Traditional Site Use Scenario:

- A toddler aged six months to four years is exposed to surface soil contaminated with non-carcinogenic beryllium, copper, lead and the F3 TPH fraction by inadvertent ingestion / dermal contact / dust inhalation, water ingestion and dermal contact, and the ingestion of land foods (caribou, hare and fish);

- A person visits the site yearly from birth to 75 years of age and is exposed to beryllium, which is also a known carcinogen, by inadvertent ingestion / dermal contact / dust inhalation, water ingestion and dermal contact, and the ingestion of land foods (caribou, hare and Arctic charr) throughout their lifetime.

Ecological Health

The risks of exposure to contaminated soils were the focus of the ecological risk assessment (ERA). The potential exposure media for intake of metals included direct ingestion of soils, as well as metal uptake from eating terrestrial plant material, drinking water, ingesting terrestrial invertebrates, and terrestrial mammals. The major exposure pathway considered was ingestion. Inhalation and dermal absorption were also possible exposure pathways, but these were considered to be relatively minor by comparison to ingestion, and were not included as direct pathways in the ERA. Soil that adheres to fur or feathers is, for the most part, ingested by preening/licking activity and was included in the estimate of direct soil ingestion.

The receptors selected in the ERA are ermine, Arctic hare, ptarmigan, lemming, Snowy owl, Arctic Fox, and caribou. These receptors were considered to be representative of indigenous wildlife at the FOX-C site. Other valued ecosystem components (VECs) were considered for the sites (discussed in section 5.2.4) but these receptors were chosen to be protective of all VECs potentially on site.

Risk Characterization

The above-noted exposure scenarios were evaluated to identify the potential for adverse effects to human or ecological receptors, with the following outcomes:

- Surface soil maximums of the identified chemicals are not anticipated to produce adverse effects in human receptors under the exposure scenarios included in the risk assessment.

- Surface soil exposure point concentrations (EPCs) of the identified chemicals are not anticipated to produce adverse effects in ecological receptors under the exposure scenarios included in the risk assessment.

Because no human health risk was found using the maximum soils CoPC concentrations, Site specific target levels (SSTLs) were developed for each CoPC based on ecological health site-specific threshold limits developed in this risk assessment. The SSTLs were compared to current site conditions (EPCs and maximum concentrations).

Remediation

Specific localized areas have been identified as "hot spots" where concentrations of selected CoPCs were elevated. Even though, these areas do not pose a significant human or ecological risk, they were selected to be removed for aesthetic reasons as well as to remove any remaining and obvious soil stained/contaminated areas. These areas will be excavated and removed from contact of all receptors. The consequential removal of these selected areas resulted in drops of EPCs for human health for the top site (most contaminated) of 41% (PCBs), 92% (TPH F2 fraction), 90% (copper) and 86% (lead). The EPC for human health represents a drop in the maximum concentrations found on site. This resulted in a subsequent drop in the calculated total hazard quotients associated with the top site of 91% (TPH F2 fraction), 19% (copper) and 76% (lead).

4. 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

ᓴᓇᔪᓕᕆᔩᑦ ᒪᑉᐱᒃᑯᓐᓄᑦ ᐱᔨᑦᑎᕋᖅᑐᓕᕆᔩᑦ ᑲᓇᑕᒥ-ᐅᐊᓕᓂᕐᒥᐅᓄᑦ
ᐊᕙᑎᓕᕆᓂᕐᒧᑦ Fox-C ᓈᓚᒡᕕᐅᖃᑦᑕᖅᑐᕕᓂᖅ, ᐃᖃᓗᒐᖅ ᑕᓯᐅᔭᖓᓂ, ᕿᑭᖅᑖᓗᖓᒥ

