Spill Contingency Plan
Iqaluit Airport Metal Dump Remediation
Iqaluit, Nunavut

Prepared By:
Transport Canada

March 2011

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i Preamble

This spill contingency plan has been developed based on the requirements to submit a water license application to the Nunavut Water Board. The spill response plan has been developed based on the following documents and guidelines and will accompany the spill response plan as a working document on site at all times:

1) *Environmental Protection Act*, Spill Contingency Planning and Reporting Regulations R-068-93, Government of Northwest Territories, 1990.
2) Contingency Planning and Spill Reporting in Nunavut, A Guide to the New Regulations
3) Guidelines for Spill Contingency Planning, Water Resources Division Indian and Northern Affairs Canada, 2007.
4) NT-NU Spill Report Form

There is no storage of any petroleum products or hazardous materials at this site. The spill plan has been developed for the following potential spills occurring at the project location:

- Heavy equipment working at the site. Heavy equipment may include a backhoe, dump truck, grater, bulldozer, crane, packer, and loader. Heavy equipment operators are required to have their equipment properly maintained without any leaks. No refuelling of equipment is allowed on site. Refuelling will only be allowed in a staging area away from the project location. The use of drip pans will be mandatory when refuelling vehicles;
- Equipment spilling fuel if a rollover is encountered, and;
- The potential of encountering materials such as fuels (gas/diesel), oil, antifreeze and batteries when removing derelict vehicles at the site.

Operators are required to have 2 (two) 50 gallon spill kits on site with them at all times. Operators will also have the spill plan containing contacts and procedures for emergencies such as hospitals, fire department, police and territorial governmental department; environmental spills **24-hour reporting phone number (867) 920-8130**. Should a release of fuel from the equipment occur, the contractor is required to make use of the 50 gallon spill kit on site. All spills are required to be reported regardless of volume to the Spill Inspector at (867) 975-4295.

1.0) Introduction and Project Details

i) Company Details

Transport Canada has applied for a water license to the Nunavut Water Board to remediate the landfill/metal dump site at the Iqaluit Airport, Nunavut.

Contact information:

Project Manager
Transport Canada
Prairie and Northern Region
Darryl Pederson, Superintendent Contaminated Sites
1100, 9700 Jasper Avenue
Edmonton, Alberta T5J 4E6
(780) 495-6046

24-Hour Spill Reporting:	**(867) 920-8130**
INAC's Spill Inspector:	**(867) 975-4295**
Ambulance:	**(867) 979-4422**
Fire Department:	**(867) 979-4422**
Hospital Emergency Room:	**(867) 979-4422**
Police Department:	**(867) 979-1111**

ii) Effective Date of Plan

Effective date for of spill contingency plan is March 14, 2011.

iii) Last Revisions to Plan

Last revisions to the spill contingency plan will be required when a contractor is awarded the contract.

iv) Distribution of Plan

Distribution of the plan has been sent to NWB for distribution and comments to other federal, territorial governments.

v) Purpose and Scope of Plan

The purpose of this plan is to outline response actions for potential spills of appropriate sizes including worst case scenario. The plan identifies key responsibilities in the event of a spill, as well as equipment and other recourses available to respond to a spill. As previously mentioned, no storage tanks and hazardous materials are stored on site. No refuelling equipment is allowed on site other than a

staging area away from the work site. The scope of the plan, therefore, addresses the equipment on site potentially releasing fuel. This includes a backhoe, grater, loader, bulldozer, crane and dump truck and the removal of abandoned vehicles. The source of potential spills could result from the following:

i) Equipment leaking;
ii) Equipment roll over;
iii) Refuelling at designating staging area;
iv) Encounter batteries, fuels (gas/diesel) and antifreeze when removing derelict vehicles.

vi) Environmental Policy

Transport Canada must adhere to all federal legislation and territorial requirements.

