

Regenesis Remediation Services™ – TCE-Impacted Soil Treated with RegenOx®

In Situ Chemical Oxidation Significantly Reduces Contamination Concentrations at Former Manufacturing Facility Site



Hamilton, Ohio

Regenesis Remediation Services (RRS) was contracted to design and perform in situ chemical oxidation (ISCO) via soil mixing to remediate trichloroethylene (TCE) impacted soils at a former manufacturing site in Hamilton, Ohio. RegenOx® was selected as the primary remediation technology based on site conditions, and the treatment area focused on soil-bound TCE contamination averaging 86 mg/kg in the sandy-silt to clay-rich unsaturated soils. The remediation objective was to reduce TCE levels in the soil to below the maximum concentration for Toxicity Characteristic Leaching Procedure (TCLP) of 0.5 mg/L, to allow for subsequent off-site disposal.

The impacted soils were treated in-place by a hydraulic excavator with a specialized mixing attachment. RegenOx was evenly dispersed throughout the contaminated soil, then thoroughly mixed using the excavator attachment. Once mixing was complete, the soils were hydrated with a RegenOx solution, to maximize oxidant loading to achieve aggressive remediation goals. As a result of the soil mixing procedures, a 99% reduction in soil concentrations was achieved. RRS remediated approximately 670 cubic yards of TCE-impacted soil on this real estate redevelopment project. Soil mixing was performed primarily from 4 feet to 8 feet below ground surface (bgs) over an area of approximately 4,500 square feet. Construction activities were able to proceed on schedule due to RRS's well managed application and proper use of the RegenOx chemistry.

Remediation Details:

Site Type: Former Manufacturing Site

Remediation Approaches: Soil Mixing
Utilizing In Situ Chemical Oxidation

Technologies: RegenOx®

Geology: Sand, Silt, Clay

Medium: Vadose Zone

COCs: Chlorinated VOCs

Surficial Treatment: 4,500 ft²

Treatment Interval: 0-8 ft. bgs

Cubic Yards Treated: 670

Cost Per Cubic Yard: \$74.46

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.