



VERTEX
Environmental Inc.

CASE STUDY
PCE

Business as Usual Through the Remediation Process



Background

Groundwater impacted with chlorinated ethenes was flowing from a dry cleaning facility at concentrations greater than the applicable Standards. Compounds of concern included:

- PCE
- TCE

Solution

The Vertex team was asked to create a cost-effective in-situ solution that would mitigate the impact of the dry-cleaning business and require little or no maintenance. Vertex experts designed and optimized a highly effective yet unobtrusive chemical oxidation approach that would not impede the operation of the business.

The scope of work included:

- Acquiring all relevant permits
- A pilot-scale program, conducted to determine the injection pressures needed for an adequate area of influence in the clayey overburden
- A full scale remediation program using direct push techniques and high pressure injection

Multiple in-situ injections of the chemical oxidation solution were successful in both contaminant source reduction and elimination of the plume. In total, 440kg of permanganate were delivered in 30,000L of oxidant solution, injected into vertical wells at a pressure of over 150psi.

Benefit

Vertex met their remediation objectives, achieving a 75% decrease of PCE and an 80% decrease of TCE after two injections. Cis-1, 2-DCE was also decreased by 76%.

An unobtrusive approach allowed business operations to proceed unimpeded. No on-going operation and maintenance costs were incurred.

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