vii) Site Description

The project area is located at the West 40 area on the boarder of Sylvia Grinnell Park, 1.7 km southwest of the City of Iqaluit. Originally this area was at the end of a crosswind runway for the airport. The USAF used this site between 1955 to 1963 as a metal dump for vehicles, truck bodies, barrels and scrap metal. The majority of the materials were deposited in 1963 when the US Military left Frobisher Bay (now known as Iqaluit). Shops, buildings and other materials were simply bulldozed over the cliff. The cliff is a bedrock outcrop rising 50 meters above the tidal area where the Sylvia Grinnell River meets Frobisher Bay. The area to the north of the slope was used by the USAF and the community of Iqaluit as a landfill site for household garbage until sometime in the 1970's.

The major concern associated with landfills is the production and release of contaminates in landfill leachate that can result in significant surface water contamination. Leachate can contain petroleum products, paints, household chemicals, solvents, glues and inks.

viii) Project Description

The project details will consist of off-site recycling of selected metal debris that can be accessed. Surface waste material would be consolidated and placed on the main slope, extending down the toe of the slope. Waste material would be placed on the main slope as per specifications by a qualified professional to ensure a stable slope with an acceptable factor for safety. Exposed waste would be covered with a geotextile and available fill material. The solid waste landfill should

be shaped so that overland drainage is properly managed and surface water is directed away form the landfill. Long term monitoring will also be required to ensure the remediation targets are working to the designed specifications. This is the only viable option due to the location and type of contamination that exists. The maximum amount of material will be removed and recycled while any additional material will be managed to eliminate exposure to the environment.

Schedule

2011-2012
The schedule for the 2011-2012 phase of this project will be to:

- Recovery and consolidation of hazardous and non-hazardous waste;
- Recovery of metal debris;
- Focus on surface water treatment;

2012-2013
The schedule for the 2012-2013 phase of this project will be to:

- Off site disposal of non-hazardous waste (including metal debris)
- Off site disposal of hazardous waste (asbestos, batteries, chemicals, PCBs, DDT) and landscaping, closure of the landfill;

2013-2014
The schedule for the 2013-2014 phase of this project will be to:

- Focus on surface water treatment at (Remedial Systems Implementation) and site monitoring;

2014-2015
The schedule for the 2014-2015 phase of this project will be to:
Focus on site monitoring and closure of the landfill

ix) List of Hazardous Materials Stored on Site

No hazardous materials are stored on site.

x) Existing Preventative Measures (Secondary Containment /Fuel Handling)

No hazardous materials and fuel storage tanks are stored on site. In addition, no refuelling is allowed on site other than the designated staging area. Drip pans will be required when refueling away from the constuction site at the staging area.

xi) Additional Copies – How to Obtain

Several copies of the plan are kept on-site with the contractor and the Transport Canada Project Officer while on site.

Contact Transport Canada at:

Project Manager
Transport Canada
Prairie and Northern Region
Darryl Pederson, Superintendent Contaminated Sites
1100, 9700 Jasper Avenue
Edmonton, Alberta T5J 4E6
(780) 495-6046

xii) Process for Staff Response to Media and Public

The process for enquiries is to contact Transport Canada Communications at:

Glyniss Hutchings
Communications
Transport Canada
344 Edmonton Street
Winnipeg, Manitoba
R3C 0P6
(204) 984-2256

2.0) Action Plan

i) Potential Spill Size/Impacts/Procedures/Reporting/Restoration

- Potential spill sizes would likely not exceed 50 gallons of diesel/gas or antifreeze. This is based on the size of fuel tanks in equipment and derelict vehicles at the site. The potential of a piece of equipment to tip over would also be a source of the fuel, the area would be small due to the limited amount of fuel stored in the equipment.

