Magnus

MATERIAL SAFETY DATA SHEET

Product: SUPREX

MAGNUS CHEMICALS LIMITED
1271 AMPERE
BOUCHERVILLE, QUEBEC, J4B 5Z5

EMERGENCY PHONE: 450-655-1344 FAX: 450-655-5428 (8:30 to 16:30)
(613) 996-6666 (CANUTEC)

1- PRODUCT INFORMATION:

Product Manufacturer: .... MAGNUS CHEMICALS LIMITED
Product Identifier: .... Suprex
Product Use: .... General purpose degreaser.

2- HAZARDOUS INGREDIENTS:

MATERIAL or COMPOUND:	C.A.S. No.:	PERCENT: W/W	THRESHOLD LIMIT VALUE (TLV)		LD50/LC50
			PPM:	mg/m3	
Not applicable.					

NAP: Not Applicable, NAV: Not Available

3- PHYSICAL DATA:

Physical State: .... Liquid.
Appearance and Odor: .... Clear yellow liquid with a light pine odor.
Odour Threshold: .... Not available.
Specific Gravity: 1.02
Vapor Pressure: .... Not available.
Vapor Density: .... Not available.
Evaporation Rate: .... < 1 (butyl acetate = 1).
Boiling Point: .... Near 100oC
Freezing Point: .... Near 0oC
pH: .... 11.7 (10% solution)
Coefficient of Water/Oil Distribution: .. Not available.
Percent Volatile: 84%
Solubility in Water: 100%

4- FIRE AND EXPLOSION HAZARD DATA

Conditions of Flammability: .... None known.
Extinguishing Media: .... Not applicable.
Flash Point and Method: .... Not applicable.
Flammable Limits - UEL: .... Not applicable.
Flammable Limits - LEL: .... Not applicable.
Auto-Ignition Temperature: .... Not applicable.
Hazardous Combustion Product: .... Oxide of carbon.
Sensitivity to Mechanical Impact / Static Discharge: Not applicable.
Unusual Fire And Explosion Hazards: .... None known.

5- REACTIVITY DATA

Stability, If Not, Under Which Condition: Stable.
Incompatibility - Materials to Avoid: ... Acid.
Hazardous Polymerization: .... Will not occur.
Corrosion: .... None known.
Hazardous Decomposition Products: .... Not available.

6- PREVENTIVE MEASURES

Environmental Data: .... Not available.
Handling: .... Handle and open container with care.
Personal Protective Equipment:
- Eye Protection: .... Safety glasses.
- Hand Protection: .... Gloves if necessary.
- Respiratory Protective Equipment: .. Not normally necessary.
- Other Protective Equipment: .... Not normally necessary.

Recommended Disposal: .... Disposal should be in accordance with applicable regulations.
Spill Response: .... Wash the area with water.
Storage Requirements: .... Avoid freezing.
Ventilation Requirements: .... Mechanical (general).

7- TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY: .... Skin contact. Eye contact.

7.1 - EFFECTS OF ACUTE EXPOSURE:

Eye Contact: .... Irritation.
Skin Contact: .... Possibility of a light irritation.
Inhalation: .... Negligible effects.
Ingestion: .... Gastric discomfort.

7.2 - EFFECTS OF CHRONIC EXPOSURE:

Carcinogenicity: .... Not applicable.
Reproductive Toxicity: .... Not applicable.
Teratogenicity: .... Not applicable.
Mutagenicity: .... Not applicable.
Synergistic Product: .... Not available.
Sensitization: .... Not available.

8- SUGGESTED FIRST AID

Eye Contact: .... Rinse with plenty of water.
Skin Contact: .... Wash with plenty of water during at least 15 minutes.
Inhalation: .... Remove victim to fresh air.
If Swallowed: .... Drink plenty of water.
Other First Aid: .... Contact a physician.

9- ADDITIONAL INFORMATION

TDG Classification: .... Not regulated.
WHMIS Classification: .... Not regulated.

10- PREPARATION INFORMATION

Preparation: MAGNUS Industrial Hygiene Department

TEL: 450-655-1344
FAX: 450-655-5428

Code. : 030044

Date of Preparation: 05/31/2004

The opinions expressed herein are those of qualified experts within MAGNUS CHEMICALS LIMITED. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and of these opinions and the conditions of use of the product are not within the control of MAGNUS CHEMICALS LIMITED, it is the user's obligation to determine the conditions of safe use of the product.

LS07 / suprexa

APPENDIX -2-

Spill Contingency report

Spill Contingency Report

Information of Incident
Section A

Date of Incident ____________ Time ____________

Location ____________

☐° ☐' ☐" W
☐° ☐' ☐" N
Coordinates:

Check the Direction of Spill Movement: N☐ NW ☐ W☐ SW☐ S☐ SE ☐ E☐ NE☐
(State the bearing if possible)

Bearing: ____________ Rate of Movement: ____________

Party Responsible for Spill ____________

Type of Substance that Spilled ____________

Estimated Quantity of Substance ____________

Specific Cause of Incident
Section B

Please state the causes of the incident above in the following space provided

Status of Incident
Section C

Approximate surface area of contamination ____________

Containmant Actions Taken:

☐ Occurred Naturally
☐ Booms used
☐ Dyke used
☐ No containment implemented
☐ Other (specify)

List any factors affecting the spill such as: wind, temperature, etc.

Action Proposed to Clean, Contain or Dispose of Spilled Substance

Spills should be immediately reported using the 24 Hour Spill Report Line: (867) 920-8130 (NWT)

Section D

Hazards of Spill
Section E

☐ Flammable
☐ Combustible
☐ Health hazard (specify)

☐ Corrosive
☐ Explosive
☐ Radioactive
☐ Other (specify)

Information if Assistance is Required
Section F

Organization

Contact Person

Contact Number

Alternate Number

Hours of Operation:

Comments and Recommendations
Section G

Information on Person Making Report
Section H

Full Name

( ) -
Contact Number

Position & Department

Employer

Submitted to

Reporter's Signature

Date

Spills should be immediately reported using the 24 Hour Spill Report Line: (867) 920-8130 (NWT)

APPENDIX B

SUMMARIES OF STUDIES COMPLETED IN 2005

1. 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

ᐊᐅᓚᑦᓯᔩᑦ ᑎᑎᕋᖓᑦ

ᑕᐃᓐᓇ ᐃᑦᑕᖅᓂᑕᖃᖅᑐᓕᕆᓂᕐᒧᑦ ᐊᑐᐃᓐᓇᐅᔪᓄᑦ ᐊᒃᑐᐃᓯᒪᓂᖓ ᖃᐅᔨᓴᖅᑕᐅᓂᖓ ᐃᓱᓕᓚᐅᖅᑐᖅ ᐱᔭᕇᓚᐅᖅᑐᖅ ᑕᒪᑐᒥᖓ ᑑᓚᐃᒃᑯᑦ ᐃᓂᖓ ᐹᒃᔅ C (ᓵᕐᐸ ᑕᓯᖅ). ᐃᓂᖓ ᖃᓄᐃᓕᖓᓂᖓ ᕿᓂᖅᑕᐅᒐᒥ ᑕᒪᑐᒧᖓ ᐃᓂᖓᑦ 1:250,000 ᓄᓇᙳᐊᑎᒍᑦ ᐱᔭᕇᖅᑕᐅᓚᐅᖅᑐᖅ ᖃᐅᔨᓂᐊᕐᒪᑕ ᖃᓄᐃᓕᖓᓂᖓᓂᒃ ᐊᒻᒪᓗ ᐃᓂᖓᓂᒃ ᖃᓄᐃᓕᖓᓚᐅᕈᓯᖓᑕ ᑎᑎᕋᖅᑕᐅᖓᓚᐅᖅᓯᒪᑎᓪᓗᒍ ᐃᓂᖏᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᓂ. ᐅᓇ ᓄᓇᖓᓂ ᐃᓕᑦᑎᓇᓯᐊᕐᓂᖅ ᐱᓯᒪᓂᐊᖅᑐᖅ ᓄᓇᖏᓐᓂᒃ ᐱᑕᖃᖅᑐᓂᒃ ᐊᒻᒪᓗ ᐸᒡᕕᓴᐃᓂᐊᕋᒥᒃ ᓄᓇᖓᓂᒃ ᐊᕙᓗᐊᓂ ᑖᒃᑯᐊ ᐃᓂᖃᕐᕕᐱᒥᔭᖏᑦᑕ.

