Oppenheimer
Biotechnology Inc.

Case Study

Site Description - Trichloroethane (TCE) and Perchloroethylene (PCE) contaminated groundwater.

Site Location: Northeast USA

Site Description: An industrial metal fabrication facility in southeast Massachusetts, groundwater contaminated with perchloroethylene (PCE), trichloroethane (TCE), and other industrial solvents.

Photo of an inoculation point

Groundwater at this facility was contaminated by a surface release of used degreasers. Both overburden and bedrock aquifers were impacted. Assessment of the site indicated that the two are in hydraulic community.

Eight years and over 5 million gallons of traditional pump and treatment remediation had not reduced site contaminant concentrations to the state drinking water standards.

Contaminant: An industrial metal fabrication facility in southeast Massachusetts, the groundwater was contaminated with perchloroethylene (PCE), trichloroethane (TCE), and other industrial solvents.

Recommended Treatment Method (in-situ) : Thirty-two (32) inoculation points were driven to the bedrock surface and set with 1/2 inch PVC well screen. The points were arranged in a grid pattern from upgradients of the known extent of contamination to the property boundaries. The microbial products were mixed with nutrients, biocatalyst, and injected into the points and the impacted monitoring wells.

Goal: To reduce site contaminant concentrations to the state drinking water standards.

Outcome: Concentrations of PCE have been declining at an average rate of 50% each quarter. In the most contaminated area, concentrations have been reduced from 120 to 28 ug/L in six months. In a less ontaminated area, concentrations have declined from 77 to 11ug/L. Site closure is anticipated within 12 to 18 months from the time of initial inoculation.