Telluric
Land Remediation Ltd

Case Study: E160

Project: ***In-situ*** **Bioremediation on a Large Manufacturing Site**

Client: **Manufacturer**

Location: **Derby**

Duration: **12 months**

Works

- Design of remediation system
- Coring of 135 injection locations in concrete and tarmac hardstanding
- *In situ* treatment of trichloroethene (TCE) contamination in soil and groundwater by use of hydrogen release product
- Injection of 160,000 litres of remediation product (DCL Biosolv)
- Installation of groundwater monitoring boreholes
- Quarterly groundwater sampling and monitoring
- Reinstatement of injection boreholes
- Compilation of validation report

Synopsis

Telluric Land Remediation proposed *in-situ* anaerobic bioremediation to address subsurface solvent contamination, principally trichloroethene (TCE), on this large and busy manufacturing site. This was achieved by injection of the hydrogen release substrate DCL Biosolv which provided the conditions required for reductive dehalogenation of TCE and associated contaminants.

DCL Biosolv was introduced into the ground using injection rods installed by small tracked, direct push, drilling rigs. A mixing and injection unit was then connected to the rods and remediation product injected into the ground.

Three areas of the site were treated, including two source areas of high level contamination. The third treatment zone was designed to prevent off-site migration of dissolved contamination in the groundwater. This was achieved by the creation of a 140m long permeable reactive barrier along the southern site boundary.

Following the product injection works, the treatment areas were monitored and sampled to assess the progress of remediation. Parameters monitored include soil gas concentrations, groundwater level, VOC concentrations, conductivity, oxidation-reduction potential, dissolved oxygen and pH. Groundwater samples were recovered for analysis by an independent accredited laboratory and confirmed that the site specific targets were achieved to the satisfaction of the Environment Agency.

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