ᐃᓂᖓᑦ ᐊᒻᒪᓗ ᐊᑐᖅᑕᐅᓂᖓ ᑕᐃᓐᓇ ᐹᒃᔅ C ᓈᓚᐅᑎᖃᕐᕕᒃ ᐊᖏᔪᒥᒃ ᓯᑯᐃᓯᒪᔪᖅ. ᑕᓯᖅ ᓯᓪᔭᖏᓐᓂ ᐃᓂᖏᑦ ᐃᓂᒥᔭᐅᓕᓂᑦ ᖃᑕᐅᔭᓂᑦ ᓯᕐᑯᑕᐅᓯᒪᔪᑦ ᐊᐅᔪᓂᑦ ᐊᒻᒪᓗ ᐊᓯᖏᓐᓂᑦ ᓄᓇᓯᐅᑎᓄᑦ ᐊᕐᑯᑎᒥᔭᐅᓯᒪᔪᖅ ᐊᒻᒪᓗ ᖃᑕᐅᔭᓕᓇᔾᔪᑕᐅᓯᒪᓪᓗᓂ. ᓛᓇᐅᔪᖅ ᐱᑖᓖᑦ ᖃᑕᐅᔭᖃᕐᕕᐱᐱᓃᑦ ᐊᖏᔪᓂᒃ ᓯᑯᓯᒪᔪᑦ ᑕᒪᐅᓇ ᐊᐅᓂᒃᑯᑦ; ᓄᓇᖓ ᓯᓕ ᖃᑕᐅᔭᖃᕐᕕᐱᓕᓇᔭᐅᓯᒪᔪᖅ ᐊᒃᑐᐃᓯᒪᑲᓐᓂᖅᓂᖅᑲᕋᓂ ᓯᑯᑕᐅᓯᒪᓐᖏᓂᑐᖅᑲᖓᓂᒃ ᐃᓂᖏᓐᓂ. ᑕᒪᓐᓇ ᐊᒥᐊᒃᑯᐊ ᐊᕙᓗᐊᓂ ᐃᓂᖓᑕ ᓈᓚᐅᑎᖃᕐᕕᒃ, ᑕᕆᐅᖃᓐᖏᑦᑐᖅ ᑕᓯᖅ ᐊᒻᒪᓗ ᐊᕐᑯᑎᑦ ᑕᒪᕐᒥᒃ ᑕᐃᒪᓐᓇᐃᓕᓯᒪᔪᑦ ᓯᑯᑎᕆᓯᒪᓪᓗᑎᒃ.

ᐃᑕᖅᓂᑕᖃᖅᑐᓂᒃ ᐅᕝᕙᓘᓐᓃᑦ ᑕᐃᒪᓐᓇᐅᓕᖓᔪᑐᖅᑲᕕᓃᑦ ᐃᓂᖏᑦ ᓇᓂᔭᐅᓚᐅᖅᑐᑦ ᑕᐃᑲᓂ ᐅᐸᒃᓯᓯᒪᓪᓗᑎᒃ ᓄᓇᒥ ᖃᐅᔨᓴᕈᑎᓂᒃ ᓄᐊᑦᑎᒐᒥᒃ ᓄᓇᖓᓂᒃ ᑐᒃᓯᕋᖅᑕᐅᓯᒪᓂᖓᓄᑦ ᖃᓄᐃᓕᐅᕐᕕᐅᒍᒪᓪᓗᓂ.

Executive Summary

An archaeological resources impact assessment was completed on DEW Line station FOX-C (Ekalugad Fjord). A site file search of the corresponding 1:250,000 NTS map sheets was completed to determine the nature and location of previously recorded sites in the region. The field study focused on areas of existing and proposed disturbances in area of the station.

Occupation and use of the FOX-C station has resulted in extensive disturbance. Lake shore locations associated with borrow areas were disturbed by grading and other vehicular traffic as well as borrow activities. Existing borrow areas have been largely disturbed surficially by grading; areas of additional borrow activity will not impact previously undisturbed areas. The remaining areas surrounding the station, freshwater lake and roads are all associated with disturbances.

No archaeological or historic sites were identified during the field reconnaissance in the areas of proposed activities.

2. 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, 2005

ᓴᓇᕙᓕᕆᔩᒃᑯᑦ ᐊᒻᒪ ᒐᕙᒪᒃᑯᓐᓄᑦ ᐱᔨᑦᑎᕋᖅᑐᓕᕆᔩᒃᑯᑦ ᑲᓇᑕᒥ (PWGSC), ᐱᒍᔾᔨᓪᓗᑎᒃ ᐃᓄᓕᕆᔩᑐᖃᒃᑯᓐᓂ ᑲᓇᑕᒥ (INAC) ᐸᕐᓇᖕᒪᑕ ᐱᔭᕇᖅᓯᕙᓪᓗᑎᒃ ᓴᓗᒻᒪᖅᓴᐅᑉᐸᓪᓕᐊᓂᕐᒥᒃ ᐊᒻᒪ ᑕᐃᒪᐃᓐᓂᓇᓚᐅᖅᑕᖕᒐᓄᑦ ᐅᑎᖅᑎᑦᑎᒐᓱᐊᖅᐸᓪᓕᐊᓂᕐᒥᒃ ᑕᐃᒃᑯᓂ ᓈᓚᒡᕕᐅᖃᑦᑕᕐᓂᑯᕕᓂᕐᒥ ᐊᑎᖃᖅᑎᑕᐅᕙᓂ ᖃᓪᓗᓇᑎᑦ FOX-C ᕿᑭᖅᑖᓗᖕᒥ ᐃᓂᖃᖅᑐᒥ. ᐊᓪᓗᖅᐸᓪᓕᐊᓯᒪᕙᑦ ᓴᓗᒻᒪᖅᓴᕐᑕᐅᓂᖓ ᐱᔭᐅᕙᓪᓕᐊᓕᓚᐅᖅᓯᒪᔫᖅ ᑲᕙᓯᕙᒥᒃ 1985ᒥᓂ. ᓯᕗᓪᓕᖅᐸᖅ ᓴᓇᕙᓕᕆᔩᒃᑯᑦ ᐊᒻᒪ ᒐᕙᒪᒃᑯᓐᓄᑦ ᐱᔨᑦᑎᕋᖅᑐᓕᕆᔩᒃᑯᑦ ᑲᓇᑕᒥ ᓴᓗᒻᒪᖅᓴᐃᕙᓪᓕᐊᓂᖓ ᐱᒋᐊᕐᓂᖃᓚᐅᖅᐳᖅ ᓇᓗᓇᐃᔭᖅᓯᒪᑦᑎᐊᖅᑐᒥᒃ ᑎᑎᖅᑐᐃᕙᓪᓕᐊᓂᕐᒥᒃ ᐃᓂᖓᓗ ᑭᓱᖃᕐᒪᖔᑦ ᖃᓄᐃᑦᑐᖃᕐᒪᖔᑦ ᐊᒻᒪ ᓱᕈᕐᓇᖅᑐᑦ ᑕᐅᕙᖓᓂᒃᓴᔭᐅᖏᑦᑐᓪᓗ ᑕᐃᒃᑯᓂ ᖃᓄᐃᑦᑑᖕᒪᖔᑕ. ᐊᐃᑉᐸᖓᓂᓕ ᓴᓕᒻᒪᖅᓴᐃᕙᓪᓕᐊᓯᒥᐊᓕᓚᐅᖅᐳᑦ. ᐊᑐᖅᑕᐅᓪᓗᓂ ᐱᔭᕆᐊᖃᕐᓂᖏᑦ ᑕᐃᒃᑯᓂ ᓄᓇᕗᑦ *ᓄᓇᑖᕈᑎᖓᑕ ᐊᖏᕈᑎᖓᓂ (NCLAH ᐊᒻᒪ ᑲᓇᑕᒥ ᐊᕙᑎᓕᕆᓂᕐᒧᑦ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᐱᖁᔭᕐᕙᐊᖅ (CEAA),* ᓴᓗᒻᒪᖅᓴᐃᓂᕐᒧᑦ ᐱᓕᕆᐊᖑᕙᓪᓕᐊᓂᐊᖅᑐᑦ ᐸᕐᓇᒃᑕᐅᓯᒪᕙᑦ ᑕᐃᒪᓐᓇ ᐊᕙᑎᓕᕆᓂᕐᒧᑦ ᓱᒃᑯᐃᓗᐊᕐᔭᖏᒃᑲᓗᐊᕐᒪᖔᑕ ᖃᐅᔨᓴᖅᑕᐅᖄᕆᐊᖃᕆᕗᑦ.

ᓴᓗᒻᒪᖅᓴᖅᑕᐅᕙᓪᓕᐊᓂᖓ FOX-C ᐱᒋᐊᕐᕕᒃᓴᖅᑎᑕᐅᖑᐊᖅᐳᖅ 2006ᒥ ᐱᔭᕇᖅᑕᐅᓗᓂᓗ 2007-ᖑᓕᖅᐸᑦ. ᓅᑕᐅᕙᓪᓕᐊᓯᒋᐊᕐᓗᑎᒃ ᓯᑎᐱᕆ 2005ᒥ ᓅᑕᐅᕙᓪᓕᐊᕙᖓᕐᓗᑎᓪᓗ ᓴᓗᒻᒪᖅᓴᖅᑕᐅᓪᓚᑦᑖᕐᓯᒋᐊᕐᓗᑎᓪᓗ 2007 ᐅᑭᐅᖑᓂ. ᐱᓕᕆᐊᖑᓂᐊᖅᑐᑦ ᐃᔾᔭᖅ ᓄᓇ ᐲᔭᖅᑕᐅᕙᓪᓕᐊᓗᓂ/ᓴᓗᒻᒪᖅᑕᐅᕙᓪᓕᐊᓗᓂ; ᐊᒃᑕᕐᕕᕕᓂᖅ ᓴᓗᒻᒪᖅᑕᐅᕙᓪᓕᐊᓗᓂ, ᓄᐊᑕᐅᓗᑎᒃ ᐃᒥᑕᐅᓗᑎᓪᓗ ᐊᑦᑕᓇᖅᑐᑦ ᓱᕈᕐᓇᖅᑐᑦ ᐊᒻᒪ ᐅᓗᕆᐊᓇᓗᐊᖅᑐᑦ ᓴᓂᕋᕙᐃᑦ, ᓱᖁᑎᔭᐅᓗᑎᓪᓗ ᐊᒻᒪ ᓄᖑᑎᖅᑕᐅᓗᑎᒃ ᑕᐃᒃᑯᓂ ᐃᓪᓗᑐᖃᕕᓂᐅᕙᑦ.

