

PCE Treated at Active Dry Cleaner in Less Than 200 Days

Project Receives “No Further Action” Letter Following Combined Application of 3-D Microemulsion® and BDI® Plus

Project Highlights

- Enhanced reductive dechlorination used to treat PCE contamination under an active dry cleaning facility
- Total cVOC concentrations reduced by three orders of magnitude in less than 200 days
- Total cVOC concentrations were below remediation goals

Project Summary

Groundwater below a Missouri dry cleaning facility was contaminated from a cleaning solvent spill, resulting in PCE concentrations >4,000 µg/L. An enhanced reductive dechlorination approach was developed that integrated biodegradation and bioaugmentation via application of a controlled-release electron donor and a microbial consortium of dechlorinating bacteria.

REGENESIS® Remediation Services (RRS) was contracted to co-apply 3-D Microemulsion® and Bio-Dechlor Inoculum® Plus to the affected groundwater. The products were applied to the affected groundwater underneath the building via direct-push injections.

Technology Description

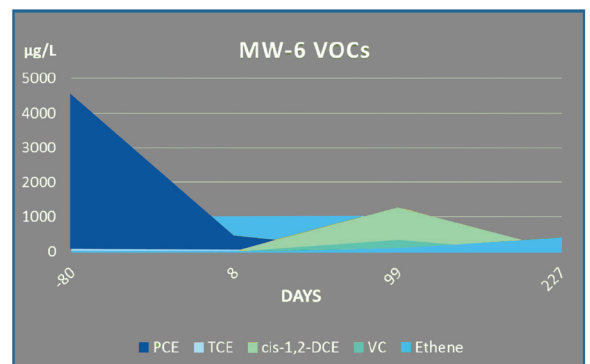
3-D Microemulsion is an engineered electron donor material that offers a novel 3-stage electron donor release profile, pH neutral chemistry, and is delivered on-site as a factory-emulsified product.

Bio-Dechlor Inoculum Plus is a natural microbial consortium containing species of Dehalococcoides sp. (DHC). This microbial consortium has been enriched to increase its ability to rapidly dechlorinate contaminants during *in situ* bioremediation processes.

Results

Following treatment, total cVOC were reduced by 99.9%. Concentrations were reduced by three orders of magnitude from a baseline concentration of >4,000 µg/L to <10 µg/L in less than 200 days.

Furthermore, monitoring data indicated complete dechlorination with no remaining daughter products above the remediation goals. As a result of the rapid and complete reduction of chlorinated solvents, the project received a “No Further Action” letter (NFA) through the Missouri Department of Natural Resources.



Site Details

Site Type: Dry Cleaner

Contaminant of Concern: PCE

Concentration: >4,000 µg/L

Remediation Approach: Enhanced Reductive Dechlorination

Soil Type: Silt

Treatment Area: 1,000 ft²

Technology Used:



BIO-DECHLOR INOCULUM



MICROEMULSION



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