ABC62725.3 ᐊᒃᑑᐸ 2004

ᒪᑐᓂᖓ

ᐅᓇ ᐅᓂᒃᑳᖅ ᓇᓗᓇᐃᖅᓯᖓᒪᑦ ᖃᓄᐃᓕᖓᓂᕆᔭᖓᓂᒃ ᐃᓄᖕᓄᑦ ᐊᒃᑐᖅᑕᐅᓚᐅᖅᑎᖕᓇᒍ ᓈᓚᒡᕕᐅᕕᓂᐅᔪᖅ Fox-C ᑕᑯᔭᖅᑐᖅᑕᐅᑎᓪᓗᒍ ᐊᒡᒍᓯ 26 ᐊᒻᒪ 27, 2004-ᖑᑎᓪᓗᒍ. ᐅᓂᒃᑳᒥ ᑕᕝᕙᓂ ᐆᒪᔪᐃᑦ ᓇᓗᓇᐃᖅᑕᐅᔪᑦ ᑕᑯᔭᕕᓂᐅᓂᖏᓐᓄᑦ ᑕᐃᑲᓃᓐᓂᑐᐊᖏᓐᓂ ᑕᑯᔭᐅᖃᑦᑕᓚᐅᖅᑐᓂᒃ ᐅᖃᖅᓯᒪᖕᒪᑕ ᑕᐅᕝᕙ ᐅᐸᑦᑕᐅᓯᒪᑲᐃᓐᓇᑐᐃᓐᓇᖅᑎᓪᓗᒍ ᐊᒻᒪᓗ ᑐᖓᐅᔾᔨᓯᒪᑐᐃᓐᓇᕆᐊᓕᒃ ᐱᓯᖅᑐᓂᒃ ᓄᓇᖁᓂᓗ ᑕᐃᑲᓃᑦᑐᓂᒃ, ᐊᖏᔪᓕᒫᑦ ᐃᓗᐊᓂ ᐱᑕᖃᖃᑦᑕᖅᑐᓂᐅᕙᓪᓗᐊᖅ. Fox-C ᓈᓚᒃᕕᕕᓂᖅ ᑕᐃᒪᓐᓇᓴᐃᓐᓇᐸᓘᔪᖅ ᕿᑭᖅᑖᓗᖓᒥ ᓄᓇᐅᔪᑦ ᑕᐃᒪᐃᓕᖓᑐᓯᖏᓐᓂ. ᓄᓇᖓᑕ ᖃᖓᓃᑦᑐᑦ Fox-C-ᒥ ᐊᔾᔨᒋᙱᑦᑐᕈᓘᔭᐅᑉ ᑕᒪᒃᑯᓄᖓ ᓱᕙᐃᔭᕐᕕᐅᓲᖑᓪᓗᓂ ᐊᒻᒪ ᐃᖃᓗᒐᕐᓂ ᐱᑕᖃᐅᓲᖑᓪᓗᓂ ᐃᖃᓗᒃᐱᒃᓴᓂ, ᐊᔾᔨᖏᙱᑦᑑᑕᐅᓪᓗᑎᒃᓗ ᐅᑭᐅᖅᑕᖅᑐᒥ ᐱᓯᖅᑐᐃᑦ ᓄᓇᖁᓪᓗ. ᖃᐅᔨᓴᐃᓐᓇᖅ ᐱᓕᕆᓂᐊᕐᑐᐊᖅᐸᑕ ᐃᒪᓕᕆᔭᕆᐊᖃᕐᓗᑎᒃ ᑲᒪᒋᔭᐅᓂᖃᕆᐊᖃᕐᓂᐊᖅᐳᑦ ᑕᒪᒃᑯᐊ ᐃᖃᓗᒃᐲᑦ ᐱᑕᖃᕐᓂᖏᓐᓂ ᒥᑭᑦᑐᓛᖃᕐᕕᐅᓲᖑᓂᖓᓄ ᑕᓯᕐᒥ ᓇᖑᓗᒃᑕᐅᓗᐊᕐᑲᓇᒥᑦ ᐱᓇᓱᒃᕕᐅᔭᕆᐊᖃᖅᓴᔭᖅᐳᑦ ᐊᒻᒪᓗ ᑎᓯᕝᕕᒥᖃᑦᑕᖅᑕᖏᑦ ᒪᔪᐊᓕᖅᖓᑕ ᐊᖅᑯᑎᒥᓲᖏᑦ ᐊᓯᔾᔨᖅᑕᐅᓗᐊᖅᑕᐃᓕᖓᒥᓪᓗᑎᒃ ᑰᑦ ᐃᖏᕐᕋᓂᖏᑦ ᑕᓯᓕᐊᕆᐊᕝᕕᖏᓪᓗ. ᐱᖓᓱᑦ ᐆᒪᔪᐃᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᓂᖅᐳᑦ ᐃᓱᓖᓗᓇᓚᒃᑐᒦᓐᓂᖏᓐᓄᑦ ᐆᒪᔪᐃᑦ ᐃᓱᓖᓗᓇᖅᑐᒦᑦᑐᑦ ᐱᑯᔭᖓᑕ ᐃᓗᐊᓂ ᐊᒻᒪᓗ ᑲᑎᒪᔨᖃᓪᓗᓄᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ ᐃᓱᓖᓗᓇᓚᐅᖅᓂᖏᓐᓂ ᑎᒃᑯᐊᖅᑕᐅᓯᒪᓪᓗᑎᒃ ᑲᓇᑕᒥ ᖃᐅᔨᒪᔭᐅᔪᑦ ᑕᐃᑯᖓᖃᑦᑕᕐᓂᖏᓐᓂ ᐊᖅᑯᓯᖅᓯᖃᑦᑕᕐᓂᖏᓐᓄᓐᓂᑦ Fox-C ᐃᓂᖓᓂ ᐅᕕᑯᓐᓃᑦ ᑕᐃᑲᓂᑲᐃᓐᓇᖃᑦᑎᔪᖏᑦᑐᑦ ᐊᖏᔫᑦ ᐃᓚᖓᓂ.

