

Using OxyZone® on Chlorinated Volatile Organics at a Dry Cleaner Site



Highlights

In-situ chemical oxidation (ISCO) using OxyZone® has been used to bring sites with persistent and recalcitrant contaminants to closure. In this case study, OxyZone, in combination with a soil vapor extraction system (SVE), was demonstrated to eliminate chlorinated volatile organic compounds (CVOC) and Tetrachloroethylene (PCE) at a commercial dry cleaning site.

Background

The source of the release was a dry cleaner at a shopping mall. Prior investigations identified elevated concentrations of PCE in soil and groundwater under the floor slab. Impact to groundwater extended to an offsite property resulting in a 300 foot long plume. The concentrations of the PCE detected in indoor air indicated an Imminent Hazard.

Results

EnChem Engineering designed and installed a combined SVE/sub-slab depressurization system that eliminated the Imminent Hazard within two months of operation. OxyZone ISCO was implemented to remediate the source and prevent offsite migration of contaminants.

The SVE/sub-slab depressurization system was successful in reducing indoor air samples to below the commercial/industrial threshold values. OxyZone ISCO has eliminated off-site migration of PCE to below regulatory standards. Concentrations of PCE in groundwater within the source area have been reduced to below or slightly above regulatory standards within three years of treatment.

Site Details

Site: Dry cleaner at shopping mall, Massachusetts

Contaminant: CVOC and PCE

Geology: sand, gravel and dense clay under building

Challenge: Meet regulatory standards for indoor air exposure and CVOC in groundwater

Remediation: SVE and OxyZone ISCO process

OxyZone®

Better Technology. Better Results.

OxyZone® is an effective in-ground (in-situ) and above ground (ex-situ) chemical oxidation (ISCO) process to bring contaminated soil and groundwater sites into regulatory compliance and closure faster and with less cost.

The patented OxyZone process developed by EnChem Engineering uses a high-strength, multi-oxidant blend to overcome limitations found in most other environmental remediation treatment methods, resulting in significantly decreased remediation time and clean-up costs.

In addition to being able to destroy emerging contaminants such as perfluorinated compounds (PFCs) and 1,4-dioxane, OxyZone has been applied to remediation of sites containing common organic compounds such as gasoline, fuel oils, and chlorinated organic compounds like tetrachloroethene ("PERC") and mixtures thereof.

About EnChem Engineering

EnChem Engineering, Inc. possesses the underlying technical environmental remediation expertise and effective remediation processes, facilities and staff to solve the most complex emerging contaminant environmental challenges. We have been a hazardous waste consultant to the U.S. Environmental Protection Agency; the US Air Force and Fortune 500 companies.

EnChem Engineering Services

- Soil & groundwater remediation
- Hydrogeological site investigations
- Environmental site inspections
- Due diligence, litigation support

Call (617) 795-0058 for a free consultation. Ask for our white papers on environmental remediation with Oxyzone.



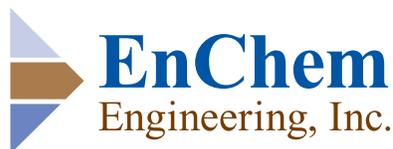
Benefits of the OxyZone® process

Versatile – a comprehensive suite of radicals and oxidants treats a wide range of organic contaminants in soil and groundwater

Persistent – OxyZone process achieves a very high oxidation potential immediately upon application and remains effective up to weeks after application

Easier – The OxyZone process generates no off-gas or heat making it easier to apply

Cost Effective – More complete clean-up in less time results in lower total cost



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