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NUNAVUT IMALIRIYIN KATIMAYINGI
NUNAVUT WATER BOARD
OFFICE DES EAUX DU NUNAVUT

WATER LICENCE
SCHEDULE III - APPLICATION FORM

Application for: (check one)

☐ **New** ☐ **Renewal** ☑ **Amendment** ☐ **Assignment** ☐ **Cancellation**

LICENCE NO:
(for NWB use only)

1. NAME AND MAILING ADDRESS OF APPLICANT/LICENSEE

Christopher Aguirre, Environmental Officer
Transport Canada
3rd Floor, 344 Edmonton Street
P.O. Box 8550
Winnipeg, MB
R3C 0P6

Phone: (204) 984-2615
Fax: (204) 984-5048
e-mail: christopher.aguirre@tc.gc.ca

Contaminated Project Manager
Mike Molinski, Environmental Officer
Transport Canada
3rd Floor, 344 Edmonton Street
P.O. Box 8550
Winnipeg, MB
R3C 0P6

Phone: (204) 984-0440
Fax: (204) 984-5048
e-mail: michael.molinski@tc.gc.ca

2. ADDRESS OF CORPORATE OFFICE IN CANADA (if applicable)

Transport Canada
344 Edmonton St.
Wpg, MB R3C 0P6

Phone: ______________________
Fax: ______________________
e-mail: ______________________

3. LOCATION OF UNDERTAKING (describe and attach a topographical map, indicating the main components of the Undertaking)

Transport Canada—Environmental Affairs, Prairie & Northern Region is proposing to conduct an Environmental Site Assessment (ESA) Phase III remediation at the Iqaluit Airport Metal Dump, Nunavut.

Latitude: (63°44'14.12"N) Longitude: (68°33'22.77"W)
NTS Map Sheet No. Scale:

4. DESCRIPTION OF UNDERTAKING (attach plans and drawings)

The purpose of the project is to complete the environmental cleanup of the Iqaluit Airport Metal Dump. The main components of the cleanup include the following:

- Construct and Prepare Landfill Area
- Remove Upper Vehicle Dump Scrap and Drain Residual Fluids
- Crush, Cut, Stockpile Upper Vehicle Dump Scrap
- Place and Compact debris (crushed and cut) in Landfill Area
- Cover Landfill Area with Fill/Cover Material
- Construct Diversion/Interceptor Trench at Top of Site
- Confirmatory Environmental Sampling around Vehicle area
- Build Access Ramp/Road to Base of Dump
- Collect Loose Debris from Gullies and Slope Face
- Collect Loose Debris from Base of Slope
- Collect barrels from Base of Dump and Crush
- Place and Compact debris (crushed and cut) in Landfill Area
- Cover Landfill Area with Fill/Cover Material
- Confirmatory Environmental Sampling around Barrel Areas
- Placement of Fill Material on Dump Slope and Stabilize
- Re-vegetate Slope Areas

*(refer to attached documents for further deatails: *Executive Summary*)

5. TYPE OF PRIMARY UNDERTAKING (A supplementary questionnaire **must** be submitted with the application for undertakings listed in **"bold"**)

☐ **Industrial**
☐ **Mining and Milling**(includes exploration/drilling)
☐ **Municipal** (includes camps/lodges)
☐ Power
☐ Agricultural
☑ Conservation
☐ Recreational
☑ **Miscellaneous** (describe below):
Environmental clean up please see Project Description.

See Schedule II of *Northwest Territories Waters Regulations* for Description of Undertakings

6. WATER USE

☐ To obtain water
☐ To cross a watercourse
☐ To modify the bed or bank of a watercourse
☐ Flood control
☐ To divert a watercourse
☐ To alter the flow of , or store, water

☑ Other (describe): No water to be used

7. QUANTITY OF WATER INVOLVED (cubic metres per day including both quantity to be used and quality to be returned to source)

Water use ☐ 100m^3/day or less
☐ Greater than 100m^3/day; if greater, indicate quantities to be used for each purpose (camp, drilling, etc.)

Water returned to source
Zero m^3/day

8. **WASTE** (for each type of waste describe: composition, quantity (cubic metres per day), methods of treatment and disposal, etc.)

