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.