ParklandGEO has extensive experience in the remediation and treatment of contaminated soil and groundwater, conducting over 100 site remediation programs since 2000. Our senior staff have been involved in over 800 site remediation projects over the past 20+ years. ParklandGEO utilizes both in-situ and ex-situ techniques, based on site-specific parameters. Remediation designs are tailored to the specific site conditions and the needs of the client. Our engineered remediation design and management services include planning, project management, design, installation, operation and system management. Our experience with remediation includes; Landfarming and biological remediation; Soil-vapour extraction, sparging and bio-venting; and Dual-phase extraction and cut-off walls. ParklandGEO has experience in the remediation of a wide range of organic and inorganic contaminants such as petroleum hydrocarbons, aromatics (BTEX), PAHs, glycols, chlorinated hydrocarbons (including perchloroethylene - dry cleaning solvents), chlorinated solvents and leachable metals (including chromium and lead). ParklandGEO also has considerable experience in underground storage tank management, including assessment, removal and the remediation of impacted soil and groundwater.

**MAJOR ENVIRONMENTAL REMEDIATION PROJECTS**

**Capilano Mall, Edmonton** - Remediation of 12,000 m³ of hydrocarbon impacted soil and groundwater. Required the design installation of CIP concrete secant pile retaining wall to allow excavation to adjacent property lines.

**Goodfare** - Groundwater and LNAPL diesel plume covering 12,500 m² and including over 30,000 m³ of impacted soil (EnCana Corporation).

**Edmonton** - Gasoline contamination, 35,000 m³ landfarm.

**Edson** - In-situ soil flushing and vapour extraction through highly fractured bedrock with one of the largest systems designed for use in Canada (EnCana Corporation).

**Edson U-Auto Wash Station** - Remediation of gasoline contamination by vapour extraction below two occupied properties and Highway 16.

**Hythe** - UST removal from gas station, 6 tanks and 780 m³ of soil removed for disposal

**Turcon Mine, Tumbler Ridge B.C.** - 18,300m³ of hydrocarbon contaminated soil excavated and treated in biopile or biological amendments and aeration.

**Manning** - three separate produced water pipeline breaks (Devon).

**Red Deer Northwest Timberlands Site** - excavation of 25,000 tonnes of petroleum hydrocarbon, salt and trace metal contaminated soil and treatment of groundwater from a former lease site and abandoned pipeline with area to be used for residential subdivision.

**Red Deer WWTP Landfill Removal & Reclamation** - 45,200 m³ of waste material was excavated, relocated and replaced with clean fill for below bridge abutment. Long term closure monitoring ongoing.

**Former Three Hills Lagoon Remediation and Reclamation** - Prepare and execute a remedial action plan involving strip, excavate, test soils/slurry, backfill and reclaim.
Innisfail Esso - Petroleum hydrocarbon remediation through excavation, landfarming and in-situ sparging.

Lindsay Thurber Composite High School - In-situ Methane extraction and on-going monitoring.

Penhold Fas Gas - Petroleum hydrocarbon remediation through excavation and landfarming and on-going risk management of residual pockets near the building.

Sylvan Lake Big Moo - Petroleum hydrocarbon remediation through excavation and landfarming as well as on-going in-situ bio remediation.

Former Lousana Landfill - reclamation, capping and closure with up-coming long term monitoring.

Red Deer County Slough Remediation and Reclamation - on-going work to remove illegal dumped debris and in-filling, to be completed in early summer 2010.

Rocky Mohawk - Petroleum hydrocarbon remediation through excavation and landfarming, on-going risk management for residuals.

Red Deer Former Bettenson’s Yard - Excavation of 1500 m$^3$ of salt contaminated soil and removal of impacted groundwater through interceptor wells. In-situ bio remediation of petroleum hydrocarbon impacted soil and groundwater in the former UST (waste oil), AST (fuel), and former creosote impacted areas. On-going to be completed in 2010.