



Former Dry Cleaning Site Makes Way for Community Hospital Following Successful Treatment Using a Combined Remedy Approach

cVOC Contaminants Reduced by 97% After Two Months

Project Highlights

- Two months' post injection results show contaminants were reduced by 97%
- Combined remediation approach used to successfully keep project on budget and on schedule
- Remediation design and amendments applied provided speed and certainty allowing for project to move forward

Project Summary

A former dry cleaning site in Western New York was targeted for redevelopment to make way for a multidisciplinary, world-class cancer center. Before redevelopment could get underway, the developer needed to address the cVOC levels found on site which exceeded state regulatory standards. The developer engaged Benchmark/Turnkey, a leading environmental firm in the Northeast, to develop a solution to address the contaminant levels found. Benchmark/Turnkey worked with REGENESIS® to design a remedial strategy that included 3D-Microemulsion®, Bio Dechlor Inoculum® Plus, and Chemical Reducing Solution® to reduce the PCE, DCE and TCE contaminants. The design focused on speed and certainty, since the site was tagged for immediate redevelopment. Using a direct push application of the amendments, Benchmark/Turnkey was successful in applying the combined remedial approach on budget and on schedule.

Technology Description

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

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

Chemical Reducing Solution is an iron-based amendment for *in situ* chemical reduction (ISCR) of halogenated hydrocarbon contaminants such as chlorinated ethenes and ethanes.



Site Details

Site Type: Former Dry Cleaner

Contaminant of Concern: PCE, DCE & TCE

Treatment: 4,300 ft²

Remediation Approach: Direct Push Injection

Soil Type: Silty Sand

Technology Used: 3DME, BDI Plus, CRS

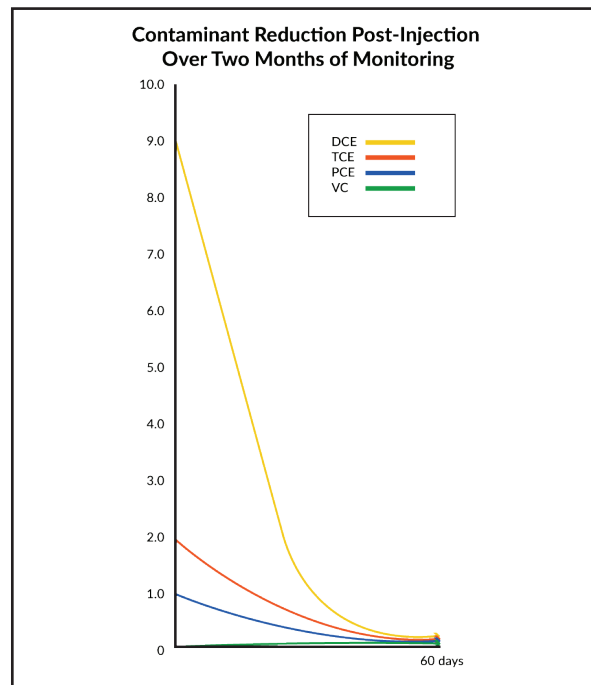


Results

Following the injection event, the team monitored the results and at two months found that total cVOC contaminant levels had been reduced by 97%. Based on the progress to date and the concentration of contaminants versus nutrients remaining in the groundwater, Benchmark/Turnkey expects to collect groundwater samples for two intervening semi-annual events then petition the New York Department of Environmental Conservation to discontinue groundwater monitoring.

About the Client

Benchmark Environmental Engineering & Science, PLLC is a licensed professional engineering company that provides comprehensive civil and environmental engineering services. TurnKey Environmental Restoration, LLC is a "sister" company that provides site investigation, remediation and infrastructure construction, and environmental and site management service.



Total cVOCs reduced by 97% within two months of application