REMEDIATION

For over 15 years, Matrix's remediation team has been dedicated to implementing effective solutions for our clients, facility operators and government regulators throughout Western Canada.

We provide a wide variety of specialized remediation methods and technologies developed for removing groundwater and soil contaminants, including hydrocarbons, solvents, metals and salts. We identify the unique conditions of each site and ensure that our techniques are tailored to the specific challenge, as delineated by investigation data analysis and an understanding of our client's site-specific objectives.

We conduct well-managed projects that focus on meeting the site-specific remediation objectives while delivering good value for the cost of the work.

Matrix has an excellent team of soil remediation experts who routinely implement the following remediation techniques:

- monitored natural attenuation;
- bioremediation of hydrocarbon-impacted soils;
- gypsum amendment of sodium adsorption ratio impacted soils;
- excavation and landfill disposal of impacted soil;
- enhanced salt leaching with focused irrigation combined with shallow groundwater collection and treatment; and
- in situ contaminant plume control recovery and/or enhanced biodegradation using pump and treat, bioremediation, air sparging, soil vapour extraction, multi-phase extraction, free product recovery, vacuum enhanced pumping, phytoremediation, interception trench and tile collection systems.

Services

The remediation team provide a complete package of remedial services:

- remediation design including thoughtful selection of a remediation strategy and objectives based on site-specific risk assessment, client objectives and regulatory compliance;
- sampling and leachate testing;
- treatability and landfill suitability analysis;
- design and construction supervision services for excavation programs and flare pit removal; and
- remediation system cost analysis, design, permitting, procurement, construction supervision, commissioning, operation, performance assessment and optimization.

Lloydminster Area Remediation Project

In 1982, a pipeline break within the Battle River Valley caused natural gas condensate to migrate within the groundwater towards the river. After many attempts by the operator to control hydrocarbon migration, Matrix was retained in 1993 to conduct an extensive subsurface investigation and develop a remediation system to prevent free-phase condensate from seeping into the river.

Matrix focused their objectives on aquifer remediation, while removing hydrocarbon mass from the soils and groundwater. These objectives were initiated to reduce the time and long-term costs required for remediation at the site. Matrix implemented four remediation systems on the site at different stages of the project:

- pump and treat;
- soil vapour extraction (SVE);
- multi phase extraction (MPE); and
- vacuum enhanced pumping (VEP).

As of December 2008, approximately 84,725 L of liquid equivalent hydrocarbon has been removed by onsite remedial efforts and the project is entering its final year of active in situ remediation.

Matrix Solutions Inc.
ENVIRONMENT & ENGINEERING

For more information,
visit www.matrix-solutions.com
or call 403.237.0606