ᓴᓗᒻᒪᖅᓴᐃᕙᓪᓕᐊᒍᑕᐅᓂᐊᖅᑐᑦ FOX-C-ᒥ ᐊᕙᑎᑦᑎᓐᓂ ᐱᕙᓪᓕᐊᖃᑎᖃᕐᓂᐊᖅᐳᑦ ᑕᒪᒃᑯᐊ ᐃᖕᒋᕐᕿᒍᑎᑦ ᑭᓱᓕᕆᔾᕙᑎᓪᓗ ᐳᕙᕈᕙᖕᒋᓐᓄᑦ ᐃᓯᐊᕿᓂᖕᒋᓐᓄᓗ, ᓴᓂᕐᓄᑦ, ᓄᓇᖕᒐᑕᓗ ᖄᖓ ᐊᑐᖅᑕᐅᖃᑦᑕᕐᓗᓂ ᐊᒻᒪ ᓄᓇᓕᖕᓂᖕᒌᖅᓯᒪᕙᓂ ᖃᓂᒃᓴᖅᑐᓂ ᐃᖅᑲᓇᐃᔭᖅᑎᑦᑎᓂᒃᑯᑦ. ᑕᐃᒪᐃᔾᔮᖕᒋᓐᓂᖃᖅᑕᐅᓪᓚᕆᒍᓐᓇᖕᒋᓚᕐᓗ ᐊᒻᒪ ᐅᖅᓱᐊᓗᖕᒥ ᐊᓯᖕᒋᓐᓂᓘᓐᓃᑦ ᓱᕈᕐᓇᖅᑐᓕᓐᓂ ᑯᕕᑐᐃᓐᓇᕆᐊᖃᖅᐳᑦ. ᐱᓕᕆᐊᖃᕐᓂᖓ ᒪᓕᖕᓂᐊᕐᒪᑦ ᐱᓕᕆᓂᖃᑦᑎᐊᕋᓱᐊᕐᓂᕐᒧᑦ ᐊᑐᒐᕆᔭᐅᕙᑦᑐᓂ ᑲᓇᑕᐅᑉ ᐅᐊᖕᓇᖕᒐᓂ ᐱᓕᕆᐊᖃᖅᑎᓪᓗᒋᑦ, ᑕᒪᒃᑯᓄᖓᓗ ᑯᕕᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᑕᐃᒪᐃᓯᒃᑲᓪᓚᒃᑐᕕᓂᐅᑉᐸᑕᓗ ᖃᓄᐃᓕᐅᕈᑕᐅᓂᒃᓴᖏᓐᓂ ᐸᕐᓇᐅᑎᖃᐃᓐᓇᕐᓂᐊᖅᑐᑦ ᐅᐸᓗᖓᐃᖅᓯᒪᑦᑎᐊᕐᓗᑎᒃ. ᐱᓕᕆᐊᖓ ᑑᕐᕿᒪᖃᕐᓂᐊᖅᐳᖅ ᓴᓗᒻᒪᖅᓴᐃᓂᕐᒥᒃ ᐊᒻᒪ ᑕᐃᒪᐃᓐᓂᓇᓚᐅᖅᑕᖕᒐᓄᑦ ᐅᑎᖅᑎᑦᑎᓇᓱᖕᓂᒥ ᐱᐅᓯᓇᓚᐅᖅᑕᖕᒐᓄᑦ. ᐱᓗᐊᖅᑐᒥᓪᓕ, ᓴᓗᒻᒪᖅᓴᖅᑕᐅᓂᖓ ᓈᑎᓂᐊᖅᐳᖅ ᐊᐅᓚᑦᑎᓂᐊᖅᐳᕐᔫᖕᓃᑦ ᐊᕙᑎᑦᑎᓐᓄᐊᖅᓯᕙᓪᓕᐊᖏᖕᒐᕐᓂᕐᒧᑦ. ᐊᕙᑎᑦᑎᑦᑎᓐᓂ ᐊᒃᑐᐃᓂᖓ ᐱᓗᐊᖅᑎᑕᐅᑦᑕᐃᓕᒪᓂᐊᖅᐳᖅ ᐊᒃᑐᐃᓂᖓᓗ ᒥᑭᑦᑐᑎᑕᐅᑎᑕᐅᓇᓱᐊᕐᓂᐊᕐᐳᖅ. ᐱᓂᓕᕆᐊᖕᒋᑦᑕ ᐊᑲᐅᓂᖕᒋᑦ ᐃᖅᑲᓇᐃᔭᖅᑎᑦᑎᑲᐃᓐᓇᕐᓂᖅ ᓄᓇᓕᖕᓂᖕᒌᖅᑐᓂᒃ ᓴᓗᒻᒪᖅᓴᐃᕙᓪᓕᐊᓂᒃᑯᑦ.

EXECUTIVE SUMMARY

Public Works and Government Services Canada (PWGSC), on behalf of Indian and Northern Affairs Canada (INAC) is planning to complete the clean up and remediation of the former FOX-C Intermediate DEW Line Site on Baffin Island. Various stages of clean up of the site have been ongoing since 1985. The first phase of PWGSC's clean up and remediation consisted of a detailed site assessment and preliminary consolidation of existing wastes at the site. The second phase involves the remediation of the site. As required under the *Nunavut Land Claim Agreement* (*NLCA*) and the *Canadian Environmental Assessment Act* (*CEAA*), the remediation activities proposed for FOX-C must undergo an environmental screening.

The remediation at FOX-C is scheduled to begin in 2006 with completion in 2007. Mobilization activities will begin in September 2005 with demobilization to follow remediation activities in the winter of 2007. Activities will consist of contaminated soil excavation/remediation, dump area remediation, collection and disposal of hazardous and non-hazardous debris, and demolition and disposal of site facilities.

The remediation activities at FOX-C will interact with the environment through vehicle and machinery emissions, waste disposal, surface disturbance and the provision of employment to local inhabitants. There is also the potential for spills of fuel or hazardous materials. The activities will be carried out following standard good operating practices for northern Canada, with spill prevention practices and contingency plans in place. The objectives of the activities are to clean up and return sites to as close to natural conditions as is possible. Specifically, the remediation will mitigate and/or control the release of contaminants into the environment. The environmental effects of the activities are assessed as being of low magnitude and not significant. The activities will benefit the area through the short-term employment of local individuals and through the clean up of the site.

3. 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, 2005

ᐊᖓᔪᖄᐅᑎᓄᑦ ᐅᓂᒃᑳᕆᔭᖅ

ᔮᒃᔅ ᕕᑦᕗᐊᑦ ᓕᒥᑎᑦ (ᔮᒃᔅ ᕕᑦᕗᐊᑦ) ᑭᓪᓕᓯᓂᐊᕐᓂᖃᓚᐅᕐᒪᑦ ᐃᓄᐃᑦ ᐋᓐᓂᐊᓂᖏᓐᓄᑦ ᐊᕙᑎᑦᑎᓐᓄᓗ ᐊᑦᑕᓇᖅᑎᒋᓂᖃᕐᒪᖔᑕᓘᓐᓃᑦ (HHERA) ᑕᐃᑲᓂ FOX-C (ᐃᖃᓗᒐᕐᓂ) ᓈᓚᒡᕕᕕᓂᕐᒥ ᕿᑭᖅᑖᓗᖕᒥ, ᓄᓇᕗᑦ. ᑑᕐᒐᓐᓗᐊᑕᕆᓚᐅᖅᑕᖓ ᑕᑯᒋᐊᖅᑕᐅᓂᖓᑕ ᖃᐅᔨᓴᖅᑕᐅᖁᓪᓗᒋᑦ ᐊᓯᖏᓐᓂ ᐃᒥᕈᔪᕐᓂ ᓱᕈᕐᓇᖅᑐᓂ ᐱᑕᖃᕐᒋᒃᑲᓗᐊᕐᒪᖔᑦ ᓄᓇᐅᑉ ᖄᖓᓂ ᐃᒪᕈᔪᕐᓂᓗ ᐊᒻᒪᓗ ᐱᑕᖃᕐᐸᑦ ᐃᓄᖕᓄᑦ ᑕᐅᕙᓐᓯᒪᑑᓐᓃᑦ ᐊᕙᑎᖓᓄᑦ ᐊᑦᑕᓇᕐᒋᒃᑲᓗᐊᕐᒪᖔᑦ ᐅᐸᒃᑕᐅᖃᑦᑕᕐᓂᖓᓄᑦ ᐃᓂᒋᔭᐅᖃᑦᑕᕐᓂᖓᓄᓪᓗ ᓯᕗᓂᒃᓴᑦᑎᓐᓂ ᒫᓐᓇ ᑕᐃᒪᐃᓕᖓᑎᓪᓗᒍ ᐊᒻᒪᓗ ᓴᓗᒻᒪᖅᓴᖅᑕᐅᑏᖅᓯᒪᓕᖅᑎᓪᓗᒍ.

