

RegenesiS Remediation Services™ – LNAPL Recovery & In Situ Chemical Oxidation

Combined Treatment Remedies Reduce Contamination Concentrations at a Former Service Station



Swisher, Iowa

RegenesiS Remediation Services (RRS) was contracted to remediate a dissolved-phase and residual LNAPL petroleum hydrocarbon plume resulting from historic petroleum fuel releases at a former service station. RegenOx® PetroCleanze™ (PetroCleanze) was chosen as the primary remediation technology in addition to Oxygen Release Compound (ORC®) Advanced, to facilitate recovery of residual LNAPL and chemically oxidize contaminants without negatively impacting sensitive infrastructure. ORC Advanced was applied during the second PetroCleanze application to promote the enhanced aerobic bioremediation of dissolved phase petroleum hydrocarbons.

Eighteen direct-push injection points were used to apply the reagents in the silty sand aquifer and saturated soil over the course of two application events. Vacuum extraction was conducted after each PetroCleanze application to recover residual free-phase petroleum hydrocarbons liberated from the soils. Reagent distribution monitoring during the application events confirmed PetroCleanze was present across the targeted source area. Remediation chemistry was applied via direct-push injection points with a bottom-up approach from 5 to 15 feet below ground surface (bgs). A total of 4,470 pounds (lbs.) of RegenOx PetroCleanze and 720 lbs. of ORC Advanced were injected throughout the course of the two applications.

Remediation Details:

Site Type: Former Service Station

Remediation Approaches: In Situ Chemical Oxidation, Enhanced Aerobic Biodegradation, Vacuum Extraction

Technologies: RegenOx PetroCleanze, ORC Advanced

Geology: Sand, Silt

Medium: Groundwater, Saturated Soil

COCs: Petroleum Hydrocarbons, Petroleum LNAPL

Surficial Treatment: 1,800 ft²

Treatment Interval: 5-15 ft. bgs

Cubic Yards Treated: 667

Cost Per Cubic Yard: \$71.00 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.