☐ Sewage	☐ Waste oil
☑ Solid Waste	☐ Greywater
☑ Hazardous	☐ Sludges
☑ Bulky Items/Scrap Metal	☐ Other describe):_____

*(refer to attached documents for further deatails: Field Report - Phase III Environmental Site Assessment Vehicle Dump and Community Landfill, Iqaluit, Nunavut)

9. **OTHER PERSONS OR PROPERTIES AFFECTED BY THIS UNDERTAKING** (give name, mailing address and location; attach if necessary)

Land Use Permit

DIAND	☐ Yes	☑ No	If no, date expected _____
Regional Inuit Association	☐ Yes	☑ No	If no, date expected _____
Commissioner	☐ Yes	☑ No	If no, date expected _____

10. **PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION MEASURES** (direct, indirect, cumulative impacts, etc.)

NIRB Screening ☑ Yes ☐ No If no, date expected _____

The Project Description will be submitted to NIRB, and is attached to the application. The Project Description provides the details of the proposed construction, potential environmental impacts and proposed mitigation measures.

11. **INUIT WATER RIGHTS**

Will the project or activity substantially affect the quality, quantity, or flow of water flowing through Inuit Owned Lands and the rights of Inuit under Article 20 of the Nunavut Land Claims Agreement?

NO

If yes, has the applicant entered into an agreement with the Designated Inuit organization to pay compensation for any loss or damage that may be caused by the alteration. If no compensation agreement has been made, how will compensation be determined?

N/A

12. **CONTRACTORS AND SUB-CONTRACTORS** (name, address and functions)

The contract for the clean up work has not yet been awarded. Therefore, the names, addresses and functions of the contractors and subcontractors involved in the clean up of the Iqaluit Airport Metal Dump site are not available at this time.

13. **STUDIES UNDERTAKEN TO DATE** (list and attach copies of studies, reports, research, etc.)

- Franz Environmental Inc. Phase III ESA Vehicle Dump and Community Landfill, January 2010
- Franz Environmental Inc. Phase I/II ESA Vehicle Dump and Community Landfill, February 2009

14. THE FOLLOWING DOCUMENTS MUST BE INCLUDED WITH THE APPLICATION FOR THE REGULATORY PROCESS TO BEGIN

Supplementary Questionnaire (where applicable: see section 5) ☑ Yes ☐ No If no, date expected _____

Inuktitut and/or Innuinaqtun/English Summary of Project ☑ Yes ☐ No If no, date expected _____

Application fee of $30.00 (Payee Receiver General for Canada) ☐ Yes ☑ No If no, date expected _____

Water Use fee of $30.00 (unless otherwise indicated in Section 9 of the *NWT Waters Regulations;* Payee Receiver General for Canada)

☐ Yes ☐ No If no, date expected _____

15. PROPOSED TIME SCHEDULE (unless otherwise indicated, the NWB will consider the application for a five (5) year term)

☐ one year or less (or) ☑ Multi Year

Start Date: June 2011 Completion Date: December 2016

Christopher Aguirre	**Environmental Officer**		**Nov.10 2010**
Name (Print)	**Title (Print)**	**Signature**	**Date**

For Nunavut Water Board office use only

APPLICATION FEE **Amount: $_____** **Pay ID No.: _____**

WATER USE DEPOSIT **Amount: $_____** **Pay ID No.: _____**

Iqaluit Metal Dump Remediation and Risk Management Project
Iqaluit Airport, Iqaluit, Nunavut
Executive Summary

The Iqaluit Vehicle Dump and Community Landfill is situated approximately 1.7 km southwest of the city of Iqaluit, Nunavut. Universal Transverse Mercator (UTM) co-ordinates taken from the center of the site are E521904.94, N7067812.69. Only the top section of the site is accessible by road. The site is located adjacent to Sylvia Grinnell Territorial Park.

The total area of the Landfill and Vehicle dump occupies an area of approximately 7.25 ha (72,500 m^2), which includes the up-gradient debris area. The area has been used as a military and municipal landfill since the late 1950's to early 1960's.

The United States Air Force (USAF) used this site from between 1955 to 1963 as a metal dump for vehicles, truck bodies, barrels and scrap metal. The majority of materials were deposited in 1963 when the US Military left Frobisher Bay. Shops, buildings, and other materials were simply bulldozed over the cliff. The cliff is a bedrock outcrop rising approximately 50 m above the tidal area where the Sylvia Grinnell River meets Frobisher Bay. The area to the north side 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 project area was found to contain known and discrete PHC, PCB, metals, and pesticide soil, sediment, and surface water impacts associated with the historical waste disposal activities. Elevated metals (particularly cadmium, copper, lead, and zinc) are widespread; however, spatial distribution appears to be concentrated mostly at the toe of the main landfill and the central portion of the vehicle dump.