  The procedure for initial action is to ensure the safety of the operator and safe extraction and remove all source of ignition. Once this is complete, the equipment will need to be assessed if fuel is leaking and take appropriate action to prevent and stop all

fuel leaking. Once this is completed the spill can be assessed and the spill response kit may be used to absorb any free product. If fuel entered into the soil, this may be removed and placed into the Transport Canada owned and operated land farm licensed under the NWB (License # 1BR-LTU1013). The contractor on site will be required to enact and respond to the spill. If the spill kit absorbent pad/socks are used, they may be placed back into the spill kit container for later disposal at a licensed facility in Iqaluit.

Spill reporting consists of completing the attached NT-NU Spill Report form in Appendix II and submitting it to Government of Nunavut. Reporting should also consist of contacting the INAC's Manager of Field Operations pursuant to Schedule B of the Spill Contingency Planning and Reporting Regulations at (867) 975-4295 or by fax at (867) 979-6445. Spill reporting will be the responsibility of the contractor working on site. If batteries are encountered they will be collected and containerized. They will then be shipped outside of Nunavut for recyclying.

- The second form of spills may result from removing the derelict vehicles. The stockpile of vehicles create an unsafe condition to remove any fluid that may remain within them. Therefore, once the vehicles can be removed, they can be placed in a safe location to be inspected for fluids. In the event of a spill, the following procedures should be considered:

a. First consider and then remove or minimize any hazards to human life, health, safety or the environment.
b. Take necessary steps to initially contain or prevent the spread of the spill.
c. Try to identify and stop the source of the spill or leak.
d. Collect liquids through the use of such equipment as absorbent pads.
e. Immediately, collect and transport any contaminated soil resulting from the spill to the LTU for treatment.
f. Send for help if required.
g. Report the spill to the INAC Spill Inspector and complete the NT-NU Spill Report Form (attached).
h. Complete the collection and disposal of contaminated materials as per direction from the regulatory agencies and applicable regulations.

The facility will have monitoring wells installed to identify if there is any contamination leaking from the facility. The wells are tested once per

year at a minimum. If fuel is identified in a well the following steps will be implemented:

- Sample the well and identify the contamination from a certified lab
- Identify the location where the potential contamination is originating
- The likely location will be from the LTU, therefore, limit the search to the area nearest to the monitoring well
- Sample soil outside the facility to identify the direction of the source of contamination
- Inspect the liner for any rips and tears
- Remove the contaminate soil from the LTU up gradient from the well. The soil can be placed further back in the LTU or if required place in the adjacent LTU. Inspect the liner for any rips and tears. Continue until the source can be identified. In the event of a tear in the liner, a proper weld/patch will be completed according to the manufacture specifications.
- If contaminated soil is identified outside the facility, remove and place into the LTU and backfill the excavation with clean fill material.
- Continue to sample monitoring wells 2-3 times per year to ensure the source of contamination has been eliminated

If the sump area is full of water and is required to be removed due to a wet season, the following steps are in place:

- Test the water to ensure the water may be discharged as per the requirements in the water license issued by NWB
- If the water does not meet the required discharge levels the water will need to be treated with in an oil water separator. The system will operate to treat the water prior to discharge. The water will be treated then sampled and sent to a certified lab to ensure it meets the discharge requirements under the water license. Only if it meets this requirement may it be discharged.
- If an oil water separator is not sufficient to treat the water, the water will be pumped into 205L drums and sent to an approved and certified facility to treat the contaminated water.
- Any discharge from the sump in the LTU to the environment must meet the following Effluent quality limits as described in the water license Section D Part 4:

Parameter	Maximum Concentration of any Grab Sample (ug/L)
PH	6 to 9 (pH units)
Oil and Grease	5000
Arsenic (total)	100
Cadmium (dissolved)	10
Chromium (dissolved)	100

Cobalt (dissolved)	50
Copper (dissolved)	200
Lead (dissolved)	1
Mercury (dissolved)	0.6
Nickel (dissolved)	200
PCB (dissolved)	1000
Phenols	20
Zinc (total)	500
Benzene	370
Toluene	2
Ethyl benzene	90