ᐃᖃᓗᒐᐅᑉ ᑕᓯᐅᔭᖓ ᑕᐅᕙᓃᑉᐳᖅ ᕿᑭᖅᑖᓗᑉ ᐅᐊᖕᓇᖓᑕ ᓯᓈᓂ, ᖃᐅᓐᓇᕐᑕᓕᐅᑉ ᐃᒃᐱᐊᕐᔪᖓᑕ ᐅᖓᑎᑦᑎᐊᖓᓂ. ᓈᓚᒡᕕᐅᖃᑦᑕᓚᐅᖅᓯᒪᔪᖅ ᖃᖃᒥᐅᓄᑦ (FOX-C) 1963-ᖑᕋᓱᖕᓂᖓᓂ.

ᖃᐅᔨᓴᕐᓂᐅᑉ ᒥᒃᓵᓄᑦ

ᒫᓐᓇ ᖃᐅᔨᓴᕐᓂᐅᔪᖅ ᑕᑯᒋᐊᕐᓂᖃᓚᐅᖅᐳᖅ ᐃᓄᖕᓄᑦ ᐊᕙᑎᖓᓂᖓᓄᓪᓗ ᐊᑦᑕᕐᓇᕈᔪᒃᑐᓂᒃ ᐱᑕᖃᖅᒋᒃᑲᓗᐊᕐᒪᖔᑦ ᑕᐅᕙᓐᓇ FOX-C. ᐃᑲᔪᖅᓱᖅᑕᐅᕗᖅ ᓄᑖᓂ ᓱᕈᕐᓇᖅᑐᑦ ᒥᒃᓵᓄᑦ ᖃᐅᔨᒪᒍᑎᓂᒃ ᑕᐃᑲᓂ, ᐊᑐᖅᑕᐅᓪᓗᑎᒃ ᐱᖁᔭᖏᓐᓂ ᐊᕙᑎᖏᑦᑕ ᖃᐅᔨᓴᖅᑕᐅᓂᖓ (Earth Tech 2004) ᖃᐅᔨᓴᖅᑕᐅᓪᓗᑎᒃ ᕼᐃᕈᑳᐸᓐ, ᐊᒻᒪᓗ ᖃᐅᔨᓴᓯᖅᑐᓕᕆᔨᓄᑦ ᐸᓕᓴᐃᒃᓕᒃ ᐊᕈᒪᑎᒃ ᕼᐃᕈᑳᐸᓐᖑᓂᖅᑕᐃᑦ (PAH's), ᐲᓯᐲ (PCBs), ᐊᒻᒪᓗ ᐱᑕᖃᐃᓐᓇᕐᓂᑯᖏᑦᑐᑦ ᓄᓇᖓᓂ, ᐊᒻᒪᓗ ᐅᓄᓗᐊᖏᑦᑐᑦ ᐃᒪᕈᔪᕐᓂ ᓄᓇᒥ ᖃᐅᔨᓵᖑᓂᑯᓂ, ᑕᓯᕐᓂ ᐊᒻᒪ ᑰᑦ ᐃᖅᑲᕈᔪᖏᓐᓂ ᐊᒻᒪᓗ ᐃᖃᓗᖕᓂ. ᐅᓂᒃᑎᑕᐅᓯᒪᔪᓂ ᓄᓇᖕᓂᖕᒍᖅᑐᓂᒃ ᖃᐅᔨᓴᕐᓂᖃᓚᐅᕆᕗᑦ. ERA-ᖑᔪᑦ ᐃᓱᒪᒋᔭᐅᓚᐅᕐᒪᑕ ᐊᔾᔨᒌᖏᑦᑐᓂ ᓄᐊᑦᑎᕕᐅᓂᖏᓐᓂ ᐊᒻᒪᓗ ᐊᑐᓕᖅᑎᑕᐅᓪᓗᑎᒃ ᓄᑖᑦ ᖃᐅᔨᒪᒍᑎᐅᔭᑦ, ᑕᐃᒃᑯᐊ ᓯᕗᓪᓕᕐᒥ ᖃᐅᔨᓴᑦᑕᐅᒍᑎᐅᓚᐅᖅᑐᑦ ᐊᑐᖅᑕᐅᓯᓐᓇᖅᑎᓪᓗᒋᑦ. HHRA ᖃᐅᔨᓴᖅᑕᐅᓚᐅᕆᕗᑦ ᐊᐃᑉᐸᖓᓂ ᑕᐃᑲᓂ ᓄᑖᒥ ᐱᖓᔪᖓᓐᓂ ᑲᑎᖅᓱᖅᑕᐅᓚᐅᖅᑐᓂ ᖃᐃᑕᐅᓪᓗᑎᓪᓗ Earth Tech-ᑯᓐᓄᑦ (2004).

ᖃᐅᔨᒪᒍᑎᑦ ᑲᑎᖅᓱᖅᑕᐅᓂᖏᑦ

ᓄᓇᐅᑉ ᐃᒪᐅᓪᓗ ᖃᐅᔨᓴᑦᑕᐅᓂᖏᑦ ᐊᐃᑉᐸᖓᓂ ᐊᒻᒪᓗ ᐱᖓᔪᖓᓂ ᑕᑯᒋᐊᖅᑕᐅᓚᐅᖅᐳᑦ ᐊᑦᑕᓇᖅᑐᖃᐅᕐᒪᖔᑕ. ᐊᑦᑕᓇᕐᒪᖓᑕ ᐃᓄᖕᓄᑦ ᐊᕙᑎᖏᓐᓂᕐᑐᓄᓪᓗ, ᓄᓇᑐᐊᖓ ᖃᐅᔨᓴᖅᑕᐅᓚᐅᖅᐳᑦ ᓄᓇᐅᑉ ᖄᖓᓂ ᐊᒻᒧᑦ 10ᒥ 15 ᓴᓐᑕᒦᑕᓐᓄᑦ ᑕᐃᒫᓪᓗᐊᖑᑎᓪᓗᒋᑦ ᓴᖅᑭᔮᕈᓐᓇᕐᓂᖏᓐᓄᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᓂᖃᓚᐅᖅᐳᑦ.

ᐱᓕᕆᐊᖑᑕ ᐊᐃᑉᐸᖓᓂ ᐱᖓᔪᖓᓂᓪᓗ ᖃᐅᔨᓴᕐᕕᐅᓚᐅᕆᕗᑦ ᐃᓗᑐᓂᖏᑎᒍᑦ ᐊᒻᒪᓗ ᐊᐳᕐᓯᒪᑎᒃ ᐹᖅᓯᒪᑎᓪᓗ ᐊᒻᒪ/ᐅᐸᕙᓗ ᐅᖓᕙᕆᐊᖅᑕᐅᓂᖃᖅᑐᒥᒃ ᓄᓇᐅᑉ ᐃᓗᐊᓄᑦ ᑎᑭᑦᑐᒍ 0.3 ᒦᑕᓐ (mbgs) ᐊᑐᖅᑎᑕᐅᓚᐅᖏᓚᑦ. ᑕᒪᒃᑯᐊ ᐊᑐᖅᑕᐅᓚᐅᖅᐳᑦ ᓄᓇᐅᑉ ᖄᖓ ᓴᖅᑭᔮᖅᑐᖅ ᐊᒻᒪᓗ ᐃᑭᐊᖓᓂ ᓄᓇᐅᖓ ᓯᕐᕿᓗᐊᖅᓯᒪᖏᑦᑐᑦ.

ᐃᒥᕈᔪᓕᕐᓂ ᖃᐅᔨᓴᕐᓂᖅ ᐃᓯᒫᓗᓇᕈᔪᒃᑐᓂ ᐱᑕᖃᖅᒋᒃᑲᓗᐊᕐᒪᖔᑕ (CoPCs)

CoPCs ᐃᓱᒪᒋᔭᐅᖃᕐᓯᐅᔾᔭᐅᓚᐅᕆᕗᑦ ᐃᒥᕈᔪᐃᑦ ᓇᓗᓇᐃᖅᑕᐅᓚᐅᖅᑐᑦ Earth Tech-ᑯᓐᓄᑦ ᐱᖓᔪᖓᓂ ᐱᓕᕆᐊᖑᑦᑕ ᐅᓂᒃᑳᖑᓂ ᖃᕐᒋᖅᓯᔪᓂ ᐅᖓᑕᐅᔾᔨᔪᓂᓘᓐᓃᑦ CCME ᐱᑕᖃᕐᓂᕆᔭᕆᐊᓕᖏᓐᓂ ᓄᓇᒥ ᐊᑐᐊᒐᐅᔪᓂ (CCME 1999). ᑕᒪᒃᑯᐊ ᐊᑐᐊᒐᐅᕙᒃᑐᑦ ᑐᖓᕕᖃᕐᒪᑕ ᐊᕙᑎᑦᑎᓐᓄᑦ ᐃᓄᖕᓅᓐᓃᑦ ᖃᓂᒻᒪᓯᕈᔪᕐᓄᑦ ᓴᐳᒻᒥᓂᖃᖁᓪᓗᒋᑦ ᐊᒻᒪᓗ ᓴᐳᒻᒥᑦᑎᒍᑎᒃᓴᒍᑦ ᖃᐅᔨᕆᐊᖏᕐᓂᖃᕐᓂᕐᒍᑦ ᑕᐃᑲᓂ ᐱᓕᕆᕕᐅᓂᐊᖅᑐᒥ. ᐃᓄᖕᓄᑦ ᐊᑦᑕᓇᖅᒋᒃᑲᓗᐊᕐᒪᖔᖏᓐᓄᑦ, ᐃᒥᕈᔪᐃᑦ ᖃᐅᔨᓴᕐᕕᐅᓚᐅᕐᐳᑦ ᑕᒪᒃᑯᓄᖓ ᐃᓄᖕᓄᑦ ᐊᑐᖅᑕᐅᓪᓗᑎᒃ; ᐱᔪᒪᔭᐅᓂᖅᓴᐃᑦ ᒪᓕᒃᑕᐅᓪᓗᑎᒃ, ᑖᒃᑯᐊ ᐊᑐᐊᒐᐃᑦ ᒪᓕᒃᓯᒪᒻᒪᑕ ᑕᐃᒃᑯᓂᖓ ᐊᑐᐊᒐᕐᓂᒃ CCME (CCME 1999), ᑕᐃᑲᖓᖅᓯᒪᔭᓂᒃ ᐱᓯᒪᔭᓂᒃ

