Site Goals Achieved in Two Months Using PlumeStop® at a Santa Barbara Manufacturing Facility

Project Highlights

- Client avoids additional *in situ* chemical oxidation (ISCO) injections with combined remedy approach using PlumeStop, Bio-Dechlor Inoculum Plus® (BDI Plus) and Hydrogen Release Compound® (HRC) to reach non-detect.
- Site goals reached within two-months while staying on budget.
- 16,000 Gallons of PlumeStop injected in 8 field days.

Project Summary

A manufacturing facility located in Santa Barbara, California has been an active case with the Central Regional Water Quality Board since 2007. The facility is located in a busy area of the city once used primarily for industrial and commercial manufacturing purposes, but recently has been transformed into an urban wine trail known as the "Funk Zone". Since the late 1990s, assessments and remedial activities have been performed at the site. Previous remediation attempts were made through limited excavation and ISCO injections using permanganate, but were unsuccessful at achieving levels for closure.

PlumeStop was Selected to Reach Closure Levels

The client considered additional ISCO injections for the site; however, PlumeStop was selected as the primary remedial technology due to its ability to achieve the levels needed for closure within an expedited timeframe. HRC and BDI Plus were also injected for anaerobic bioremediation of the groundwater contaminants absorbed by PlumeStop.

REGENESIS was contacted by Haro Environmental to push the site to closure. Remediation goals were accomplished through 40 direct-push injection points. The site was injected with over 16,000 gallons of PlumeStop in 8 field days.

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Site Details

Site Type: Manufacturing

Contaminant of Concern: PCE, TCE, c-DCE & VC

Concentration: PCE 37 µg/l, TCE 47 µg/l

Remediation Approach: Combined Remedy

Soil Type: Silt/Sand

Technology Used: PlumeStop, HRC and BDI Plus

PLUME STOP® Liquid Activated Carbon

BDI® BIO-DECHLOR INOCULUM

HRC® HYDROGEN RELEASE COMPOUND

Figure 1 - Site map indicating injection points

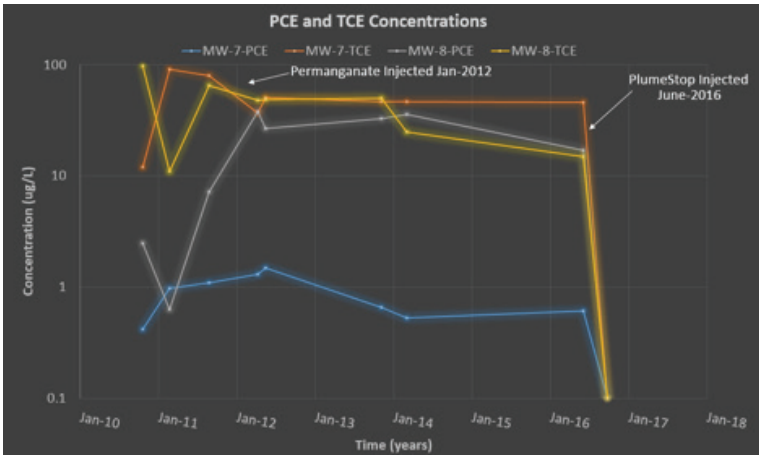

Figure 2 - Graph shows effectiveness of the application

Technology

PlumeStop is an innovative groundwater remediation technology designed to address the challenges of excessive time and end-point uncertainty in groundwater remediation.

Hydrogen Release Compound (HRC) is an engineered, hydrogen release compound designed specifically for enhanced, *in situ* anaerobic bioremediation of chlorinated compounds of groundwater of highly saturated soils.

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.

Results

Following the application of PlumeStop, HRC and BDI Plus, post-remediation monitoring shows the containment levels at non-detect (*Figure 2*). A closure request will be submitted for the site in 2017.

About the Client

Haro Environmental, Inc. is an environmental consulting firm based in San Luis Obispo, California, which directs, manages and performs environmental site assessments and remediation engineering projects.