Redevelopment of Former Film Processing Facility, London UK

Large Scale Treatment of Chlorinated Solvent Contamination

Summary

Chlorinated solvent concentrations of up to 5,500 µg/L PCE and 2,000 µg/L cis-DCE were recorded acorss a 13,800m² area at a former industrial site which was to undergo redevelopment. Due to the large extent of the contamination the site required a technologically innovative and economically viable solution which would grant site sign-off allowing for redevelopment to continue.

Treatment

Regenesis designed a cost-effective solution based on the stoichiometric demand imposed by the plume and ambient geochemical conditions within the gravel aquifer. It was decided that due to the size of the plume, the project would require a substrate which had a high radius of influence to maximise the value and effectiveness of the treatment. 3-D Microemulsion met these requirements.

Application works comprised of 126 No. Direct-Push injection points in a 10m by 10m grid. The 3-D Microemulsion solution was injected over 12 days.

Why of Special Interest?

Reducing conditions were established within the first three months after application across the plume and a 45-99% mass reduction was observed throughout the site. Post application monitoring rounds have confirmed that over two yeats the CoC concentrations levels have been maintained below site specific target levels across the 13,800m² site.

Remediation Details

Site Type:
Former Film Processing Facility

Remediation Driver:
Site redevelopment

Remediation Approach:
Anaerobic Bioremediation / Enhanced Reductive Dechlorination (ERD)

Technologies:
3-D Microemulsion®

Geology	
	Bedrock
	Gravel
	Sand
X	Silt
	Clay

Medium	
X	Groundwater
	Saturated Soil
	Vadose Zone

COC	
	Petro HCs
	Petro LNAPL
X	Chlorinated VOCs
	Metals

COC Concentration Levels:
PCE - 5,500 µg/L
cis-DCE - 2,000 µg/L

Treatment Depth:
6m BGL

Treatment Volume:
4800m³

Remediation Cost:
£232,000