

RegenesiS Remediation Services™ – PCE Contamination Treated with RegenOx®

Former Illinois Dry Cleaner Remediated Through In Situ Soil Mixing with Chemical Oxidation



Norridge, Illinois

RRS was contracted to design and perform chemical oxidation via soil mixing to remediate tetrachloroethene (PCE) impacted soil at a 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 clayey 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 adjacent to a treatment cell inside a vacant unit where the soil mixing was performed. A proportioned 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. As a result of 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. The catalyst allows localized, free-radical generation which leads to more focused and efficient contaminant destruction. RegenOx is also a non-corrosive chemical oxidation reagent which minimizes health and safety concerns while enabling use around sensitive infrastructure.

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 Soil Mixing Utilizing Chemical Oxidation

Technologies: RegenOx

Geology: Sand, Silt, Clay

Medium: Vadose Zone

COCs: Chlorinated VOCs

Surficial Treatment: 684 ft²

Treatment Interval: 0 -10 ft. bgs

Cubic Yards Treated: 242

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.