ᑰᒃᑐᖅ
ᖃᐅᒪᔪᓕᐅᑉ ᐃᒃᐱᐊᕐᔪᖓᓄᑦ
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Fox-C-ᒥ.

ᑕᒪᒃᑯᐊ ᐃᓕᓯᕐᓯᓐᓄᑦ ᓈᒻᒪᒃᑐᖅᓴᐅᖅᒪᑦ ᑭᖑᒻᒪᔭᕐᓯᓐᓄᑦ. ᓱᓕᔪᖅᓴᖅᑎᐊᖅᑐᓂ ᑐᓂᓯᔪᖅ,
ᔫᒃ ᕕᑰᐊᑦ ᓕᒥᑎᑦ
ᐊᑎᓕᐅᖅᑕᐅᔪᖅ ᓯᕗᓕᖅ ᐋᓕᕗ ᑯᕐᖃᐃᒧᑦ
ᐋᓕᕗ ᑯᕐᖃᐃ, BSc. (Hons.) ᐆᒪᔪᓕᕆᔨ
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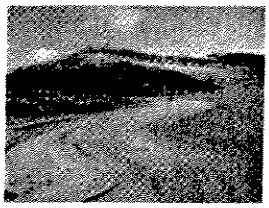
CLOSURE



Shoreline of freshwater lake.

This report describes the natural environment of the Fox-C site during a site visit on August 26 and 27, 2004. Species documented in this report are restricted to the time frame of the field investigation and may underestimate the flora and fauna which occupy the site during the year. The Fox-C DEW Line site is representative of arctic tundra regions located in the Arctic Cordillera of Baffin Island. Topography of the landscape at Fox-C is diverse creating many habitat niches for juvenile and adult Arctic Charr, and a variety of arctic flora and fauna. Any activities requiring in water works should be undertaken so as to minimize interaction with arctic charr in the freshwater lake and charr migrations in the river flowing from the freshwater lake. Three species having designations of Special Concern under the Species at Risk Act and The Committee on the Status of Endangered Wildlife in Canada are either known to occur at Fox-C or likely have distributions that would include areas of Fox-C during portions of the year.

River flowing towards Quarmaralik Cove showing topography of Fox-C.

We trust the above meets your present needs.

Respectfully Submitted,

JACQUES WHITFORD LIMITED

Original Signed By Oliver Curran

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Malcolm Stephenson, PhD.
Senior Reviewer

