



## ISCO Pilot Program: Chlorinated Solvents and Petroleum Constituents

### Site

- Manufacturing and Warehousing Facility; Passaic County, New Jersey.

### Contaminants of Concern

- Trichloroethene (TCE)  
78 ppb
- Cis-1,2-Dichloroethene (cis-1,2-DCE)  
317,200 ppb
- Xylenes (3,400 ppb)
- Ethylbenzene (2,000 ppb)
- Vinyl Chloride (4,224 ppb)

### Geology/ Hydrology

- Contaminant plume resides within a fine silt and clay layer.
- Depth to water approximately 8-10 feet bgs.
- Low permeability and slow GW velocity rates.

### ISCO Treatment Program

- Modified Fenton's Reagent (MFR).
- 1,000 sq. ft treatment area.
- Multiple injection events.
- Permanent injection wells.

### Results

- Site-wide total VOCs were reduced from 278,849 ppb to 178 ppb.

## ISOTEC Case Study No. 2

### ISCO TREATMENT PROGRAM: CHLORINATED SOLVENT AND PETROLEUM IMPACTED IMPACTED GROUNDWATER

Manufacturing and Warehousing Facility  
Passaic County, New Jersey

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### INTRODUCTION

A manufacturing and warehousing facility located in Passaic County, New Jersey was a site where historic spills of hazardous substances occurred over fifteen years. Areas of environmental concern on site consisted of a former drum storage area and a former underground storage tank. Groundwater was found to be contaminated with high concentrations of chlorinated solvents and gasoline constituents.

ISOTEC was retained by the property owner to remediate high levels of vinyl chloride; trichloroethene (TCE); cis-1,2-dichloroethene (cis-1,2-DCE); total xylenes and ethylbenzene in site groundwater. **ISOTEC secured approvals** from the New Jersey Department of Environmental Protection (NJDEP) to perform a laboratory study and field pilot program using modified Fenton's chemistry. These tests demonstrated the effectiveness of in-situ oxidation on site contaminants of concern (COC's). The area treated was approximately 1,000 sq. ft.

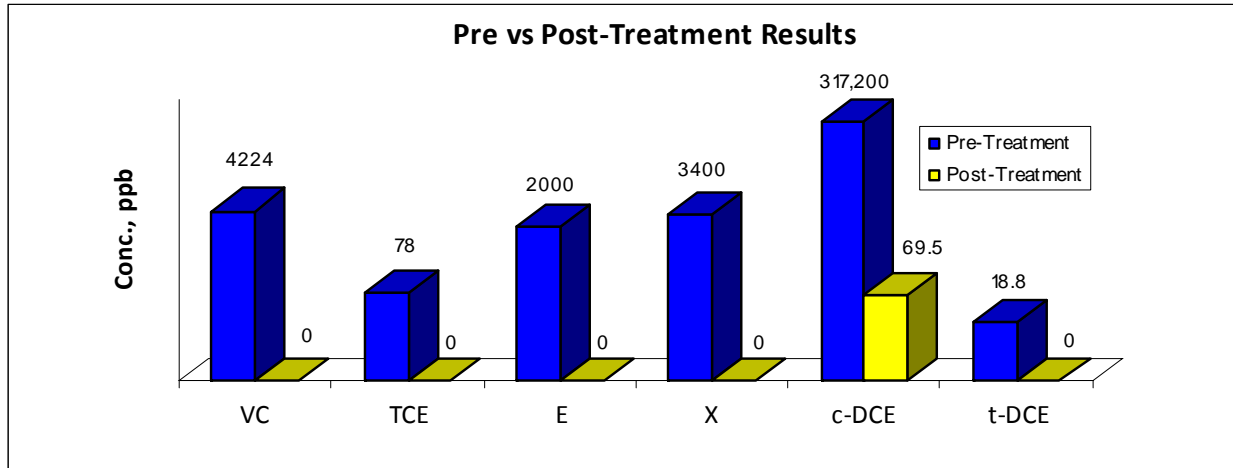
### ISCO PILOT PROGRAM AND IMPLEMENTATION

ISOTEC's treatment during the field pilot program resulted in decreasing total VOC groundwater concentrations **from 278,849 ppb to 178 ppb** within the area treated.

Four week post-treatment **pilot program** results indicated that ISOTEC achieved **over a 99% decrease** in total VOC concentrations in the groundwater contaminant plume area treated.

### CURRENT PROJECT STATUS

ISOTEC has submitted a proposal to conduct additional treatment at the site as an alternative remedial technology to clean up contaminated groundwater at the site.



**NOTES:**

- (1) VC = Vinyl Chloride; TCE = Trichloroethene; E= Ethylbenzene; X = total Xylenes;  
c-DCE = cis-1,2-Dichloroethene; t-DCE = trans-1,2-Dichloroethene.
- (2) Post Sample is 4 weeks after initial application was completed.
- (3) ppb - parts per billion or micrograms per liter (ug/L).