

# CASE STUDY #15

**Client:** Ultra Cleaners

**Location:** Mesa, Arizona USA

**Problem:** Two site investigations determined soil was contaminated with PCE and TCE.

**Previous Treatment:** None

**Biological Treatment:** PDM-7 H.C. C.L. and a nutrient blend were mixed with water in holding tanks on-site and agitated for several minutes to assure even distribution within the solution. The biological solution was introduced into soil through 2-inch diameter schedule 40 PVC application wells. The application wells are perforated with 0.02-inch slots with ¼ inch spacing between slots. No filler material will be required since the application wells will not be used for sampling purposes. All wells were drilled and constructed to a depth of 3 ½ feet. The slotted casing for the perimeter application wells faced toward the plume center so that the flow of the microbial organisms will be properly directed. The interior wells were slotted completely around the casing so that a 360-degree dispersion of nutrients and PDM-7 H.C. C.L. would occur.

## Biological Treatment Results:

### Analytical Data, EPA Method 8010 Halogenated Volatile Organics

Sample Description	Before PDM-7 Treatment	After PDM-7 Treatment
	October 5, 1995	November 20, 1995
	Tetrachloroethene Analyte	Tetrachloroethene Analyte
B-ON (3')	N.D.	N/A
B-OS (3')	130 ug/Kg (ppb)	N.D.
B-OS1 (3')	530 ug/Kg (ppb)	N.D.
B-2	N.D.	N/A
B-3	90 ug/Kg (ppb)	N.D.

Analytical Data, EPA Method 8010  
Halogenated Volatile Organics

Sample Description	Before PDM-7 Treatment October 5, 1995 Trichloroethene Analyte	After PDM-7 Treatment November 20, 1995 Trichloroethene Analyte
B-ON (3')	N.D.	N/A
B-OS (3')	120 ug/Kg (ppb)	N.D.
B-OS1 (3')	N.D.	N/A
B-2	N.D.	N/A
B-3	70 ug/Kg (ppb)	N.D.
N/A	Samples not needed.	
N.D.	Non-Detect	
ug/Kg (ppb)	Indicates parts per billion	

Conclusions:

The intent of this Bioremediation project on Tetrachloroethene (PCE) and Trichloroethene (TCE) was to determine the effectiveness of PDM-7 H.C. C.L. in the safe and rapid degradation of chlorinated hydrocarbon contaminated soils. Based on the results of the test data, PDM-7 H.C. C.L. does initiate the degradation of PCE and TCE and was capable obtaining sample results of non-detect.