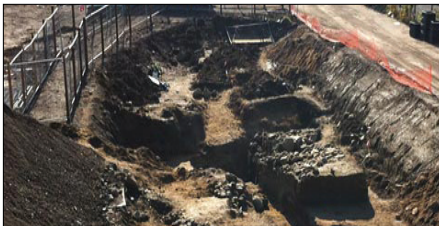


Redevelopment of Electronics Manufacturing Facility, Midlands, UK

Enhanced Anaerobic Bioremediation Treats Chlorinated Solvents



Summary

Significant chlorinated solvent contamination was discovered during the redevelopment of a former electronics manufacturing facility into a supermarket located in the Midlands. The majority of the contaminated soil had been excavated, however; high concentrations of TCE contamination was present beneath a number of trees on site which were protected by a Tree Preservation Order (TPO).

Initially a pump and treat (P&T) system was installed but was not able to meet remedial objectives and had become asymptotic.

Treatment

HRC (Hydrogen Release Compound) was selected to enhance the natural process of anaerobic bioremediation, a proven remedial method that is effective at reaching low contaminant remedial targets whilst causing no adverse effects to the environment.

HRC was applied to the 615m² source area via direct-push to 95 No. injection points in a 3m by 3m grid spacing. A line of injections formed a barrier at the site boundary preventing off-site contaminant migration.

What's Special?

Whilst conventional remedial approaches - excavation and P&T - were not viable options or could not meet targets, enhanced anaerobic bioremediation was able to be applied even where access was difficult and meet remedial targets, with no adverse effect on the protected trees in the target area.

Remedial works satisfied regulatory objectives gaining site closure, allowing the land transaction to be completed and the construction programme to be met.

Remediation Details

Site Type:

Former manufacturing facility (electronics and lighting)

Remediation Driver:

Supermarket development

Remediation Approach:

Enhanced Anaerobic Bioremediation

Technologies:

HRC® and HRC-Primer®

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:

TCE 5,400 µg/L

Treatment Depth:

2m to 5m BGL

Treatment Area:

Approx 625m²

Remediation Cost:

£50,000

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