REGENESIS
REMEDIATION SERVICES

PROJECT SUMMARY

Regenesis Remediation Services™ – PCE Treated with RegenOx®

Soil Mixing Using In Situ Chemical Oxidation Reduces Contamination Concentrations at Former Dry Cleaning Facility

Paterson, New Jersey

Regenesis Remediation Services (RRS) was hired for this large-scale soil mixing project to treat tetrachloroethylene (PCE) in shallow surface soils. The application used in situ chemical oxidation (ISCO) technology to oxidize residual chlorinated solvents at this former dry cleaner site. The goal was to reduce chlorinated volatile organic compounds (cVOCs), particularly PCE, from >20 ppm to less than 5 ppb. The design of the project was divided into a grid with twelve sections, each 25 feet (ft.) by 21.5 ft., and 5 ft. deep.

Using RegenOx® remediation chemistry and an excavator to complete the soil mixing, the impacted soils were removed by an excavator and a proportional amount of RegenOx was evenly dispersed throughout the excavated 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 made up of RegenOx, water and hydrogen peroxide. 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 via soil mixing. After eight days of the completion of the project, 98-100% reductions were achieved in the twelve sections of the grid.

Remediation Details:

Site Type: Former Dry Cleaner

Remediation Approaches: In Situ Chemical Oxidation, Soil Mixing

Technologies: RegenOx

Geology: Sand, Clay

Medium: Vadose Zone

COCs: Chlorinated VOCs

Surficial Treatment: 6,450 ft^2

Treatment Interval: 0-5 ft. bgs

Cubic Yards Treated: 1,680

Cost Per Cubic Yard: $75.73 applied

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.