Telluric
Land Remediation Ltd

Case Study E319

Project: **Anaerobic bioremediation and chemical oxidation of contaminated groundwater**

Client: **Utilities Company**

Location: **Portsmouth, Hampshire**

Duration: **6 weeks site application works**
52 week validation monitoring period

Works:

- Development of appropriate remediation strategy
- Operated in accordance with WML 30375
- Anaerobic treatment of chlorinated solvent plume using DCL Biosolv
- Chemical treatment of petroleum hydrocarbon plume by modified Fenton's reagent
- Installation of injection boreholes and injection infrastructure
- Quarterly monitoring during 12 month validation period
- Compilation of validation report

Synopsis

Two separate areas of the site had been identified by site investigation as presenting an unacceptable risk to human health and controlled waters. Area 1, comprised of a 250m^2 plume of chlorinated solvent contamination identified in the underlying chalk aquifer to a depth of 15.0m. Area 2, comprised of a 600m^2 plume of petroleum hydrocarbon contamination within the made ground and perched groundwater.

Following a remediation options appraisal, the chlorinated solvent plume was treated anaerobically using Telluric's patented EVO substrate, DCL Biosolv. DCL Biosolv promotes the natural biodegradation of target contaminants by a process known as reductive dechlorination. The contaminants of concern were quickly reduced to below target concentrations and low levels were maintained during a 12 month monitoring and validation programme.

The petroleum hydrocarbon plume, mainly of diesel range organics, was treated to below target concentrations using modified Fenton's reagent distributed across the area by a network of infiltration wells. This area was also subject to a 12 month monitoring and validation programme to confirm compliance with requirements of the Regulators.

This case study demonstrates the need for differing clean up techniques applied at a single site in order to meet its remediation objectives.

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