3.0) Resource Inventory

Two (2) 50-gallon spill kits will be on site at a designated location adjacent to the work area. The 50 – gallon universal sorbent spill kit is an appropriate size due to the volumes of fuel in the equipment. The contents of the spill kit include:

a. 10 socks
b. 100 pads
c. 8 pillows
d. 1 drain cover
e. 1 caution tape
f. 2 pairs nitrile gloves
g. 2 pairs safety goggles
h. 2 protective coveralls
i. 10 disposable bags
j. 1 instruction book

In addition, earth moving equipment located at the site may be required to clean the small spill such as:

1) Small backhoe
2) Dump truck

4.0) Training Program

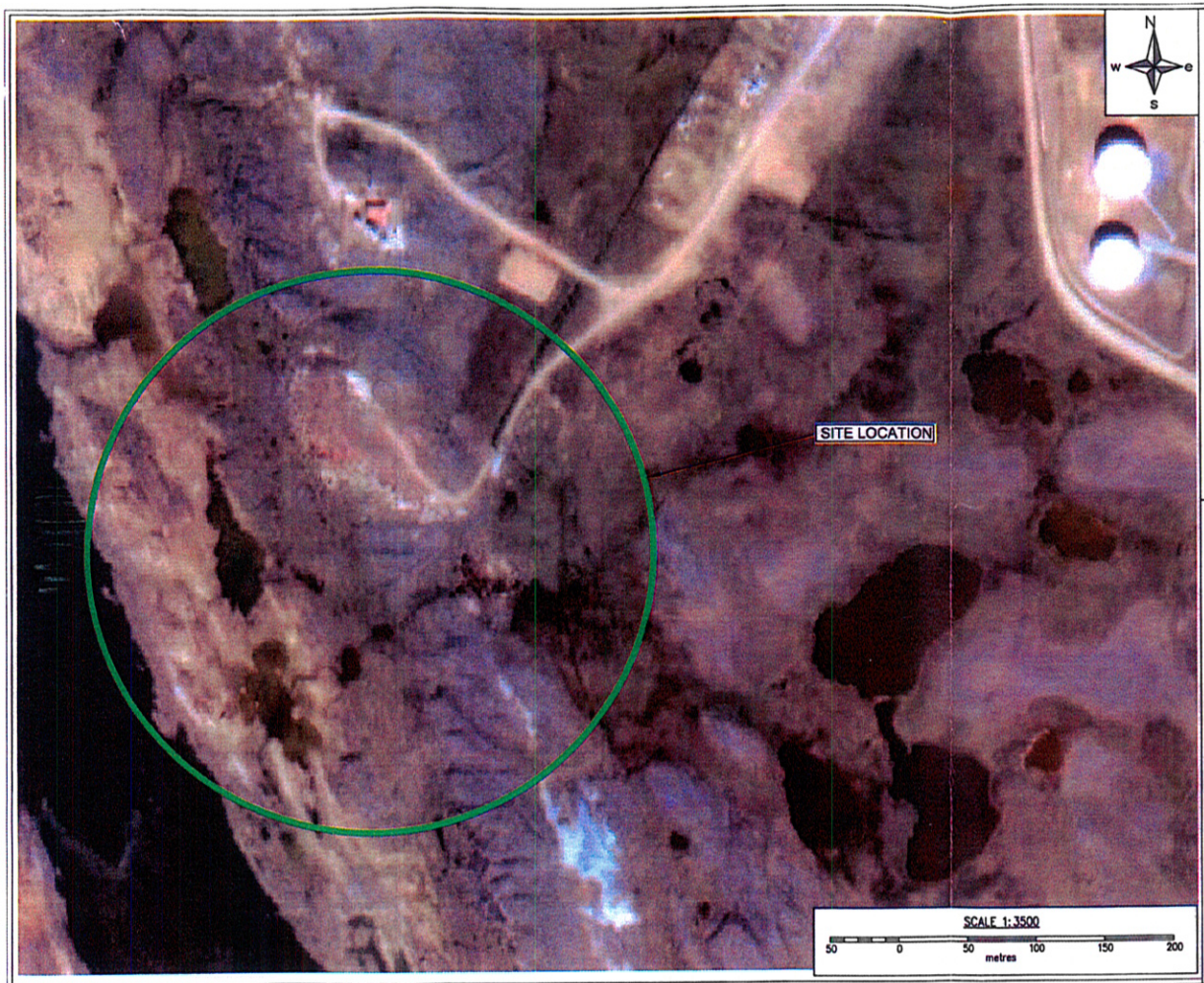
All individuals entering the site are required to participate in an orientation session. The session includes responding to a spill and the steps involved including proper use of the spill kit, contact information and how to fill out the proper spill report sheet (attached). During the session, all locations of the

