Design Focused Remediation of a Defence Manufacturing Site, UK

Voluntary Treatment of Chlorinated Solvents

Summary

- Remediation of the chlorinated ethenes impacted groundwater through the combined use of 3-D Microemulsion® (3DMe) and HRC Primer®
- Challenging fine sand aquifer with high groundwater pressure
- Treatment tailored to target high concentration source and wider plume area
- Regenesis Remediation Services (RRS) carried out full design and application service at a fixed cost

Design & Application

The combined approach of 3DMe and HRC Primer utilises the best features of Regenesis' suite of technologies for enhanced reductive dechlorination. HRC Primer penetrates the formation quickly and with its short hydrogen release profile rapidly exhausts competing electron acceptors and promotes strong anaerobic groundwater conditions. 3DMe, with its three stage electron donor profile, provides a controlled release of hydrogen for up to 5 years. In addition, the self-distributing nature of 3DMe is perfectly suited to a permeable formation to allow wider injection spacing and corresponding lower injection costs.

What's Special?

- Delineation of the source and wider plume allowed focussed contaminant treatment
- The injection works, completed by Regenesis between the demolition and construction phases, minimised impact on the site redevelopment programme

Remediation Details

Site Type:
Defence /Manufacturing

Project Driver:
Voluntary, Redevelopment

Remediation Approach:
Enhanced Reductive Dechlorination

Technologies:
3-D Microemulsion® and HRC Primer®

Geology	
	Bedrock
	Gravel
X	Sand
	Silt
	Clay

Medium	
X	Groundwater
	Saturated Soil
	Vadose Zone

COC	
	Petro HCs
	Petro LNAPL
X	Chlorinated VOCs

COC Concentration Levels:
TCE 89,500 µg/L

Treatment Level:
2 m - 8 m BGL

Volume Treated:
2 areas totaling 1,600 m^2

Injection Points: 70