

# PlumeStop® Applied to Former Electronics Facility in Indiana Achieves 99.9% Reduction in 2 Months

Rapid Treatment of Mixed Chlorinated Solvents Using PlumeStop and Combined Remedies Approach Compresses Time to Non-Detect

## Project Highlights

- 92% reduction within two weeks
- 99.9% reduction in two months
- Combined remedy approach reduced mixed VOC plume to non-detect within nine months (<5µg/L)
- No rebound in over 18 months of site monitoring

## Project Summary

An evaluation of PlumeStop performance was conducted on a section of a mixed chlorinated solvent plume (cVOC) comprising trichloroethene (TCE - 1,390 µg/L) and 1,1,1-trichloroethane (TCA, 3,550 µg/L) at a former electronics facility in Indiana. PlumeStop was applied in conjunction with the controlled-release electron donor, Hydrogen Release Compound (HRC®). Post-treatment solvent concentrations in groundwater were reduced in two weeks by 92% at the first sampling round. Concentrations were reduced by 99% by the second sampling round (one month) and 99.9% by the third sampling round (two months). No cVOCs were detected above analytical thresholds (<5µg/L) after three months. Source area treatment activities are being monitored for closure and the results are being evaluated as a potential larger scale plume treatment option.

## Remediation Approach

PlumeStop was applied perpendicularly to the groundwater flow using 10 direct-push injections around a central monitoring point. Approximately 180 pounds of HRC was applied into three injection points.

## REGENESIS Solution Applied

PlumeStop is an innovative *in situ* remediation technology designed to rapidly reduce contaminant concentrations, stop migrating plumes, eliminate contaminant rebound, achieve stringent clean-up standards and treat back-diffusing contaminants. PlumeStop provides a unique colloidal biomatrix platform which rapidly sorbs contaminants out of the dissolved-phase. Once contaminants are concentrated within the PlumeStop biomatrix, they can be completely biodegraded in place using compatible REGENESIS bioremediation products.

HRC is a controlled release, electron donor material, that when hydrated, is specifically designed to produce a controlled release of soluble lactate. The newly available lactic acid is highly efficient for the production of dissolved hydrogen to fuel anaerobic biodegradation processes in soil and groundwater.

## Results

Using a combined remedy approach, the application of PlumeStop and HRC successfully reduced contaminant levels to non-detect and positioned PlumeStop as a viable solution for larger scale projects.



## Site Details

Site Type: Industrial

Contaminant of Concern: cVOCs

Concentration: 5,000 ug/L

Remediation Approach: Sorption-Enhanced  
*In Situ* Anaerobic Bioremediation

Soil Type: Silt/Sand

Technology Used:

**PLUME STOP**  
Liquid Activated Carbon

**HRC** HYDROGEN  
RELEASE  
COMPOUND



1011 Calle Sombra San Clemente, CA 92673  
T: (949) 366-8000 | www.regenesis.com