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

ᐊᖕᓕᕙᖅᑯᐅᑎᓄᑦ ᓇᐃᓪᓂᕆᐊᕐᓯᒪᕙᕐ

ᑖᓐᓇ ᐅᓂᒃᑳᓂᐊᖑᕙᕐ ᓇᓄᓇᐃᓇᖕᒪᑦ ᐱᓂᓇᐊᖑᓯᒪᕙᓂ ᐊᐅᕐᑕᐅᓚᐅᕐᑐᓂᒃ ᖃᐅᔨᒪᕐᑕᐅᓪᓗᓂ ᐱᑦᕐᑐᓄᑦ ᑳᖕᓕᕐᓱᕐᕕᐅᓗᓂ ᐱᑦᓲᕕᐅᕙᓐᓇᑦᑕᕋᔨᕐᒪᖕᖑᑦ ᐅᕐᓱᐊᓗᑦᕙᖅᑯᕐᓂᐅᕙᑦ ᑕᐅᕝᕙᓂ ᐃᖅᑲᓗᑲᐅᒃ ᑕᓯᐅᔭᖕᓂ. ᐃᖅᑲᓗᑲᐅᒃ ᑕᓯᐅᔭᖕ ᕿᑭᕐᑖᓗᒃ ᑲᓇᖕᓇᖕᖓᑕ ᓯᓈᓃᓪᒪᑦ, ᓄᓇᕗᒥ, ᑕᐃᑲᓂᓗ ᓈᓚᒃᕕᐅᖅᑯᑦᑲᐃᓐᓇᓚᐅᕐᓯᒪᕙᕐ ᖅᑲᒥᐅᒥᓂᕐᓄᑦ, /ᓂ<%ᕋᓄᓇᖕ ᑯᕕᕐᑦᕕᐅᓂᑰᕙᕐ ᐅᕐᓱᐊᓗᑦᕙᖕᓄᑦ ᓄᐊᑕᐅᓚᐅᕐᓯᒪᔅᑦ ᐱᖕᓲᕙᕐᑐᓄᑦ ᓂᓪᓂᓇᕐᑐᖅᑯᐅᑎᓄᑦ ᐊᐅᓪᓚᕐᑎᑕᐅᓪᓗᑎᓪᓗ ᖃᐅᔮᓴᕐᑕᕕᖕᔪᑦ ᕿᒥᕐᕋᒃᑕᐅᑦᑎᐊᒃᑳᓂᕐᓂᐊᕐᒪᑕ ᕿᕐᖑᒻᒥᓚᖅᕕᓂᖕᒥ ᑕᐃᑲᓂ ᑯᐃᓐᓯ ᕙᓂᔩᓯᑎᖕᑕ ᐃᓂᓐᓂᐊᕐᕕᓪᕙᐊᖕᓗᓂ, ᑭᖕᓯᑖ ᐊᓐᑎᐅᓇᕙᒥ. ᖃᐅᔨᓴᕐᕕᖕᖏᓐᓂ ᐱᖕᓲᓂᔭᐅᓚᐅᕐᐳᑦ ᐊᔾᔨᖏᑎᑦᑐᐃᑎᒃ ᐆᓇᕙᖕᓂᖏᑦ ᑦᕋ, ᓐ ᕋ-ᒦᑎᓪᓗᒋᑦ ᐊᒻᒪᓗ 18ᒥ. ᐆᒃᑯᕋᐅᑕᐅᕙᕐ ᓴᓇᓯᒪᓂᖕ ᖃᓄᐃᓂᑦᑕᕆᑎᖅᑯᕐᓂᖏᑦᑕ ᑕᐃᑲᓂ ᓄᓇᒥ ᐱᓯᕕᐅᓇᓲᒍᓐᓇᕐᑯᓪᓗᒋᑦ ᐆᒪᒃᓴᐃᓪᓗᑎᒃ ᐊᒻᒪᓗ ᑕᒪᒃᑯᐊ ᐆᒪᒍᑎᒃᓴᐃᑦ ᓄᒃᑭᒃᓴᕐᑕᐅᕙᓐᓇᕐᒪᖕᖑᑦ ᖃᐅᔨᓴᕐᑕᐅᓪᓗᑎᒃ ᓱᕐᓗ ᓂᐅᕐᓯᓗᑎᒃ ᐊᒻᒪᓗ ᓄᓇᖕ ᐃᒻᒥᓂᒃ ᓴᓗᒪᕐᓴᕆᓇᕐᒪᖕᖑᑦ. ᐃᓚᔭᐅᓚᐅᓇᖁᑦ ᐱᕐᓯᐊᑦ ᓂᕿᖏᓐᓂᒃ ᐊᒻᒪᓗ ᒧᒥᒃᑕᐅᖅᑦᑕᓇᓪᓗᑎᒃ ᖃᖕᓚᐅᓂᖕ ᐊᔾᔨᖅᑦᑕᖏᑦᑐᒥᒃ, ᑦᓂᓚᒪᐅᓂᕐᑐᑎᒃ ᐊᔾᔩᖏᖏᑦᑐᑦ ᐆᓇᕙᖕᓂᖏᑦ ᐊᒻᒪᓗ ᒧᒥᒃᑎᑕᐅᖅᑦᑕᕐᓂᖏᑦ. ᓂᓇᐅᓇᓚᐅᕐᒪᑦ ᑕᐃᒫᒃ ᐆᓇᕙᖕᓂᖕ ᐱᓪᓗᐊᑕᐅᓚᐅᕐᐳᕐ 18ᒥ ᐆᓇᕐᓂᓪᓂᒃ ᓱᒃᑲᓂᕐᓴᒥᒃ ᓴᓗᒪᕐᓴᐅᕐᓂᓪᓂᐊᓪᓗᓂ ᐅᕐᓱᐊᓗᑦᕙᖕᓂᑦ 8ᒥ 5ᒥᓗ ᐆᓇᓂᖅᑯᑦ ᓴᓂᐊᓐᓂ. ᑕᐃᒪᐃᒃᑲᓗᐊᕐᑎᓪᓗᒍ, ᑕᐃᒃᑯᐊ ᐆᓇᕙᓗᐊᖏᓐᓂᕐᓴᐃᑦ ᑕᐃᒫᒃᑕᐅᕐ ᓴᓗᒪᕐᓴᐃᓂᖅᑎᐊᓚᐅᓇᖁᑦ ᑕᐃᒫᓪᓗᐊᑎᒋᑦᑕᐅᕐ ᐅᓪᓗᑦ ᑎᓴᒪᑦᑦ ᒧᒥᒃᑕᐅᖅᑦᕐᑎᓪᓗᒍ ᐊᒻᒪᓗ ᐆᒪᒍᑎᒃᓴᑦ ᓄᒃᑭᒃᓴᐅᑎᖏᓐᓂ (ᐱᕐᓯᐊᑦ ᓂᕿᖏᓐᓂᑦ) ᐃᓪᓂᓇᔭᐅᖅᑦᑕᕐᑎᓪᓗᒍ. 