ᐊᓐᑎᐅᕆᔪᒥ ᐊᖓᔪᖃᐅᕕᖓ ᐊᕙᑎᓕᕆᓂᕐᒧᑦ (OMOE 1996a), ᐅᑉᕙᓘᓐᓃᑦ ᐊᒥᐊᓕᒐᐃᑦ ᓄᓇᖓᓐᓂ ᐊᕙᑎᓕᕆᓂᕐᒧᑦ ᓴᐳᒻᒥᑎᓂᕐᒧᑦ ᑎᒥᐅᔪᖅ (US EPA).

ᑐᓐᖓᕕᒋᔭᐅᓪᓗᑎᒃ ᐃᓄᖕᓄᑦ ᖃᓂᒻᒪᒃᑎᑦᑎᔪᓐᓇᕐᓂᖓ ᑕᐃᒃᑯᐊ ᖃᐅᔨᓴᐅᑎᐅᔪᑦ ᒪᓕᒃᑐᒥᑦ, ᐃᒥᕈᔪᐃᑦ ᑕᐅᑯᖓ ᐃᓄᖕᓅᖅᑕᐅᔪᓐᓇᕐᑐᑦ ᑕᐃᑲᓂ ᖁᑦᑎᖕᓂᖅᓴᖓᓂ ᐅᑯᐊᓪᓗᑎᒃ ᖃᓪᓗᓈᑎᑐᑦ ᐊᑎᖃᖅᑐᑦ beryllium, copper, lead ᐊᒻᒪᓗ ᑲᑎᓪᓗᒋᑦ petroleum hydrocarbon (TPH) F2, F3 ᐊᒻᒪ F4 ᓈᓴᐅᑎᖏᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ. ᑕᐃᒃᑯᐊᓗ ᒥᑭᓐᓂᖅᓴᐃᑦ ᑕᐃᑲᓂ ᐅᑯᐊᖑᒋᓪᓗᑎᒃ beryllium ᐊᒻᒪᓗ ᑕᐃᓐᓇ TPH F3 ᐊᕕᒃᑐᖅᓯᒪᔪᖅ.

ᐃᒥᕈᔪᐃᑦ ᐊᕙᑎᖓᓘᕐᐸᓪᓕᐊᔪᓐᓇᖅᑐᑦ ᐅᑯᐊᖑᓚᐅᕆᕗᑦ F1 ᒥᑦ F4 TPH ᐊᕕᒃᓯᒪᓂᖏᑦ, phenanthrene, beryllium, copper, cadmium, chromium (total), copper, lead ᐊᒻᒪ zinc. ᑕᐃᒃᑯᐊᓴᐃᓐᓇᐃᑦᑕᐅᖅ ᑕᒪᒃᑮᓐᓄᑦ ᐱᔭᐅᔪᓐᓇᓚᐅᕆᕗᑦ ᐃᓂᒋᔭᐅᔪᕕᓂᕐᒥ ᑕᑉᐹᓃᑦᑐᒥ ᐊᒻᒪᓗ ᐊᑦᑎᓐᓂᖅᓴᒥ.

ᓴᖅᑭᔮᖅᑐᑦ ᐃᓗᓕᖏᑦ

ᖃᐅᔨᓴᕐᓂᖓ ᓇᓗᓇᐃᖅᑕᓯᒪᕗᖅ ᑕᐃᑲᓂ ᐃᓂᒋᔭᐅᔪᒥ ᐊᒻᒪᓗ ᖃᓂᒋᔭᖓᓂ ᖃᐅᔨᓴᕐᕕᐅᓚᐅᖅᑐᒥᒃ ᑕᐃᑲᓂ FOX-Cᒥ, ᒪᕐᕉᓕᔭᐅᓪᓗᑎᒃ ᖃᐅᔨᓴᕐᕕᐅᓚᐅᕐᒪᑕ: ᑕᑉᐹᓃᓐᓂᖅᓴᖅ ᐊᒻᒪ ᐊᑦᑎᓐᓂᖅᓴᖅ.

ᑕᑉᐹᓃᓐᓂᖅᓴᖅ

ᑭᓱᕈᓘᔭᐃᑦ ᑕᐃᑲᓂ ᑕᑉᐹᓃᓐᓂᖅᓴᒥ ᐃᖏᕐᕋᔪᓐᓇᕐᑐᖅ ᐃᓪᓗ; ᓱᓇᒃᑯᑖᒃᑯᕕᒃ ᐊᒻᒪᓗ ᓄᓇᒃᑯᕈᑎᒃᑯᕕᑦ; ᐃᓄᖕᓄᑦ ᓇᔪᒐᕕᓂᖅ (ᐃᓂᒋᔭᕕᓂᖅ); ᐅᖅᓱᐊᓗᒃ, ᕿᓂᖅᑐᖅ, ᐅᖅᓱᕐᑎᕈᑎᑦ (POL) ᒥᓪᓗᐊᕐᕕᒃ; ᖃᕐᒪᖅ, ᑲᑖᒃᓯᒪᔪᖅ ᓇᐸᕈᑕᕕᓂᖅ ᓈᓚᒍᑎᓄᑦ; ᐅᖅᓱᐊᓗᖃᐅᑎᑦ; ᓯᕐᓗᐊᖅ; ᐊᒥᐊᕈᑎᒃᑯᕕᒃ; ᐊᒻᒪᓗ ᑎᓴᒪᑦ ᐊᒃᑕᕐᕖᑦ.

ᐊᑦᑎᓐᓂᖅᓴᒥ

ᐊᑦᑎᓐᓂᖅᓴᒦᑦᑐᑦ ᐃᒪᐃᑦᑐᖃᓚᐅᖅᐳᖅ, ᕿᔪᒥ ᓴᓇᓯᒪᔪᒥ ᖃᕐᒪᐅᔭᓕᐊᕆᓯᒪᔪᒥ; ᐅᖅᓱᐊᓗᖃᐅᑎᒥ; ᐊᒻᒪᓗ ᓯᕐᓗᐊᒥ. ᑕᒪᑐᒧᖓ ᐱᔾᔪᑎᖃᖅᑎᓪᓗᒍ HHERA-ᒥ, ᐊᑦᑎᓐᓂᖅᓴᒦᑦᑐᖅ ᐃᓱᒪᒋᔭᐅᓚᐅᕐᒪᑦ ᐃᒻᒪᖃ ᑕᒫᓂ ᐊᖏᓂᖃᕆᐊᒃᓴᖓᓂ 2 Hᐊᒃᑎᐊᔅ, ᑕᒪᓐᓇ ᐱᖁᓯᐅᑎᓯᒪᒋᕗᖅ ᓇᒥᕈᓘᔭᖅ ᐅᖅᓱᐊᓗᖃᐅᑎᑦ ᖃᑦᑕᐅᔭᐃᑦ ᓇᒥᑐᐃᓐᓈᖅᑐᑦ. ᖁᑦᑎᖕᓂᖅᓴᒥ ᐊᒃᑎᖕᓂᖅᓴᒥᓗ ᑲᑎᖓᕗᑦ ᐊᖁᒧᑦ ᐊᑐᕆᐊᓕᐊᕆᔭᐅᓯᒪᔪᒧᑦ.

ᐅᐊᖕᓇᖓᓃᓐᓂᖓᓄᑦ ᐊᒻᒪᓗ ᐃᓄᖕᓄᑦ ᐊᑐᖅᑕᐅᖃᑦᑕᖅᑐᑐᖃᕕᓂᐅᔪᓇᐅᓂᖓᓄᑦ ᐱᐅᓯᑐᖃᖓ ᐊᑐᕐᓗᒍ, ᑕᒪᒃᑯᐊ ᓄᓇᐅᑉ ᐊᑐᖅᑕᐅᖃᑦᑕᕐᓂᖓᓄᑦ (ᓄᓇᒋᔭᐅᓪᓗᓂ, ᒥᕐᖑᐃᕐᓯᕐᕕᐅᓗᓂ, ᑮᓇᐅᔭᓕᐅᕐᓱᐊᕈᑕᐅᓗᓂ, ᐊᒻᒪᓗ ᓴᓇᕕᒃᓴᐅᓗᓂ) ᐃᓅᓐᓇᑎᒃ ᐊᖏᓪᓕᒋᐊᖅᑕᐅᓂᖃᓚᐅᕐᐳᑦ ᐃᓚᓕᐅᑎᔭᐅᓯᒪᓕᖁᓪᓗᒍ ᐃᓄᖕᓄᑦ ᓄᓇᒥᔭᑐᖃᐅᖃᑦᑕᕐᓂᕕᓂᖕᓄᑦ. ᐃᓗᓕᖓ ᑭᓪᓕᓕᒫᖓᓗ ᑕᒪᑦᓱᒪ ᓄᓇᐅᑉ ᐅᖃᐅᓯᐅᓯᐊᓪᓚᒃᓯᒪᕗᑦ ᒑᓐᑦᓄ ᓕ ᐊᒻᒪ ᑳᓐᑕᒃᔅ-ᑯᓐᓄᑦ (1998), ᐊᒻᒪ ᐋᖅᑭᒃᑕᐅᓚᐅᕐᓯᒪᕗᑦ ᑐᑭᓯᒋᐊᕐᕕᐅᒪᐅᕐᑎᓪᓗᒋᑦ ᐃᓄᐃᑦ ᓄᓇᖃᖅᑐᑦ ᐅᑭᐅᖅᑕᖅᑐᑉ ᑲᓇᖕᓇᖓᓂ, ᕿᑭᖅᑖᓗᒃ ᑯᐊᐳᓃᓴᓐ ᐊᒻᒪᓗ ᐃᓄᓕᕆᔨᑐᖃᒃᑯᑦ.

