

# Treatment Beneath Buildings at Residential Estate, Marlow UK

## Treatment of Chlorinated Solvent Contamination within Chalk Aquifer



### Summary

Significant chlorinated solvent groundwater contamination (PCE up to 30,000 µg/L) were discovered following the completion of the redevelopment of a former laundry site into a residential housing development.

An in-situ remedial method was the only viable option to treat the contamination present beneath the buildings.

### Treatment

Application works were undertaken using a portable Direct-Push injection rig. In total, 19,000 kg of 3-D Micoemulsion was applied to 15 No. injection points. Remedial works were completed within one week.

### Why of Special Interest?

Monitoring data 10 weeks post application, demonstrated that ambient geochemical parimeters suitable for reductive dechlorination conditions had been established.

The parent compound PCE had been reduced to 8,500 µg/L and daughter products, which had previously been at non-detect, were now being recorded; further demonstrating that contamination was being degraded.

Monitoring is ongoing and further data expected in 2014.

### Remediation Details

#### Site Type:

Former laundry facility

#### Remediation Driver:

Site redevelopment

#### Remediation Approach:

Anaerobic Bioremediation / Enhanced Reductive Dechlorination (ERD)

#### Technologies:

3-D Microemulsion®

#### Geology

X	Bedrock (chalk)
	Gravel
	Sand
	Silt
	Clay

#### Medium

X	Groundwater
	Saturated Soil
	Vadose Zone

#### COC

	Petro HCs
	Petro LNAPL
X	Chlorinated VOCs
	Metals

#### COC Concentration Levels:

PCE - up to 30,000 µg/L

#### Treatment Depth:

7.5m to 12.5m BGL

#### Injection Points:

15 No.