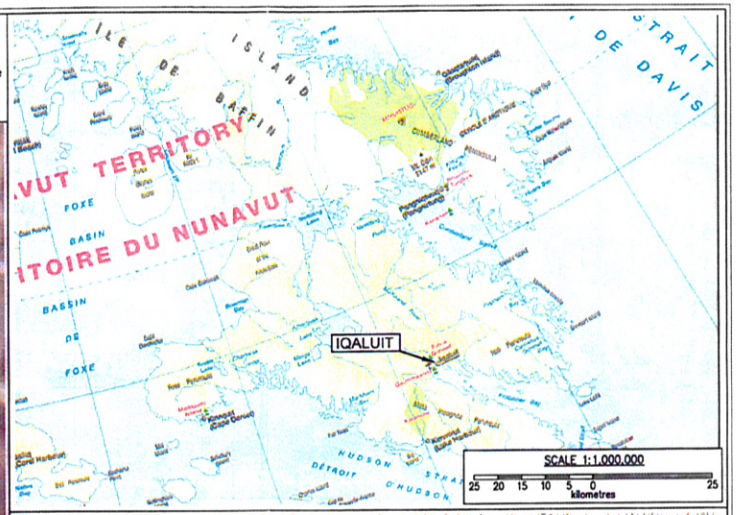
spill plan and spill kits are provided and a copy of the spill plan will remain with the contractor and operators. All contractors are required to have basic first aid training as well as WHIMS training prior to working on site.

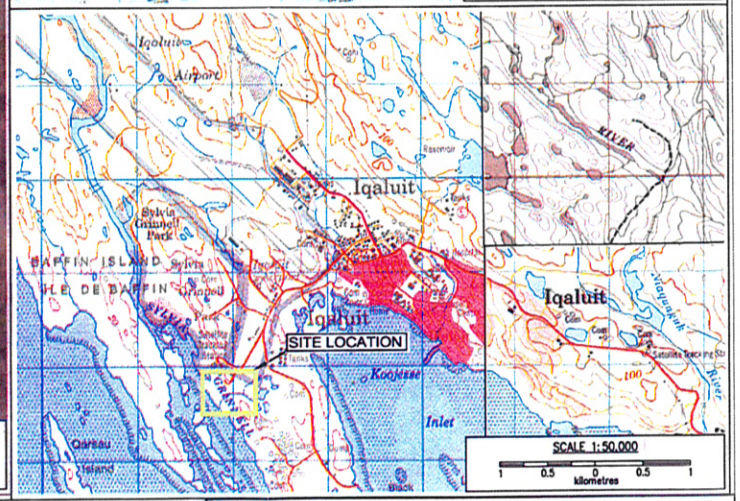
APPENDIX I

FIGURES

1) Location Iqaluit Metal Dump
2) Contour Map Location of Iqaluit Metal Dump







References:

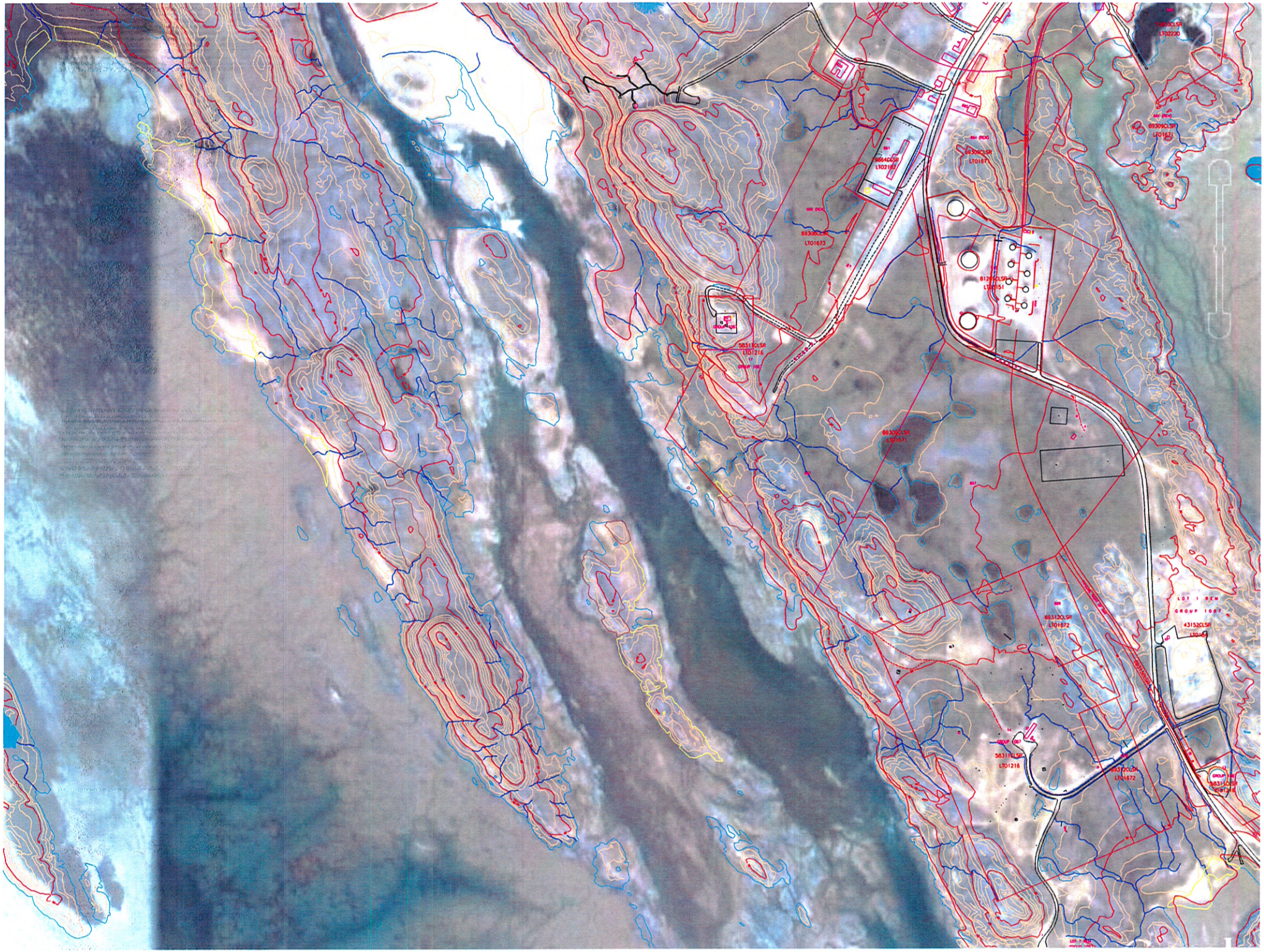
(above) Google Earth satellite image, 2008.

(upper right) "*Canada Road Map*", MapArt Publishing, 2003.

(lower right, composite)
Natural Resources Canada NTS Sheet: 25-N/9 Burton Bay, Nunavut, Edition 3, NAD 83, Series A 713, 2001.
Natural Resources Canada NTS Sheet: 25-N/10 Hill Island, Nunavut, Edition 2, NAD 83, Series A 713, 2001.
Natural Resources Canada NTS Sheet: 25-N/15 Iqaluit, Nunavut, Edition 2, NAD 83, Series A 713, 2001.
Natural Resources Canada NTS Sheet: 25-N/16 [No Title] Nunavut, Edition 2, NAD 83, Series A 701, 2001.
(Note: ground elevations shown in metres above mean sea level).

Title: SITE LOCATION	
FRANZ ENVIRONMENTAL INC.	Project: IQALUIT DUMP SITE IQALUIT, NU
Date: FEBRUARY 2009	Client: TRANSPORT CANADA
SCALES AS SHOWN	FIGURE 1

Z:\Projects\2008\1584-0801 TC Iqaluit dump\Figures


LOT 1 PCH
GROUP 1067
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LT01672
693312CLSR
LT01672
693309CLSR
LT01671
693306CLSR
LT01671
693303CLSR
LT01671
5831TCLSR
LT01216
812CLSR
LT01151
5664CLSR
LT02180
693309CLSR
LT02220

Appendix II

NT-NU Spill Report Form

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE
TEL: (867) 920-8130
FAX: (867) 873-6924
EMAIL: spills@gov.nt.ca

				REPORT LINE USE ONLY
A	REPORT DATE: MONTH – DAY – YEAR	REPORT TIME	☐ ORIGINAL SPILL REPORT, OR	REPORT NUMBER
B	OCCURRENCE DATE: MONTH – DAY – YEAR	OCCURRENCE TIME	☐ UPDATE # TO THE ORIGINAL SPILL REPORT	-
C	LAND USE PERMIT NUMBER (IF APPLICABLE)	WATER LICENCE NUMBER (IF APPLICABLE)		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM THE NAMED LOCATION	REGION ☐ NWT ☐ NUNAVUT ☐ ADJACENT JURISDICTION OR		
E	LATITUDE DEGREES MINUTES SECONDS	LONGITUDE DEGREES MINUTES SECONDS		
F	RESPONSIBLE PARTY OR VESSEL NAME	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION		
G	ANY CONTRACTOR INVOLVED	CONTRACTOR ADDRESS OR OFFICE LOCATION		
H	PRODUCT SPILLED	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER	
	SECOND PRODUCT SPILLED (IF APPLICABLE)	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER	
I	SPILL SOURCE	SPILL CAUSE	AREA OF CONTAMINATION IN SQUARE METRES	
J	FACTORS AFFECTING SPILL OR RECOVERY	DESCRIBE ANY ASSISTANCE REQUIRED	HAZARDS TO PERSONS, PROPERTY OR ENVIRONMENT	
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS			

L	REPORTED TO SPILL LINE BY	POSITION	EMPLOYER	LOCATION CALLING FROM	TELEPHONE
M	ANY ALTERNATE CONTACT	POSITION	EMPLOYER	ALTERNATE CONTACT LOCATION	ALTERNATE TELEPHONE

REPORT LINE USE ONLY

N	RECEIVED AT SPILL LINE BY	POSITION **Station operator**	EMPLOYER	LOCATION CALLED **Yellowknife, NT**	REPORT LINE NUMBER **(867) 920-8130**

LEAD AGENCY ☐ EC ☐ CCG ☐ GNWT ☐ GN ☐ ILA ☐ INAC ☐ NEB ☐ TC	SIGNIFICANCE ☐ MINOR ☐ MAJOR ☐ UNKNOWN	FILE STATUS ☐ OPEN ☐ CLOSED

AGENCY	CONTACT NAME	CONTACT TIME	REMARKS
LEAD AGENCY			
FIRST SUPPORT AGENCY			
SECOND SUPPORT AGENCY			
THIRD SUPPORT AGENCY			