ᒪᓐᓇ ᖃᐅᔨᓴᕐᓂᐅᔪᖅ ᑎᒍᐊᖅᓯᒪᓚᐅᕐᒪᑦ ᐊᑐᖅᑕᐅᖃᑦᑕᖅᑐᑐᖃᕕᓂᐅᓂᖓ ᐃᖃᓗᒐᐅᑉ ᐃᓂᖓ, ᑕᐃᑲᓂ ᒑᓐᑦᓄ ᓕ ᐊᒻᒪ ᑳᓐᑖᒃᔅ (1998). ᓄᓇᒥᔭᐅᖃᑦᑕᖅᓯᒪᔪᑐᖃᐅᓂᖓᓄᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᓂᖓ ᐃᒪᐃᓕᖓᓪᓗᓂ ᐃᓄᖕᓄᑦ ᐃᓚᒌᓄᑦ ᓄᓇᒥᔭᐅᖃᑦᑕᖅᑎᓪᓗᒍ, ᑐᐱᖃᖅᓗᑎᒃ ᑎᑭᓪᓗᒍ ᑕᖅᑭᑦ ᐱᖓᓱᓄᑦ. ᐃᓱᒪᒋᔭᐅᓚᐅᕐᒪᑦ ᑕᐃᑲᓃᑎᓪᓗᒥᑦ ᐃᓄᐃᑦ ᐊᖑᓇᓱᖃᑦᑕᓚᐅᕐᓂᖏᓐᓂ, ᐃᖃᓪᓗᐊᖅᓯᒪᓪᓗᑎᒃᓗ ᐊᒻᒪ ᑭᓱᑐᐃᓐᓇᓂ ᐊᓐᓇᐅᒪᒍᑎᒃᓴᖏᓐᓂ ᓄᐊᑦᑎᓪᓗᑎᒃ. ᐃᓱᒪᒋᔭᐅᓚᐅᕆᕗᖅ ᐃᒻᒪᖃ ᑕᐃᑲᓂ ᓄᓇᖃᖃᑦᑕᓚᐅᕐᓂᖏᓐᓂ ᐊᐳᑎᖃᖏᓐᓂᓕᒫᖓᓂ, ᑕᐃᒪᐃᓐᓂᖓᓄᓪᓗ ᐃᓄᖕᓅᖅᓯᔪᓐᓇᕐᓂᖓ ᑕᒪᒃᑯᓄᖓᕈᔪᒃ ᑎᑭᐅᑎᓂᖃᕈᓐᓇᓚᐅᕐᐳᖅ. ᑕᒪᒃᑯᓄᖓ ᐊᑐᐃᓐᓇᐅᕕᖃᕐᓂᖏᓐᓄᑦ ᐅᖃᐅᓯᐅᓯᒪᔪᑦ ᐃᓛᒃᑯᖅᑐᑦ ᐃᓗᐊᓂ 4.3, ᐊᒻᒪᓗ ᑕᐃᑲᓂ ᒑᑦᓄ ᓕ ᐊᒻᒪ ᑳᓐᑖᒃᔅ ᐅᓂᒃᑲᖓᓂ (1998).

ᓄᓇᐅᑉ ᐊᑐᖅᑕᐅᖃᑦᑕᕐᓂᖓᓄᑦ ᒪᓕᒃᓗᑎᒃ, ᐅᑯᐊ ᐃᓱᒪᒋᔭᐅᓪᓗᑎᒃ ᐋᖅᑭᒃᑕᐅᓚᐅᕐᐳᑦ:

ᐃᓄᐃᑦ ᑎᒥᖏᓐᓄᑦ

ᐋᖅᑭᒃᑕᐅᓯᒪᔪᖅ ᐃᓄᐃᑦ ᑎᒥᖏᓐᓅᖅᑎᑦᑎᖏᓐᓂᖅᓴᐅᕐᑯᓪᓗᒍ ᓄᓇᒥᖕᒫᖅᑐᒥ ᑕᐃᑲᓂ ᐃᓗᓕᖏᑦᑕ ᑭᓕᖏᑦ ᐃᒪᐃᓕᖓᐅᖅᐳᑦ:

ᐊᑐᖅᑕᐅᖃᑦᑕᖅᑐᑐᖃᐅᓂᖓᓅᖓᔪᑦ:

- ᐱᐊᕋᖅ ᑕᖅᑭᖃᖅᑐᖅ ᐱᖓᓲᔭᖅᑐᓄᑦ ᑎᑭᓪᓗᒍ ᑎᓴᒪᓂᒃ ᐅᑭᐅᖃᖅᑐᑦ ᑕᒪᒃᑯᓄᖓ ᐊᑐᐃᓐᓇᐅᕕᐅᖓᒪᑕ ᓄᓇᒥ ᐊᒃᑐᐊᖃᑦᑕᕐᓂᖏᓐᓄᑦ ᓱᕈᕐᓇᖅᑐᑦ ᖃᓪᓗᓈᑎᑐᑦ ᐊᑎᖃᖅᑐᑦ ᐃᒪᓐᓇ non-carcinogenic beryllium, ᑳᐸ, ᓴᕕᕋᔾᔭᒃᓴᖅ ᐊᒻᒪᓗ F3 TPH ᑐᕋᑦᑕᐅᑎᒋᖏᑦᑐᒃᑯᑦ ᐅᕐᑯᒻᒥᖅᓯᓂᖏᓐᓄᑦ ᓂᕆᓂᖏᓐᓄᑦ / ᐊᒃᑐᖅᓯᖃᑦᑕᕐᓂᖏᓐᓄᑦ / ᐳᔪᕐᓂ ᓯᐅᕋᔪᖕᓂᒍ ᓂᐅᖅᑕᕐᓂᖏᓐᓄᑦ ᐊᓂᖅᑎᓇᑎᓪᓗᒋᑦ ᐊᒻᒪ ᐊᒃᑐᖅᓯᖃᑦᑕᕐᓂᖏᓐᓄᑦ, ᐊᒻᒪᓗ ᓄᓇᒥᖔᖅᑐᓂᒃ ᓂᕿᖃᑦᑕᕐᓂᖏᓐᓄᑦ (ᑐᒃᑐ, ᐅᑲᓖᒃ ᐊᒻᒪ ᐃᖃᓗᐃᑦ);
- ᐃᓄᒃ ᐊᕐᕋᒍᑕᓖᑦ ᑕᐃᑯᖓᖃᑦᑕᕈᓂ ᐃᓅᓂᕐᒥᓂ ᐊᕐᕋᒍᖃᓕᕐᓂᖓᓄᑦ 75ᓂ ᑕᒪᒃᑯᓂᖓ ᓴᖅᑮᔭᕐᕕᐅᖓᓕᑦ beryllium, ᖃᐅᔨᒪᔭᐅᖕᒥᖓᓕᑦ ᐋᓐᓂᐊᖅᑖᕐᓇᕐᓂᖓᓄᑦ ᑲᓐᓱᑖᕈᑕᐅᓲᒥᒃ ᑖᓐᓇ ᐊᑎᓕᒃ ᖃᐅᔨᒪᔭᐅᓪᓗᓂ carcinogen, ᑕᐃᑲᖓᓐᓇᓂᐅᖏᑦᑑᓗᐊᖅ ᓂᕆᓂᖓᓄᑦ / ᐅᕕᓂᖓᑕ ᐊᒃᑐᖅᓯᖃᑦᑕᕐᓂᖓᓄᑦ / ᐳᔪᕐᓂ ᓂᐅᖃᑦᑕᕐᓂᖏᓐᓄᑦ ᐊᓂᖅᑎᓇᑎᓪᓗᒋᑦ, ᐃᒥᖃᑦᑕᕐᓂᖓᑎᒍᑦ ᐊᒃᑐᖅᓯᖃᑦᑕᕐᓂᖓᓄᓪᓗ ᑕᒪᒃᑯᓄᖓ ᐊᒻᒪ ᓄᓇᒥᖔᖅᑐᓂ ᓂᕆᖃᑦᑕᕐᓂᖓᓄᑦ (ᑐᒃᑐ, ᐅᑲᓕᖅ, ᐃᖃᓗᒃ) ᐃᓅᓯᓕᒫᖓᓂ.