The following activities will occur onsite to support the clean up work:

- Construct and Prepare Landfill Area
  - Strip and remove loose material from area. Remove material to add depth to landfill area to recover fill and organic material.
  - Retain any organic material for reclamation of slope and re-vegetation. Place organic material in temporary stockpile for re-vegetating disturbed areas.
  - Use recovered material for buildup and strengthening the downgradient (east) wall of landfill area.
- Remove Upper Vehicle Dump Scrap and Drain Residual Fluids
  - Collect large metal debris and ensure debris is free of fluids.
  - Gather collected fluids for disposal.
- Crush, Cut, Stockpile Upper Vehicle Dump Scrap
  - Cut larger debris with cutting torches for volume reduction and debris placement within landfill.
  - Crush any crushable large debris for volume reduction.
  - Segregate material into large, medium, small sizes for ease and use when infilling voids between larger preplaced debris in landfill.
- Place and Compact debris (crushed and cut) in Landfill Area
  - Place larger cut or crushed debris in landfill in "puzzle" formation for best utilization of space and ability to infill voids.
- Cover Landfill Area with Fill/Cover Material
  - Cover debris in "puzzle" formation within landfill area with fine gravel.
  - Work gravel and fill voids by applying vibratory packer to gravel over debris.
- Construct Diversion/Interceptor Trench at Top of Site

  - Prevent rain and melt water from entering landfill and slope area by constructing an interceptor trench above the slope and landfill area.
- Confirmatory Environmental Sampling around Vehicle area
  - Sample areas in vicinity of upper vehicle dump site for possible impact from leached fluids.
- Build Access Ramp/Road to Base of Dump
  - Use clean gravel material and place for ramp/road construction as directed in EIA.
- Collect Loose Debris from Gullies and Slope Face
  - Starting from very top of slope area, remove loose material within equipment's reach ensuring not to disturb well-vegetated areas as described in EIA.
  - Manually remove loose material from slope ensuring not to disturb well-vegetated areas as described in EIA. Loose material is to be moved down gradient using gravity to aid in the collection of the debris at the base of the slope.
- Collect Loose Debris from Base of Slope
  - Remove loose material at base of slope with equipment and with metal trailer/sled to be pulled up-slope to landfill area.
- Collect barrels from Base of Dump and Crush
  - Ensure barrels are free of fluids, crush with heavy equipment.
  - Haul crushed barrels up-slope to be placed in landfill area.
- Place and Compact debris (crushed and cut) in Landfill Area
  - Place larger cut or crushed debris in landfill in "puzzle" formation for best utilization of space and ability to infill voids.
- Cover Landfill Area with Fill/Cover Material
  - Cover debris in "puzzle" formation within landfill area with fine gravel.
  - Fill voids by applying vibratory packer to gravel over debris.
- Confirmatory Environmental Sampling around Barrel Areas
  - Sample areas in vicinity of formerly stockpiled barrels for possible impact from leached fluids.
- Placement of Fill Material on Dump Slope and Stabilize
  - Identify areas of removed debris and replace voids with fill material to match existing topography and landscape.
  - Ensure slope is stabilized to prevent material slippage or slides.
- Re-vegetate Slope Areas
  - Using local mosses and recovered organic material, re-vegetate slope and other disturbed areas to match surrounding landscape.

The contract documents for the Iqaluit Vehicle Dump and Community Landfill Remediation Project will require the contractor to clean up and remediate the area in which their activities took place. Following the completion of clean up activities, all vehicles and equipment, remaining fuel, and supplies are to be removed from the site by the contractor.

The project leader role will be by Transport Canada Environmental Services. Environmental Specialists from Public Works and Government Services Canada will be used for project management. W.R. Ferguson, Transport Canada's Regional Manager for Environmental Services will oversee and approve the expenditure of funds, the TC Project Leader is Darryl Pederson, and the TC Project Manager is Mike Molinski, Environmental Officer. Someone will be assigned by PWGSC to act as their Project Manager.

