

Roadside Fuel Transport Spill Treated with Combined Remediation Approach

BTEX Concentrations Decreased to Non-Detect 18 Months Following RegenOx Injection

Project Highlights

- Combined remediation approach treats contaminants that remained following emergency excavation
- RegenOx® and ORC Advanced® selected to eliminate need for dedicated groundwater treatment infrastructure
- BTEX levels reduced by 97% to below non-detect levels in the two highest concentration wells

Project Summary

A rural site located in south-central North Carolina required remediation to treat petroleum contamination from an overturned tanker truck. Excavation activities during an emergency response removed much of the contaminant mass, however additional contamination in soil and groundwater remained after the excavation was completed.

In the two highest-concentration wells, total BTEX averaged more than 1,300 µg/L in the four quarterly groundwater monitoring events prior to treatment.

A combined chemical oxidation and aerobic bioremediation treatment was employed to eliminate the need for dedicated groundwater treatment infrastructure at this roadside location to advance the site to regulatory closure.

The products selected were RegenOx, an *in situ* chemical oxidant, and ORC Advanced, an enhanced aerobic bioremediation product. The treatment covered a 3,900-square-foot area through 30 direct-push injection points in the former spill area.

Technology Description

RegenOx is a percarbonate-based *in situ* chemical oxidation technology that rapidly destroys petroleum hydrocarbons and chlorinated contaminants through powerful chemical reactions. It directly oxidizes contaminants while a catalytic component generates oxidizing free radicals to destroy the target compounds.

ORC Advanced is a proprietary formulation of food-grade, calcium oxy-hydroxide that produces a controlled release of molecular oxygen to enhance aerobic biodegradation.



Site Details

Site Type: Fuel Transport Spill

Contaminant of Concern: BTEX

Concentration: BTEX >1300 µg/L

Remediation Approach: Enhanced Aerobic Biodegradation, *In Situ* Chemical Oxidation

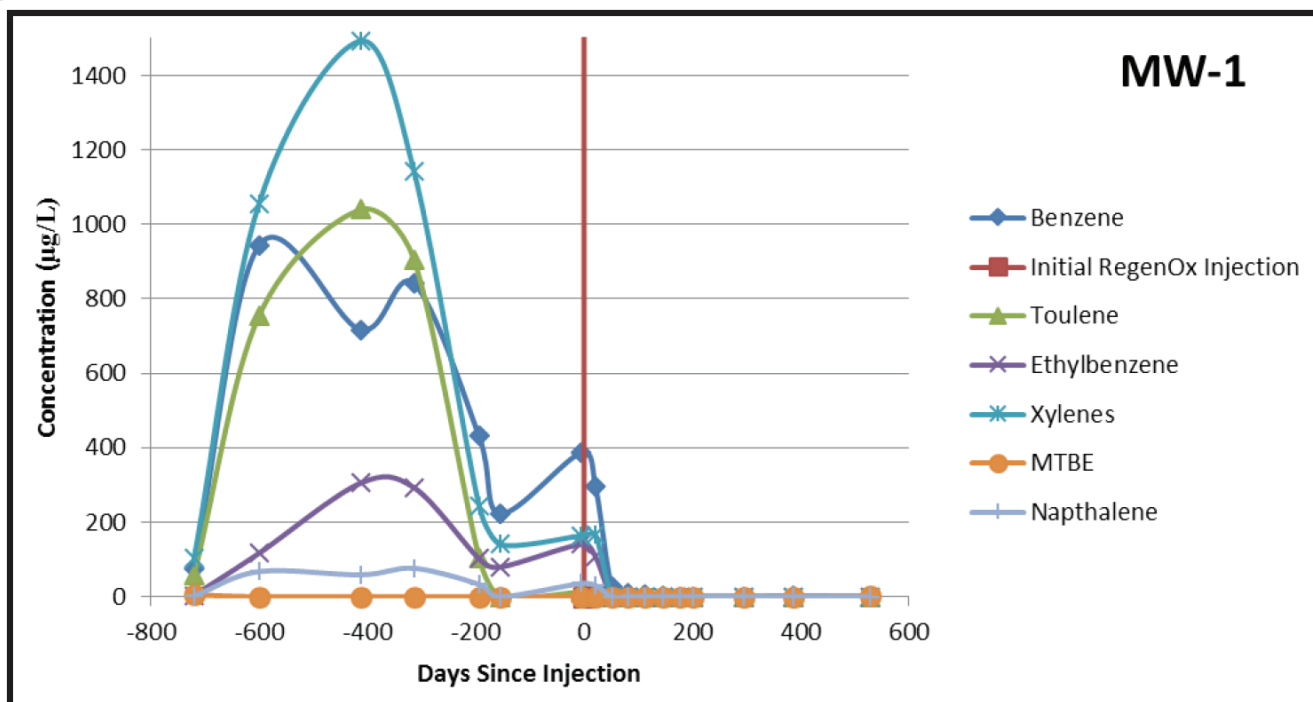
Soil Type: Silty Sand

Treatment Area: 3,900 ft²

Technology Used:



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MW-1 BTEX Concentration Reduction Trend

Results

Within 18 months of treatment, the site was under natural attenuation monitoring prior to regulatory closure with five of the six wells already below stringent regulatory requirements.