

RegenesiS Remediation Services™ – PCE Plume Treated with RegenOx®

In Situ Chemical Oxidation Reduces Contamination Concentrations at a Former Dry Cleaner Site



Norridge, Illinois

RegenesiS Remediation Services (RRS) was contracted to design and perform in situ chemical oxidation (ISCO) via soil mixing to remediate tetrachloroethylene (PCE) impacted soil at a former dry cleaner site located in Cook County, Illinois. RegenOx® was chosen as the primary remediation technology for the chemical oxidation. The treatment area focused on soil-bound PCE contamination around 1,170 mg/kg in the clay-rich unsaturated soils. The soil remediation objective was to reduce PCE levels below the 240 mg/kg soil saturation limit established by the Illinois EPA.

The impacted soils were removed by a mini trackhoe excavator and placed inside a vacant unit adjacent to a treatment cell where the soil mixing was performed. A proportional amount of RegenOx was evenly dispersed throughout the excavated, contaminated soil, then thoroughly mixed using the excavator. Once mixing was complete, the soils were placed back into the treatment cell while being hydrated with a RegenOx solution. By optimizing the contact between the soil, contaminants, and RegenOx, powerful desorption effects strip PCE off of the soil matrix and onto the RegenOx catalytic surface. This catalytic surface contributes to localized free-radical generation, leading to focused and efficient contaminant destruction. Approximately 242 cubic yards of soil bound contaminant mass was successfully treated at this site. Soil mixing was performed from surface grade to approximately 10 feet below grade.

Remediation Details:

Site Type: Former Dry Cleaner

Remediation Approaches: In Situ Chemical Oxidation, Soil Mixing

Technologies: RegenOx

Geology: Sand, Silt, Clay

Medium: Vadose Soil

COCs: Chlorinated VOCs

Surficial Treatment: 2,100 ft²

Treatment Interval: Varied from 0-10 ft. bgs

Cubic Yards Treated: 775

Cost Per Cubic Yard: \$64.50

About RRS:

RegenesiS Remediation Services (RRS) is a dedicated team of scientists and engineers whose primary function is to provide environmental engineering and consulting firms with specialized groundwater and soil remediation planning, design, verification and application services.

This uniquely qualified group of remediation professionals combine excellence in field activity management and RegenesiS' class-leading technologies to bring sites to closure. RRS draws from REGENESIS' 19+ years of experience working with hundreds of leading environmental engineering firms on thousands of remediation projects around the world.