

CASE HISTORY®

Work Summary (Site History)

CHS-0003 (BTEX & TRPH)

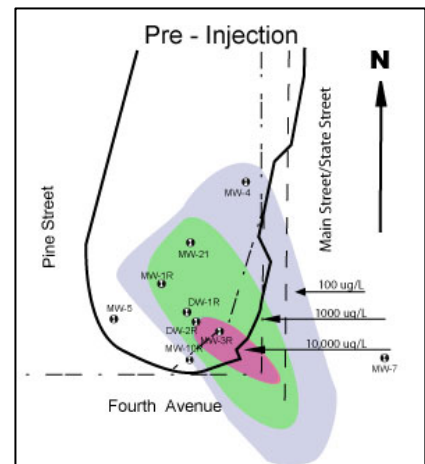
Acceptance into the Florida State cleanup program, was the driver for remedial action at this petroleum contaminated (gasoline) site in Northwest Florida. The dense clay nature of the subsurface lithology rendered conventional remedial methods (sparge and vent, dual phase extraction, etc.) ineffective. When excavation reached the vertical limits of the equipment and stained soils and OVA sampling indicated remaining contamination, a hydrogen peroxide based in-situ chemical oxidation process (*Cool-Ox™*) was selected for further remediation. After one application, post treatment results revealed that in the shallow groundwater, Total BTEX and TRPH concentrations were reduced by 74% and 65%, respectively. In the deep groundwater Total BTEX and TRPH concentrations dropped by 89% and 88%, respectively. The site is currently in Post Remedial Action Monitoring.

Project at a Glance

Site 0003 - Site Information

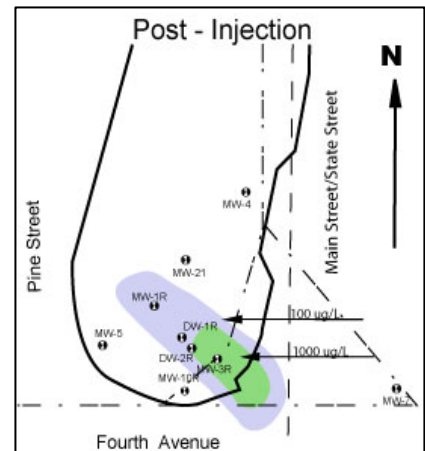
Type of site	Retail Gasoline Station
Location	Jackson County, Florida
Contaminants	BTEX & TRPH
Work Scope	Inject <i>Cool-Ox™</i>
Media Treated	Soil & Groundwater
Soil Type	Clayey sand to sandy clay to dense clay, LS @ 80'
Groundwater Depth	10 fbg
Remedial Objective	Reduce GW concentration to GCTL's

Site Map



Site 0003 – Application Data

Technology Selected	Chemical Oxidation
Application Method	DPT Probe Rig
Area Treated	6,000 square Feet
Vertical Interval	10 to 25 and 10 to 75 feet bgs
Injection Point (IP) Spacing	7 feet
Media Volume Treated	3,667 cubic yards
Number of Injection Points	122
Oxidizer Volume	17,778 gal
Oxidizer per IP	90 gal



The blue area on the site map depicts the extent of the groundwater contaminant plume prior to the first ISCO injection. Groundwater samples collected twelve months after the initial injection revealed that the contaminant plume had shrunk to a small area surrounding MW-1R and MW-3R.

Current Status

Because of the significant reductions in contaminant concentrations, the site was placed in Post Remedial Action Monitoring Status pending determination of natural attenuation activity.

CASE HISTORY

CHS-0003 (BTEX & TRPH) (Cont.)

Results

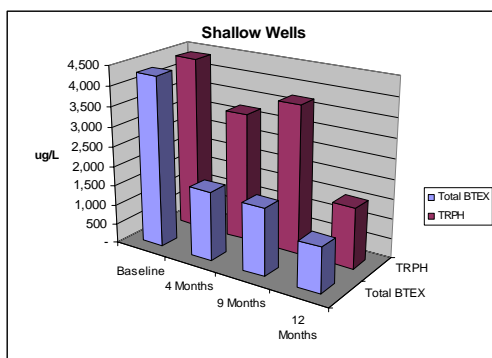
Site 0003 - Contaminant Data

Contaminants	Baseline ⁽¹⁾ Shallow Wells	Shallow Wells	Shallow Wells	Shallow Wells
Time	0*	4 months*	9 months*	12 months*
Total BTEX	4,306	1,757	1,701	1,144
TRPH	4,392	3,249	3,730	1,536

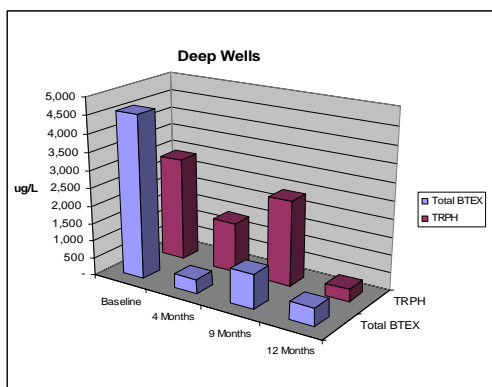
* Data is an average of five wells (MW-1, MW-3, MW-4, MW-10 & MW-21)

** Data is an average of two wells (DW-1 and DW-2)

⁽¹⁾ All data reported in µg/L



Contaminants	Baseline ⁽¹⁾ Deep Wells	Deep Wells	Deep Wells	Deep Wells
Time	0**	4 months**	9 months**	12 months**
Total BTEX	4,600	401	971	502
TRPH	2,920	1,410	2,400	348



Twelve month post injection sampling data revealed that Total BTEX and TRPH contaminant concentrations were reduced by 74% and 65%, respectively, in the shallow groundwater zone and by 89% and 88%, respectively, in the deep groundwater zone. It is anticipated that a second focused treatment, around MW-1R, 3R, DW-1R and DW-2R, would reduce levels to below state groundwater cleanup levels.

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The remedial solution for this site was designed and managed by a DTI Principal