5-ᒥ ᐆᓇᕙᓂᖅᑯᒥ, ᐱᓗᐊᕐᑯᒥᓂ, ᓂᐅᕐᑎᑕᐅᖅᑦᑕᓂᖕ ᐊᒃᓱᐊᓗᒃ ᐱᔐᓂᕐᓂᖅᑲᓚᐅᕐᐳᕐ ᐊᒻᒪᓗ ᑕᑯᒃᓴᐅᑎᐊᓚᐅᓇᖁᕐ ᐱᐅᓯᕙᓪᓂᐊᑦᑎᐊᕐᓂᖕ. ᑕᒪᒃᑯᐊ ᖃᐅᔨᒪᔪᑎᑦ ᐱᔭᐅᓚᐅᕐᐳᑦ ᖃᐅᔨᓴᕐᕕᖕᒥ ᖃᐅᔨᓴᕐᑕᐅᓂᖕᖓᓂ ᓇᓄᓇᐃᓇᖁᕐ ᑕᐃᑲᓂ ᓄᓇᒥ ᐱᕐᑯᐱᕙᖕᓂ ᐱᕐᑎᑦᑎᕙᓪᓂᐊᓂᕐ ᐃᖅᑲᓗᑲᐅᒃ ᑕᓯᐅᔭᖕ ᐊᐅᓚᒃᓴᐅᑎᐊᕐᒪᑦ ᐊᒻᒪᓗ ᐅᕐᓱᐊᓗᒥᑦᑦᓂᑯᐱᕙᐃᑦ ᓱᐱᕐᑕᐅᓂᑯᓪᓗ ᑕᐅᕝᕙᓂ ᓴᓗᒪᕐᑕᐅᕙᓪᓂᐊᕙᓇᕐᓂᖏᓐᓂ. ᐃᓱᒪᓂᐅᐳᑕᐅᕈᕐ ᐊᐅᓂᖁᔭᐅᓪᓗᓂᓗ ᑕᐃᑲᓂ ᓄᓇᒥ ᐱᕐᑯᓂᒃ ᐱᕐᓲᖁᓪᓗᒋᑦ ᐊᑭᖕᒥᐅᕕᐅᓂᓪᓂᐊᑦᖏᓐᓂ, ᐳᕐᑯᓗᐊᖏᑦᑐᒥᓗ ᐊᒻᒪᓗ ᓂᒥᖕᒍᑦ ᓵᖕᓗᓂ. ᐱᕐᓯᐊᑦ ᓂᕿᖏᓐᓂ ᐃᓂᓯᕕᐅᖅᑦᑕᕐᓗᑎᒃ ᐊᒻᒪᓗ ᓄᓇᖕ ᐱᕐᓲᕕᒥᔭᐅᕙᕐ ᓯᕐᓚᕐ ᒧᒥᒃᑕᐅᓚᖅᑦᑕᕐᓗᓂ ᖃᐅᑕᒫᑦ. ᖃᐅᔨᓴᕐᕕᖕᒥ ᖃᐅᔨᓴᕐᓂᐅᓚᐅᕐᐳᑦ ᐊᐅᕐᓗᒋᑦ ᓱᕐᑯᐃᓇᕋᓗᐊᕐᑎᓪᓗᒍ ᓄᓇᐅᑉ ᐃᓗᐊᓂ ᖄᖕᓂᓗ ᓱᕐᑎᕐᓯᒪᕙᑦ ᐅᕐᓱᐊᓗᒥᑦᑦᕐᓯᒪᕙᓪᓗ ᐅᓪᓗᑦ 100 ᐃᓗᐊᓂ ᑕᒪᐃᑦᑯᖅᑯᕐᓃᕐᓇᕐᓂᖏᓐᓂ, ᑕᒪᒃᑯᐊ ᓄᓇᐅᑉ ᑕᐅᕙᑦᓱᒪ ᖃᓄᐃᓐᓂᖏᑦ ᐃᓱᒪᒋᓪᓗᒋᑦ ᓱᕐᓗ ᓯᕐᒥᒥᒃ ᖃᓂᒃᓴᕐᓂᖕ ᑕᐅᕙᓂ ᐅᐊᖕᓇᖕᖕᓂ ᐃᓱᒪᒋᔭᐅᖕᒪᑦ ᐃᓪᒪᖅ ᓱᑲᐃᓐᓂᖅᓴᐅᕙᑕᐅᓂᐊᓇᐊᒃᓴᖕᓂ ᓄᓇᖕᖓᑕ ᓴᓗᒪᖅᐸᓪᓂᐊᓂᒃᓴᖕᖓᑕ. ᓱᖅᑲᐃᓪᒪ ᑕᒪᒃᑯᐊ ᐱᔭᐅᓚᐅᕐᑎᓪᓗᒋᑦ ᑰᓪᕕᐅᓗᑎᒃ ᒪᓴᕆᕙᖕᒍᓪᓗ ᐊᐅᕈᓐᓃᕐᑎᑕᐅᕆᕙᐅᐃᓐᓇᓇᐊᖅᑯᕐᓂᖏᓐᓄᑦ ᑕᒪᒃᑯᐊ ᓄᒃᑭᒍᑎᒃᓴᐅᑎᑕᐅᓇᓱᒃᑯᑦ ᐱᕐᑯᓄᑦ ᓱᐸᓂᑭᐊᖑᓂᕐᓇᕐᓂᖏᓐᓄᑦ, ᓄᓇᒥ ᑕᒪᐃᓂᐅᕐᕕᐅᓂᐊᕐᑯᒥᑦ ᐱᕆᐊᕐᕕᐅᑎᐊᕐᓇᕐᑯᒥᒃ ᓇᓂᓯᑎᐊᓚᐅᕐᑎᓪᓗᒋᑦ ᑭᓯᐊᓂ ᑕᒫᓐᓇ ᑲᕙᓯᑎᑕᐅᓪᓗᐊᕐᓂᐊᕐᐳᕐ.