References:

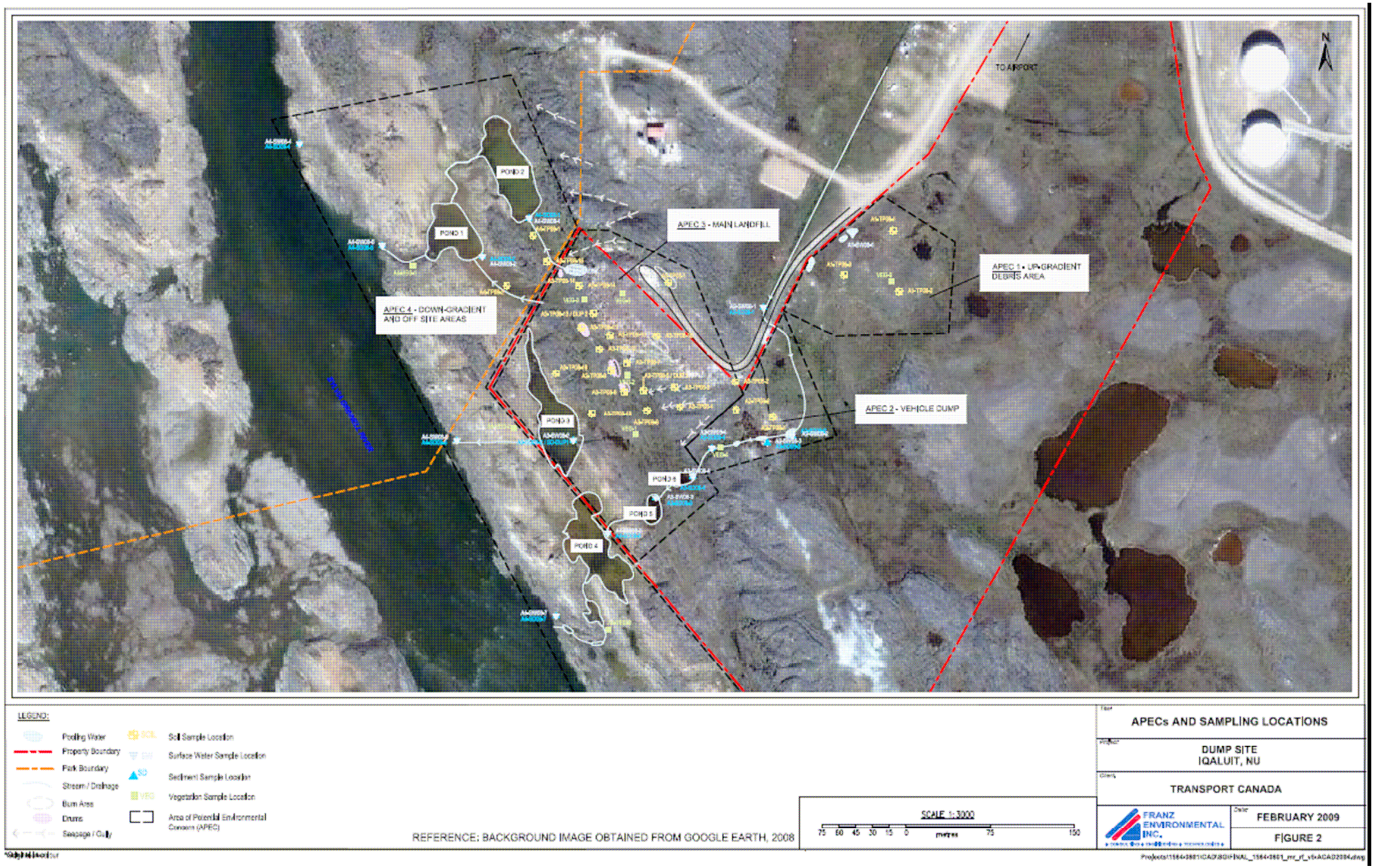
(above) Google Earth satellite image, 2008,

(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
SCALE: AS SHOWN	FIGURE 1

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


TO AIRPORT
POND 2
POND 1
POND 3
POND 6
POND 5
POND 4
APEC 3 - MAIN LANDFILL
APEC 1 - UP-GRADIENT DEBRIS AREA
APEC 4 - DOWN-GRADIENT AND OFF SITE AREAS
APEC 2 - VEHICLE DUMP
LEGEND:
Pooling Water
Property Boundary
Park Boundary
Stream / Drainage
Burn Area
Drums
Seepage / Gully
Soil Sample Location
Surface Water Sample Location
Sediment Sample Location
Vegetation Sample Location
Area of Potential Environmental Concern (APEC)
REFERENCE: BACKGROUND IMAGE OBTAINED FROM GOOGLE EARTH, 2008
SCALE 1:3000
75 60 45 30 15 0 metres 75 150
APECs AND SAMPLING LOCATIONS
DUMP SITE
IQALUIT, NU
TRANSPORT CANADA
FRANZ ENVIRONMENTAL INC.
FEBRUARY 2009
FIGURE 2