Client:	**Confidential Client**		
Location:	Edmonton, AB	**Project start date:**	Sept 2002
Project Type:	Site Remediation and Landfarming	**Project end date:**	Sept 2003
Project Value:	$1,700,000	**Project Manager:**	M. Gray/ B. Rakewich

Project Title: **Soil Excavation and Landfarming**

Project Description: In the fall of 2002, Nichols Environmental was successful in achieving remediation objectives at a warehouse in Edmonton, Alberta. The property was contaminated with petroleum hydrocarbons from three former underground storage tanks. The hydrocarbon soil and groundwater plume intersected three properties surrounding the warehouse.

The objective of the project was to strip and stockpile all uncontaminated soils, excavate and land treat the contaminated soil, install a Soil Vapour Extraction (SVE) system underneath the east portion of the warehouse (maintenace shop), install a Recovery Trench around the maintenance shop, replace all utilites that were removed during the excavation, and re-grade the properties.

To achieve these objectives, the contaminated material was excavated until the soil samples collected from the limits of the excavation met the fine-grained soil Residential Guideline as outlined in the 2001 Alberta Environment Risk Management Guidelines for Petroleum Storage Tanks. Exceptions to this were made underneath the maintenace shop where a recovery trench and SVE system were installed to further manage and remediate the soil underneath the building.

Approximately 41,600 m^3 of clean clay overburden and clean clay fill from a borrow pit was used as fill material. Approximately 33,000m^3 of contaminated soil was removed and stockpiled on site for landfarming in the spring of 2003. All storm and power utility lines were removed and replaced in the excavation. Following backfilling, an asphalt parking lot was constructed and placed in June of 2003.

In the spring of 2003, the soils were land treated to reduce the hydrocarbon concentrations. The land treatment consisted of aggressively tilling the soil, sampling it to ensure that remediation objectives were achieved. Following successful remediation, the treated soil was used as backfill on the adjacent properties.