ᐊᕙᑎᖓᑦᑕ ᖃᓄᐃᓐᓂᖓᓂ

ᐊᑦᑕᓇᖅᑐᓄᑦ ᓴᖅᑮᔭᕐᕕᐅᖃᑦᑕᕈᓐᓇᕐᓂᖓ ᓄᓇᒥ ᓱᕈᕐᓯᒪᔪᓂ ᖃᐅᔨᓴᕈᑕᐅᓪᓚᓇᓚᐅᕐᒪᑦ (ERA). ᑕᒪᒃᑯᓄᖓ ᐱᑕᖃᖅᑐᓄᑦ ᓴᕕᕋᔾᔭᕈᔪᐃᑦ ᐱᔭᐅᑦᑕᐅᑎᒋᔪᓐᓇᕐᓂᖏᓐᓄᑦ ᓄᓇᒧᑦ, ᐊᒻᒪᓗ ᓂᕆᔭᐅᓗᑎᒃ ᑕᒪᒃᑯᓄᖓ ᓄᓇᒥᐅᑕᐅᔪᓄᑦ ᐱᕈᖅᑐᓄᑦ ᐆᒪᔪᓄᓪᓗ, ᐃᒥᖅᑕᐅᖃᑦᑕᕐᓂᖓᓄᑦ ᐃᒥᖅ, ᓂᕐᔪᑎᓄᑦ, ᐊᒻᒪᓗ ᐱᓱᒃᑐᓄᑦ ᓂᕐᔪᑎᓄᑦ. ᑕᒪᒃᑯᓄᖓ ᐊᖅᑯᑎᐅᔭᓐᓇᖅᑐᓄᑦ ᐊᖓᔪᖃᕐᕕᐅᓂᖓ ᓂᕆᔭᐅᔭᓐᓇᖅᑐᑎᒍᑦ, ᐊᓂᖅᑎᓂᒃᑯᑦ, ᐅᕕᓂᒃᑯᓪᓗ ᐊᒃᑐᐊᓯᖃᑦᑕᕐᓂᒃᑯᑦ ᑕᒪᒃᑯᓄᖓ ᓄᓇᒦᑦᑐᓂᒃ ᐊᖅᑯᑕᐅᔭᓐᓇᖅᑐᐃᓐᓇᐅᖓᒪᑕ, ᑭᓯᐊᓂ ᐱᕐᔪᐊᕆᔭᐅᓗᐊᓚᐅᖏᓚᑦ, ᓂᕆᔭᐅᖃᑦᑕᕐᓂᖏᑦᑕ ᓴᓂᐊᓐᓂ ᑭᓯᐊᓂ ᑕᒪᒃᑯᑎᒎᓇ ᓱᕐᓗ ᒥᖅᑯᒃᑯᑦ, ᓱᓗᖕᓄᑦ, ᐃᓱᒪᓕᓚᐅᕐᐳᖅ ᓱᕐᓗ ᐊᒃᑐᖅᓯᓚᐋᖕᓂᑐᐃᓐᓇᒃᑯᑦ ᐊᒻᒪ ᒥᐊᖅᓯᓂᒃᑯᑦ ᐊᓗᒃᓯᓂᖅᑐᑦ ᐃᓗᐊᓃᖃᑕᐅᓚᐅᖅᐳᖅ ᑕᐃᒃᑯᓄᖓ ᐱᔪᓴᕐᓂᖓᓄᑦ ᓂᕆᔪᑎᑐᑦ. ᑕᐃᒃᑯᐊ ᓂᕆᐊᖅᑕᐅᔪᑦ ᖃᐅᔨᓴᕐᑕᐅᖃᑦᑕᕐᓂᐊᕐᓗᑎᒃ ᑎᕆᐊᑦ, ᐅᑳᓖᑦ, ᐊᕿᒡᒌᑦ, ᐊᕕᙵᐃᑦ, ᐅᒃᐱᒡᔪᐊᑦ, ᑎᕆᒐᓂᐊᑦ, ᐊᒻᒪᓗ ᑐᒃᑐᐃᑦ. ᑕᒪᒃᑯᐊ ᐃᓱᒪᒋᔭᐅᖓᒪᑕ ᑕᐃᑲᓂ FOX-C ᖃᓂᒋᔭᖓᓂ ᑕᑯᔭᐅᓲᖑᓂᖏᓐᓂ. ᐊᓯᖏᓪᓗ ᐱᓪᓗᐊᑕᐅᔪᑦ ᐊᕙᑖᓂ ᐃᓚᐅᖃᑕᐅᔪᑦ (VECs) ᑕᐃᑲᓃᓐᓇᓱᒋᔭᐅᓚᐅᓇᕗᑦ (ᐅᖃᐅᓯᐅᔪᑦ ᐃᓗᐊᓃᑦᑐᒥ 5.2.4) ᑭᓯᐊᓂ ᑖᒃᑯᐊ ᓂᕈᐊᖅᑕᐅᒪᐅᖕᒪᑕ ᓴᐳᒃᔨᓯᒪᔪᓐᓇᕐᓂᖏᓐᓂ ᑕᐃᑲᓃᑦᑐᓕᒫᓂ.

ᐊᑦᑕᓇᕐᓂᖓᓄᑦ ᖃᓄᐃᓕᖓᓂᖏᑦ

ᑕᑉᐱᒃᑯᐊ ᐅᖃᐅᓯᐅᔪᑦ ᕿᒥᕐᕈᔭᐅᓚᐅᕐᒪᑕ ᐊᒃᑐᖅᑕᐅᓚᔪᖑᐊᕐᓂᖏᓐᓂ ᐃᓄᖕᓄᑦ ᐊᒻᒪᓗ ᑕᐅᕙᓂ ᐊᕙᑖᓂ ᐆᒪᔪᕈᔫᔪᓄᑦ, ᐅᑯᐊᓗ ᐃᒪᐃᓕᓚᔪᕋᓱᒋᔭᐅᓪᓗᑎᒃ:

- ᓄᓇᐅᑉ ᖄᖓᓂ ᐱᑕᖃᓗᐊᕐᓂᖏᑦ ᐃᒪᕈᔪᐃᑦ ᓇᓗᓇᐃᖅᑕᐅᔪᑦ ᐃᓄᖕᓅᖅᐸᓪᓕᐊᔪᓐᓇᕐᓂᖏᓐᓄᑦ ᑕᒪᒃᑯᓄᖓ ᖃᓂᒃᓴᕐᓂᖏᓐᓄᑦ ᑎᑭᑕᐅᔪᓐᓇᕐᓂᖏᓐᓄᓗ ᐃᓗᐊᓃᖃᑕᐅᕗᑦ ᑕᐃᑲᓂ ᐊᑦᑕᓇᕐᓂᖏᓐᓄᑦ ᖃᐅᔨᓴᖅᑕᐅᓂᖓᑕ ᐃᓗᐊᓂ.
- ᓄᓇᐅᑉ ᖄᖓᓂ ᓴᖅᑮᔭᖅᑐᑦ ᐱᑕᖃᓗᐊᕐᓂᖏᑦ (EPCs) ᐃᒥᕈᔪᖕᓂ ᓱᕈᕐᓇᖅᑐᓕᖕᓂ ᓲᒃᑯᐃᔭᒃᓴᐅᓗᑎᒃ ᐃᓱᒪᒋᔭᐅᓂᖃᓗᐊᖏᓚᑦ ᐊᕙᑎᖓᓐᓄᑦ ᑕᐅᕙᓱᒪ ᑕᐃᒪᓐᓇ ᓴᖅᑮᔪᓗᐊᖅᓯᒪᑎᓐᓇᒋᑦ ᐊᒻᒪᓗ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᕗᑦ ᑕᐃᑲᓂ ᐊᑦᑕᓴᖅᑐᑦ ᖃᐅᔨᓴᖅᑕᐅᓂᖏᑦᑕ ᐃᓗᐊᓂ.

ᓱᖃᐃᒻᒪ ᐃᓄᖕᓄᑦ ᐊᑦᑕᓇᓐᓚᓇᒃᑐᓂ ᐱᑕᖃᖏᓐᓂᖓᓄᑦ ᐊᑐᖅᑕᐅᓪᓗᓂ ᓴᖅᑮᔪᓗᐊᕐᑐᑦ ᓄᓇᒥ CoPC, ᑕᒪᑦᓱᒪ ᐃᓂᖓᑕ ᓈᒻᒪᒋᔭᐅᓕᕋᔭᕐᓂᖓᓄᑦ (SSTLs) ᐋᖅᑭᒃᓱᖅᑕᐅᓚᐅᕐᐳᑦ ᑖᒃᑯᓄᖓ ᐊᑑᖅᑕᐅᓂᓗᑎᑦ CoPC ᐊᕙᑎᖓᑕ ᐋᓂᐊᖃᕐᓇᖏᑦᑐᓕᓇᓂᕐᒧᑦ ᐃᓗᓕᖏᓐᓂ ᑭᓪᓕᓕᐅᖅᑕᐅᓯᒪᔪᑦ ᐋᖅᑭᒃᓱᕐᑕᐅᓚᐅᖅᐳᑦ. ᑕᒪᒃᑯᐊ SSTLs ᓴᓂᓕᓃᓕᔭᐅᓪᓗᑎᒃ ᐃᓂᖓᑕ ᖃᓄᐃᓐᓂᖏᓐᓂ (EPCs and maximum concentrations).

