the camp on a daily basis and incinerated using a Westland incinerator (model CY-120-FA). Solid waste mainly originated from the kitchen operations and from discarded packaging of materials and supplies. The following table presents the monthly and annual quantities of solid waste managed during the 2005 field season at Ekalugad Fjord. Estimates are based on the assumption that every person in the camp generated, on average, approximately 2.5 kg of solid waste per day.

Period	June	July	August	September
Waste generated (M.T.)	0	0	0	0.3
Total (M.T.)	0.3			

### D. Summary of Construction Work

No construction work was carried out in 2005 as the camp was not able to be setup due to adverse weather and soil conditions.

### E. Surveillance Network Program

The surveillance Network Program was not initiated in 2005 as remediation activities were not executed during the 2005 season

### F. Environmental Monitoring Program

No environmental monitoring was carried out as remediation activities were not executed during the 2005 season

### G. Anticipated Work

The tasks anticipated for the 2006 field season are listed below:

Mobilisation is scheduled for early June (date is weather dependent)

Camp setup will need to be completed

Camp will be setup on existing platform using wood blocks to level the trailers

## GENERAL CONDITIONS

As licensees, Qikiqtaaluk Corporation (QC) and Indian and Northern Affairs Canada (INAC) have implemented various procedures to comply with conditions described in the Water Licence (issued on June 12<sup>th</sup>, 2005) related to the Ekalugad Fjord Project. The following document summarises water use data and describes various activities conducted on-site as required by the General Conditions of the Permit.

### A. Fresh Water Quantities

During the 2005 season only one load of water was taken to the camp. Only one load of water was needed because bottled water was used for drinking and food preparation and the toilets were not used. The fresh water was pumped from a small creek that passes under the road from the camp to the lake approximately 600 m along the road from the 2 beach POL reservoirs. During the work season fresh water was pumped from the creek into a 13,000 litre polyethylene tank mounted on a roll off platform. The tank was moved using a roll off truck and emptied into a polyethylene lined steel storage tank (26,500 litres) located in one of the main camp trailers. Fresh water was mainly used for showers, clothes washing and dishwashing. The following table presents the monthly and annual quantities of fresh water used for the project. Small amounts of fresh water was also used for dishwashing in the kitchen. Not all of the water brought to the main camp reservoir was used, and it was emptied onto the land at the end of the season.

Period	June	July	August	September
Water volume used (m <sup>3</sup> )	0	0	0	10
Total volume (m <sup>3</sup> )	10			

The permit stipulates that no more than 10 m<sup>3</sup> of fresh water per day be used. This requirement was met.

Work on the water supply system will be done next season when the camp setup is complete.

### B. Sewage Water Quantities

Sewage water generated during the 2005 season consisted of grey water only. There were no toilets (cat holes were used) so no black water was generated. The grey water was discharged on the land more than 100 m away from any water body. Approximately 2,000 litres of grey water was generated since it was for use in the showers and washing clothes only. The remainder of the water in the camp reservoir was discharged on the land at the end of the season.

Sewage Lagoon will need to be installed  
Garage will have to be constructed

**Road repairs**

Road from the beach to the upper site needs to have washouts repaired and the surface upgraded to allow for heavy equipment operations  
Repairs will have to start from the lake towards the beach  
Then from the lake to the upper site once all of the snow has melted

**Landfarm Construction & Operation**

A Landfarm for treating soils contaminated with diesel fuel will be constructed  
The landfarm will be lined and have berms and a water collection system to ensure that the contaminants stay inside the landfarm  
Monitoring wells to be installed to check for leakage of the contamination

**Lower Site Non-Hazardous Landfill**

Berms to be constructed on existing ground surface  
Waste to be placed in lifts with soil between each lift to reduce settlement  
Monitoring wells to be installed to check for leakage

**Lower Site Hazardous Waste Processing Area**

To be setup near the Non-Hazardous Waste Landfill  
Area will be used to:  
Sort, package, sample, and process hazardous waste materials; and  
Consolidate compatible liquids and sediments, package for shipment, and cleaning of barrels  
All work will be done inside contained areas to reduce the chance of a spill  
Will be moved to Mid-Station area once Beach and Lake work is complete

**Debris Removal**

Starting at the beach and proceeding to the lake area all visible debris will be collected using ATV's and trailers  
All Non-Hazardous debris will be consolidated in the Non-Hazardous Landfill  
Any Hazardous debris will be sorted at the Hazardous Waste Processing Area

**Drums in the River**

All visible drums to be removed from the river  
This work will have to be done before August 7th to ensure there is no impact on fish migration  
Work can be completed after September 7th when the fish have finished migrating  
If any fish are seen in the river then work will stop immediately until the fish have moved on

**Excavation of Beach diesel fuel contaminated soil**

Soil contaminated with diesel fuel to be hauled to the landfarm for treatment

**Beach Area Regrading**

Small area at beach to be filled to match surrounding terrain after debris have been removed

**Water Lake diesel fuel contaminated soil excavation**

Soil contaminated with oil & grease to be excavated and hauled to the Beach Non-Hazardous Landfill

**Regrading - Water Lake area**

Small area at the Lake to be filled to match surrounding terrain after debris have been removed

**Mid-Station Debris removal and drum processing**

All visible debris will be collected using ATV's and trailers, and Heavy Equipment

All Non-Hazardous debris will be consolidated in the Non-Hazardous Landfill

Any Hazardous debris will be sorted at the Hazardous Waste Processing Area

**Excavation of Mid-Station pad contaminated soil**

Small area of diesel fuel contaminated soil to be excavated after debris removal from dump

**Construction of the Mid-Station Non-Hazardous Waste Landfill**

Landfill to contain all non-hazardous waste from the mid and upper stations

To be constructed once all contaminated soil has been excavated and debris have been removed

**Mid station dump lobe B excavation**

Debris and drums to be removed

**Mid-Station regrading**

Areas to have fill added to match surrounding terrain

**In-situ Upper-Station Landfarm**

Area around POL tanks to be remediated in place (this soil may be transported to the landfarm platform - to be decided after evaluation of all options is completed)

**Building Demolition and PCB Amended Paint**

Some of the Paint on the buildings contain PCB's

The buildings to be demolished that contain PCB amended paint will be cutup and placed in seacans for disposal offsite.

All non-hazardous building debris are to be placed in the Mid-Station Landfill

**Asbestos Abatement**

Asbestos will need to be removed from all site buildings before demolition

**End of Season 2006**

All work sites will be winterised



All equipment will be stored and winterised  
Culverts will be removed  
Camp Buildings will be closed and winterised

## **H. Studies Requested**

No studies related to waste disposal, water use or reclamation were requested by the Board.

## **I. Unauthorized Discharges**

No unauthorized discharges of liquid or solid waste were observed and/or recorded during the 2005 field season at Ekalugad Fjord.

## **J. Communication Exercises**

All site workers (including sub-contractors) were instructed on camp rules and safety requirements. Fire safety and spill contingency plans were implemented.

## **K. Contingency Plan Revisions**

Please see Appendix A for the revised spill contingency plan.

## **L. Trenches and Sumps**

No new trenches or sumps were excavated during the 2005 season.

## **M. Site Activities**

During the 2005 season, site activities included:

- First ship arrived at Ekalugad Fjord on August 26<sup>th</sup>, 2005
- First site visit was on August 31<sup>st</sup>, 2005
- Mobilisation to the site was on September 1<sup>st</sup>, 2005
- Setup of temporary construction camp
- Camp pad location was chosen
  - Approximately 3,000 m<sup>3</sup> needed to level area
- Road Repairs:
  - Three washouts needed to be repaired to access the borrow pit
  - Road surface was upgraded to allow for heavy equipment operations
- After 5 days of hauling and a one night of a fine misty rain the road could no longer be used due to road surface degradation
- The road surface was smoothed out using an excavator and a bull dozer for the winter
- All materials & equipment were moved up from the barging area out of the mud
- Buildings & sea cans were lifted out of the mud

- Drums of diesel fuel and gasoline could not be moved using loaders:
  - Some drums moved using the helicopter
  - Other drums transported using a platform installed on the front of the D6
- Second ship arrived at Ekalugad Fjord on October 17<sup>th</sup>, 2005

## **N. Public Consultation**

March 2005: Community representatives came to Iqaluit and received training on how to do business with government. The representatives also attended the project bidders meeting and met companies interesting in participating in the project.

September 2005: QIA representatives were taken to the site;

September 2005: Local workers assisted on site in securing the equipment and materials for winter

## **O. Concerns Addressed**

No concerns or deficiencies related to the project were addressed during this past year.

## **P. Other Details**

No other details on water use or waste disposal were requested by the Board.

## **Q. Inuktitut Executive Summaries**

The executive summary in Inuktitut of *Ekalugad Fjord Water Licence Annual Report 2005*, INAC/QC/Qikiqtaaluk Environmental Inc., is presented at the beginning of this report.

The following summaries in English and Inuktitut are presented in Appendix B:

English and Inuktitut executive summaries for the report "Archaeological Impact Assessment FOX-C Dew Line Site Remediation Program, Permit 05028A" Prepared for Jacques Whitford by FMA Heritage Resources Consultants Inc., October 2005

English and Inuktitut executive summaries for the report "Screening and Proposed Site Remediation at the Former FOX-C DEW Line Site at Ekalugad Fjord", Nunavut, Jacques Whitford March 31<sup>st</sup>, 2005

English and Inuktitut executive summaries for the report " Human Health and Ecological Risk Assessment for CAM-F Dew Line Site, Sarcpa Lake" Jacques Whitford, February 4<sup>th</sup>, 2005

English and Inuktitut executive summaries for the report "Natural Environment of the FOX-C DEW Line Sit Ekalugad Fjord, Baffin Island, Jacques Whitford, October 2004

English and Inuktitut executive summaries for the report " Diesel Contaminated Soil at Ekalugad Fjord: the Landfarming Option" Analytical services Unit, Queens University, March 2006

# **APPENDIX A**

## **REVISED SPILL CONTINGENCY PLAN**

---

# SPILL CONTINGENCY PLAN

Clean Up and Camp Service

## FOX-C Dew Line Site EKALUGAD FJORD PROJECT



*Prepared for:* Public Works and Government Services Canada  
Environmental Services Western Region  
10250 Jasper Avenue, 5<sup>th</sup> Floor  
Edmonton, Alberta, T5J 1S6  
Attention: Brad Thompson, P.Eng

*Prepared by:* Qikiqtaaluk Corporation  
P.O. Box 1228  
Iqaluit, Nunavut, X0A 0H0



ᑭᑭᑭᑭᑭᑭ ᑭᑭᑭᑭᑭᑭ  
QIKIQTAAALUK CORPORATION

July 2005 (revision 1: December 2005)

---

## EXECUTIVE SUMMARY

The clean up activities at Ekalugad Fjord shall be conducted over a period of three years starting in August 2005. Investigations performed at this abandoned former Intermediate Dew Line station (FOX-C) located in the Canadian Arctic have demonstrated the extent of environmental problems from past occupation.

This document describes requirements for fuel spill emergency planning to be implemented during the clean up and camp service works. It includes:

- a- Duties and Responsibilities
- b- Fuel and Lube Requirements and Storage Capacity
- c- Training and Drills
- d- Material and Equipment
- e- Emergency Procedures
- f- Reporting Requirements

The Ekalugad Fjord Clean Up project mainly consists in the management of immediate health and environmental risk problems such as contaminated soils, PCB amended paint, asbestos, and barrel contents (POL products). It also involves the decommissioning of abandoned facilities including landfill closure. For the camp service project, a remote construction camp will be operated and managed to accommodate the working crew. Approximately 40 persons will occupy the camp over a 75 day period from July 1 to September 15.

This project is administered by Public Works and Government Services Canada (PWGSC), acting on behalf of the owner, Indian and Northern Affairs Canada (INAC). Following competitive tenders, the clean up and camp services projects were granted to Qikiqtaaluk Corporation, a company owned by the Qikiqtani Inuit Association (QIA), the Inuit birthright organization representing the Baffin region of Nunavut.

The Ekalugad Fjord Clean Up project shall provide employment and training benefits for Inuit. It shall also attenuate local inputs from pollution to the nearby communities, thereby protecting health and future of the Inuit.

## **TABLE OF CONTENTS**

EXECUTIVE SUMMARY .....	i
TABLE OF CONTENTS .....	ii
PREAMBLE .....	iii
1-GENERAL .....	1
2-FUEL AND LUBE REQUIREMENTS AND STORAGE CAPACITY .....	5
3-DUTIES AND RESPONSIBILITIES .....	6
4-TRAINING AND DRILLS .....	9
5-MATERIAL AND EQUIPMENT .....	10
5.1 SPILL PREVENTION .....	10
5.2 SPILL CONTAINMENT .....	10
6-SPILL RESPONSE PROCEDURES .....	13
7-POTENTIAL SPILL ANALYSIS .....	14
7.1 SCENARIO #1: DRUM STORAGE AREA .....	14
7.2 SCENARIO #2: MANAGEMENT OF WASTE IN SCATTERED DRUMS .....	15
7.3 SCENARIO #3: FUEL DELIVERY .....	17
8-REPORTING REQUIREMENTS .....	18
APPENDICES	
.1 MSDS of petroleum products and chemicals stored on site	
.2 Spill Contingency report	

## **List of Figures**

Figure-1:	Ekalugad Fjord Project Site Layout .....	3
Figure-2:	Emergency Response Team .....	8
Figure-3:	Drum Storage and Spill kits Locations .....	12

## **List of Tables**

Table-1:	Quantities of Petroleum Product stored on site .....	5
Table-2:	Roles of Key Personnel under the Site Superintendent for Spill Response .....	7

## PREAMBLE

The Spill Contingency Plan shall be effective from August 2005 until October 2008, date to which the Ekalugad Fjord Clean Up and Camp Service Projects (61° 35' N and 60° 40' W) shall be completed.

The following formal distribution has been made of this Plan.

Harry Flaherty, Qikiqtaaluk Corporation, Iqaluit  
Brad Thompson, PWGSC, Alberta  
Robert Martin, INAC, Contaminated Sites Program, Iqaluit  
Nunavut Water Board, Gjoa Haven

Additional copies and updates of this Plan may be obtained by writing to:

Philippe Simon, Ph.D., P.Eng.  
Qikiqtaaluk Environmental Inc.  
3333 Queen Mary road, suite 580  
Montreal, PQ, H3V 1A2  
psimon@qenv.ca



## **1-GENERAL**

The spill emergency plan was developed to assist the Contractor in implementing measures to protect the environment and minimize impacts from spill events. It provides precise instructions to which all personnel shall be familiarized with during emergency situations. The Plan outlines procedures for responding to spills in a way to minimize potential health and safety hazards, environmental damage, and clean up costs.

The map presented on the following page shows the existing layout of the site. Ekalugad Fjord is located on the east coast of Baffin Island, Nunavut (68° 42' N, 68° 33' W), approximately 195 km south of Clyde River. The site (FOX-C) is about 1.5 km inland from the coast, on the south shore of Ekalugad Fjord. The operations station (upper site) is situated 770 m above sea level, overlooking the Fjord which discharges into Home Bay. The upper site contains areas of environmental concern such as patches of PCB and metal contaminated soil, four dumps, building materials contaminated with PCB amended paint and Asbestos (Module train), a POL drum storage area, and some 3,400 drums scattered on and around the site (some of which still contain POL products). Three buildings, two POL tanks and a collapsed antenna, which will have to be demolished, are also present on site.

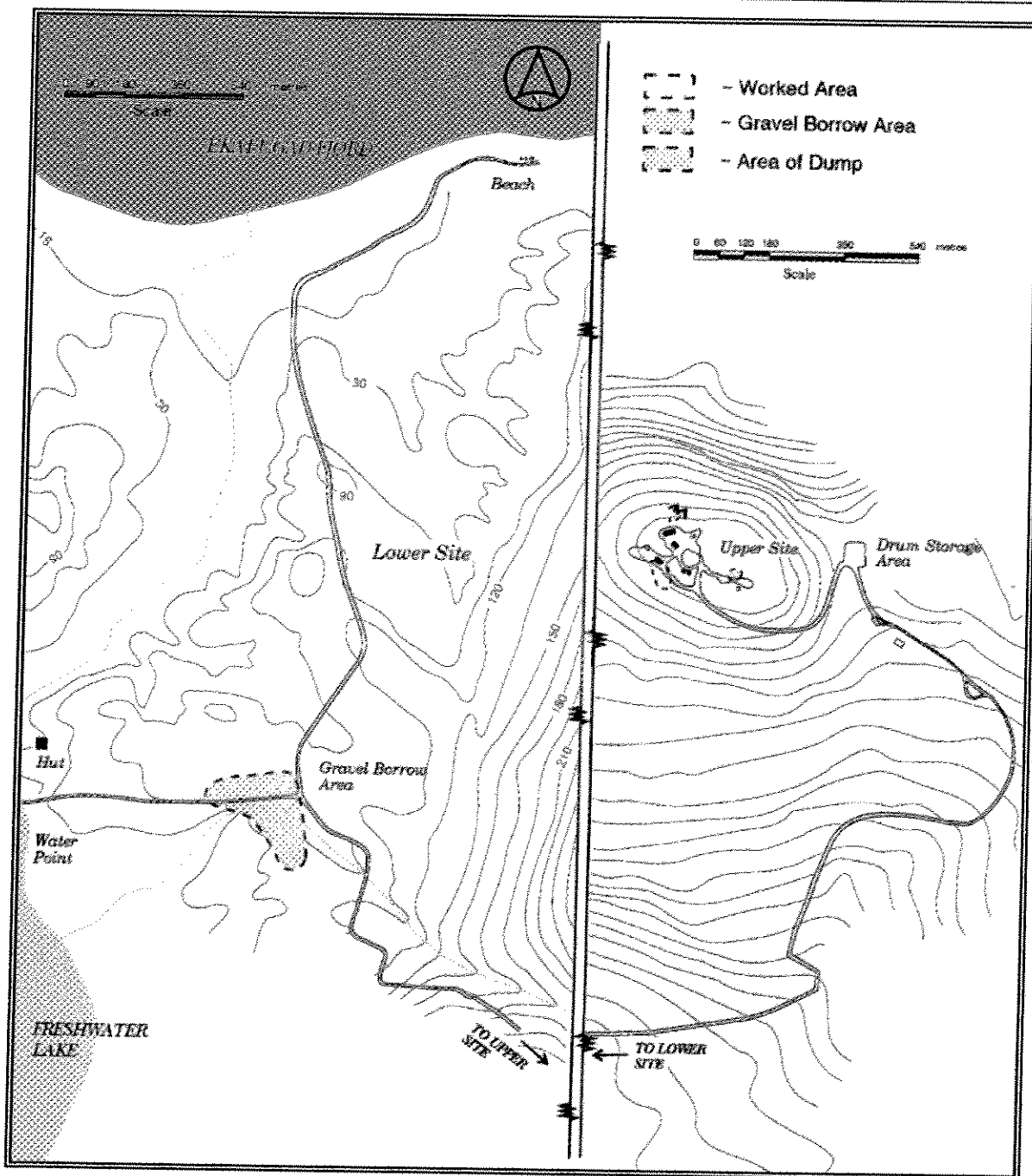
The beaching area (lower site) is located in Qarmaralik Cove, about 3 km northwest of the upper site. From the beach, a gravel road leads to the fresh water lake area (lower site), located some 2.5 km away. The main environmental concern associated with the lower site are the 6,600 or so drums located in several caches and scattered along the road, the lake shore as well as in the river valley between the lake and the ocean. Some of these drums still contain POL products. The lower site also has potentially large volumes of hydrocarbon contaminated soils. Furthermore, there are 2 POL tanks and a refuelling pipeline to be demolished.

The upper site is located some 6.5 km from the beaching area by gravel road. The road which links the beach to the lake and to the upper site has been badly damaged by erosion throughout the years. In many places the road is impassable and will need repair.

The spill emergency plan insures that the Contractor will respect all applicable laws, regulations and requirements of federal and/or territorial authorities. The owner is acquiring all required permits, approvals and authorizations required for the project. The Contractor will comply with those permits and approvals obtained by the owner (INAC) to conduct this work. The Contractor will work in close collaboration with PWGSC and DIAND, and with all regulatory authorities to ensure full compliance

according to applicable federal or territorial laws, regulations and/or guidelines. The following documents shall be used as guidelines for spill containment:

- The Canadian Environmental Protection Act controls hazardous substances from their production and/or import, their consumption, storage and/or disposal. Furthermore, this act also includes procedures to handle specified levels of PCB contaminated materials, and requirements for PCB storage facilities.
- The Fisheries Act protects fish and their habitat from pollution, disturbance, or fish movement disturbances. Fisheries and Oceans Canada is responsible to review permit applications or restoration plans submitted by other agencies.
- The Transportation of Dangerous Goods Act and Regulations describe safety measures in the transportation of dangerous goods. The act applies to all handling of dangerous goods by any means of transport whether or not the goods originate from or are destined for any place(s) in Canada.
- The Territorial Land Use Regulations define regulatory measures to maintain appropriate environmental practices for any land use activities on territorial lands. These regulations require that land use permits be issued for such operations as the clean up work to be conducted at Ekalugad Fjord (use of heavy machinery, camp operation, use of explosives, construction of access roads, etc.).
- The Guidelines for Preparation of Hazardous Material Spill Contingency Plans describe parameters that should be considered in the development of hazardous material spill emergency plans. It also defines the information that should be incorporated into a comprehensive contingency plan.
- The Code of Practice for Used Oil Management defines appropriate environmental options for handling, storage, collection, recycling, transportation, reuse and/or disposal of used oils in Canada. It gives standard procedures to handle used oil generators. It also helps regulatory authorities to formulate provincial and/or regional strategies for used oil management.



**Figure-1: Ekalugad Fjord Project Site Layout**

(courtesy of ESG)

- The NWT Environmental Protection Act governs the protection of the environment from contaminants. The act defines offenses and penalties as well as the powers of environmental inspectors.
- The Code of Practice for Used Oil Management defines appropriate environmental options for handling, storage, collection, recycling, transportation, reuse and/or disposal of used oils in Canada. It gives standard procedures to handle used oil generators. It also helps regulatory authorities to formulate provincial and/or regional strategies for used oil management.
- The NWT Environmental Protection Act governs the protection of the environment from contaminants. The act defines offenses and penalties as well as the powers of environmental inspectors.
- The NWT Spill Contingency Planning and Reporting Regulations describe requirements for spill reporting and emergency planning.
- The Field Guide for Oil Spill Response in Arctic Waters developed by the Emergency Prevention Preparedness and Response, a program of the Arctic Council, describes response methods and strategies for operations and provides technical support documentation.