EXECUTIVE SUMMARY

This report describes the work carried out to investigate the potential for landfarming the diesel contaminated soils at Ekalugad Fjord. Ekalugad Fjord is situated on the east coast of Baffin Island, Nunavut, and was the site of an intermediate DEW Line station, FOX-C. Diesel contaminated soils were collected in 6 coolers and transported to the Analytical Services Unit laboratory at Queen's University in Kingston, Ontario. Laboratory studies were set up at three different temperatures, 5 °C, 8 °C and 18 °C. The experimental design of the reactors attempted to simulate a landfarm and in particular looked at the contributions of aeration and bioremediation. The addition of fertilizer and the frequency of rotation were varied, resulting in five different soil treatments at the three temperatures. As was expected temperature was an important factor with the reactors at 18 °C remediating more diesel than the 8 °C or the 5 °C. However, at the colder temperatures the soils were successfully remediated with a rotation frequency of 4 days and the addition of fertilizer. At 5 °C, in particular, aeration improved results and clear evidence of bioremediation was observed. The data from the laboratory experiments indicate that landfarming at Ekalugad Fjord does have the potential to successfully remediate the diesel contaminated soils. It is recommended that the landfarm be set up in the warmest possible location, at low elevation and south facing. Fertilizer should be added and the landfarm tilled daily. Although the laboratory experiments indicate that the TPH concentration of the soil can be substantially reduced in approximately 100 days, field conditions such as the proximity of a glacier at this northern site are expected to reduce the rate of TPH remediation. Given the potential for washout of the soils, the landfarm should only proceed if an appropriate location can be found.