ᓴᓗᒻᒪᖅᓴᖅᑕᐅᓂᖓ

ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᖃᐅᖅᐳᖅ ᓴᓗᒻᒪᖅᓴᐃᕕᐅᓂᐊᖅᑐᓂᒃ "ᐆᓇᕐᓂᖏᓐᓂ" ᑕᐃᒃᑯᐊ ᐱᑕᖃᕐᕕᐅᓗᐊᕐᓂᖏᑦ ᑕᐃᒪᓐᓇ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᓪᓗᑎᒃ ᐱᓗᐊᖅᑐᒥᒃ ᑕᒪᒃᑯᓂᖓ CoPCs-ᖃᕐᓂᓗᐊᕐᓗᖏᑦ. ᑕᐃᒃᑯᐊ ᐃᓄᖕᓄᑦ ᐊᑦᑕᕐᓇᕐᓂᖃᓗᐊᖏᒃᑲᓗᐊᖅᑎᓪᓗᒋᑦ ᐅᕝᕙᓘᓐᓃᑦ ᐊᕙᑖᓄᑦ ᓱᕈᖅᑎᑦᑎᕙᓪᓕᐊᓗᐊᖏᒃᑲᓗᐊᖅᑎᓪᓗᒍ, ᓂᕈᐊᖅᑕᐅᒍᑎᖃᓪᓚᐅᖅᐳᑦ ᐱᐅᓯᕙᓪᓕᐊᑎᑦᑎᔾᔪᓇᕐᓂᖓᓄᑦ ᐊᒻᒪᓗ ᑕᒪᒃᑯᐊ ᓴᖅᑭᔮᓗᐊᕐᑐᑦ ᓇᓗᓇᖏᑦᑐᓪᓗ ᐱᑕᖃᓗᐊᕐᓂᖏᑦ ᐲᖅᑕᐅᕐᑯᓪᓗᒋᑦ ᓄᖑᑎᖅᑕᐅᕐᑯᓪᓗᒋᓪᓗ. ᑕᐃᒃᑯᐊ ᐊᓪᓚᒃᑕᐅᓂᐊᖅᐳᑦ ᐊᒻᒪᓗ ᐲᖅᑕᐅᓗᑎᒃ ᑰᒡᕕᖃᕐᓂᖏᑦ ᐱᕕᐅᖃᑦᑕᕐᓂᖏᓪᓗ ᑕᒪᒃᑯᐊ ᑲᑦᓯᒪᓂᖅᓴᐅᑎᓪᓗᒋᑦ ᖁᑦᑎᖕᓂᖅᓴᒦᑦᑐᑦ (ᓱᕈᕐᓯᒪᓗᐊᓂᖏᑦ) ᐃᒪᐃᓕᖓᑎᓪᓗᒋᑦ 41% (PCBs), 92% (TPH F2 fraction), 90% (ᑳᐳ) ᐊᒻᒪ 86% (lead). ᐃᓄᐃᑦ ᑎᒥᖓᓄᑦ ᐊᑦᑕᓇᕐᓂᖏᑦ ᑕᑯᑎᑦᑎᕗᑦ ᐊᒃᐸᓯᕆᐊᖅᓯᒪᓂᖓᓂ ᓱᕈᕐᓇᕐᑐᖃᕐᓂᐅᔪᓂ. ᑕᒪᓐᓇ ᐋᖅᑭᒃᓱᒍᑕᐅᓚᐅᕆᕗᖅ ᐊᑦᑕᓇᖅᑐᑦ ᓈᓴᐅᑎᑎᒍᑦ ᓇᓗᓇᐃᖅᑕᐅᓂᖏᓐᓄᑦᖅ ᖁᑦᑎᖕᓂᖅᓴᒥ ᐃᒪᐃᓕᖓᓕᖅᑎᓪᓗᒍ 91% (TPH F2 fraction), 19% (ᑳᐳ) ᐊᒻᒪ 76% (ᓴᕕᕐᔮᒃᓴᖅ).

ᐃᓄᐃᑦ ᖃᓂᒻᒪᓯᓐᓄᑦ ᐊᒻᒪ ᐊᕙᑎᖓᓄᑦ ᐊᑦᑕᓇᖏᒃᑲᓗᐊᕐᒪᖔᑕ ᖃᐅᔨᓴᖅᑕᐅᓂᖓ ᐃᖃᓗᒃᐅᑉ ᑕᓯᐅᔭᖓᓂ ᔫᓐ ᐱᖓᐊᑦ 2005
ᐋᓚᓐᑎᕕᓂᒥ (DEW).
ᓄᓇᕗᑦ ᒫᓚᕐᒃᑎᖓᓂ. ᑎᐳᐊᕆ 4, 2005.

EXECUTIVE SUMMARY

Jacques Whitford Limited (Jacques Whitford) performed a human health and ecological risk assessment (HHERA) of the FOX-C (Ekalugad Fjord) Distant Early Warning (DEW) line site on Baffin Island, Nunavut. The primary objective of this study was to evaluate whether known concentrations of chemicals in surface soil and water at the site would present a significant risk to human or ecological health based on future use of the property in its current condition and after remediation.

Ekalugad Fjord is located on the northern coast of Baffin Island, above Quarmaratalik Cove. The site was an intermediate DEW Line site (FOX-C) until 1963.

Study Background

The current study undertook a human and ecological risk assessment of the FOX-C site. It is supported by new contaminants data for the site, based on a Phase III Environmental Site Assessment (Earth Tech 2004) which included analysis for hydrocarbons, as well as polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and inorganic substances in soils, as well as a limited number of analyses for ground water, lake and river sediments, lake water and fish. A restricted number of background soil samples were also collected. The ERA considered a broad range of ecological receptors and incorporated the new data, while retaining the previously collected data for FOX-C. The HHRA also evaluated both Phase II and the newly generated Phase III data supplied and described by Earth Tech (2004).

Data Compilation

The soil and water sample data from the Phase II and Phase III sampling programs were screened for use in this risk assessment. For the purposes of the risk assessment for both human and ecological receptors, only soil samples that accurately reflect concentrations in the upper 10 to 15 cm from ground surface are relevant to potential exposures.

The Phase II and Phase III data were screened on the basis of depth and any sample that did not intersect the surface and/or extended to a depth of greater than 0.3 m below ground surface (mbgs) was excluded. This was done to ensure that the data used were representative of surface soil and not heavily influenced by subsurface soil characteristics.

Screening of Chemicals of Potential Concern (CoPCs)

CoPCs included for consideration were the chemicals identified by Earth Tech in their Phase III Reports as exceeding generic CCME soil quality guidelines (CCME 1999). Generic CCME guidelines may be based on either ecological or human health protection and provide a protective initial screening of the site data. For the human health risk assessment, these chemicals were screened specifically against human health based generic guidelines and for the ecological risk assessment, they were screened specifically against ecologically based generic guidelines. In order of preference, these guidelines are taken from CCME (CCME 1999), Ontario Ministry of the Environment (OMOE 1996a), or the United States Environmental Protection Agency (US EPA).

Based on the human health based criteria screening, the chemicals carried forward to the quantitative human health risk assessment of the Upper Site were beryllium, copper, lead and total petroleum hydrocarbon (TPH) F2, F3 and F4 fractions. Those carried forward in the Lower Site HHRA included beryllium and the TPH F3 Fraction.

The chemicals carried forward in the ERA include the F1 to F4 TPH fractions, phenanthrene, beryllium, copper, cadmium, chromium (total), copper, lead and zinc. The same CoPCs were carried forward in the ERA for both the Upper and Lower Sites.

Exposure Scenarios

The study area is defined as the area including and surrounding the investigated areas at FOX-C, was divided into two distinct sites: the Upper Site and Lower Site.

Upper Site

Infrastructure at the Upper Site includes the module train; warehouse and garage; Inuit house (dormitory); petroleum, oil, lubricant (POL) pumphouse; quonset hut; collapsed communications antenna; POL tanks; storage shed; paint shed; and four dump sites.

Lower Site

The Lower Site includes a wooden hut; POL tanks; and storage shed. For the purposes of the HHERA, the area of the Lower Site was estimated to be 2 ha, which also includes the various areas where drums have been discarded around the site. The Lower and Upper Sites are connected by an access road.

Due to the northern location of the FOX-C and the probable use of the site by Inuit for traditional purposes, the conventional land use categories (residential, parkland, commercial, and industrial) were expanded to incorporate the traditional Inuit land use. The parameters of this land use are discussed in detail in Gartner Lee and Cantox (1998), and were developed after consultation with residents of the Eastern Arctic, the Quikiqtaaluk Corporation and DIAND.

The current assessment adopted the traditional land use for the FOX-C site, as set out by Gartner Lee and Cantox (1998). The traditional land use designation consists of Inuit families residing on the land, in tents for periods up to 3 months. It was assumed that during this period the Inuit engage in traditional hunting, fishing and gathering activities. It was also assumed that all time spent on site was in the non-snow covered months, which results in the most extensive exposure scenario for the human receptors. Detailed exposure values are discussed in Section 4.3, and in the Gartner Lee and Cantox report (1998).

Based on this land uses, the following conceptual models were developed:

Human Health

The conceptual model that forms the basis for the derivation of the human health soil quality site-specific threshold limits is as follows: