



FORMER CHEMICAL WORKS, DORSET

Chlorinated Solvent Plume

PROJECT SCOPE

Former chemical works designated as a special site under the Part 2A regime - investigated and remediated by the EA. VertaseFLI was employed to refine the site investigation and delineation works undertaken by others to better model the contamination and migration pathways and identify the most appropriate remediation technology. Chlorinated solvent contamination was affecting a local water course, deeper aquifer and local fish ponds.

VERTASE FLI ROLE

- A comprehensive site investigation was designed and undertaken to properly delineate the plume and map the geology using a truck mounted membrane interface probe (MIP) working to 20 m bgl.
- The data was used to create a 3D conceptual model showing source zones and migration pathways.
- Soil and groundwater samples were recovered direct from the known primary source zones and used for subsequent bench trials in our laboratory facilities.
- Through these trials, appropriate dosing concentrations of potassium permanganate (KMnO₄), zero valent iron (ZVI), were identified as the suitable media to take through to field trials.
- The field trial for the KMnO₄ centered on a known source zone by abstracting contaminated groundwater, dosing with potassium permanganate and injecting back into the ground until in-situ groundwater. Chlorinated solvent concentration were reduced by up to 98% within the targeted source zones.
- ZVI was identified as a more appropriate media for the sensitive woodland area, the field trial showed positive trends in creating an environment for the reduction and mineralisation of the contaminants of concern.

This project demonstrates our ability to identify and embrace innovative multi faceted remedial remedies including the all the necessary liaison and presentations to the regulatory authorities.



PROJECT OVERVIEW

CLIENT

ENVIRONMENT AGENCY

LOCATION

DORSET

PROJECT VALUE

CONFIDENTIAL

DURATION

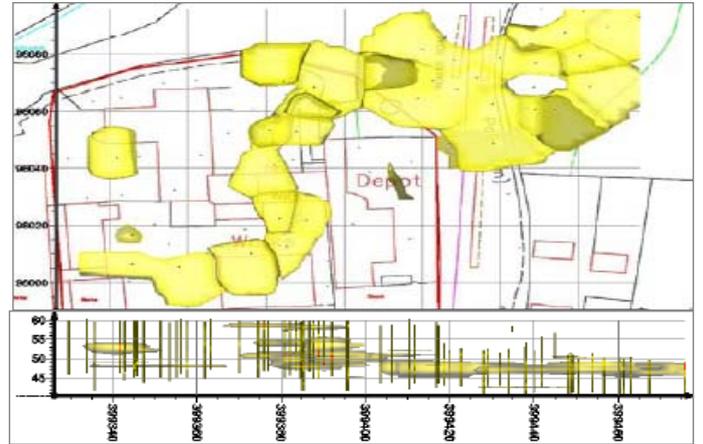
6 MONTHS

SERVICES PROVIDED

- Site Investigations using MIP
- 3D modelling
- Bench trials
- Field trials of potassium permanganate
- Field trial of ZVI
- Remediation scheme design
- Regulatory liaison



MIP TRUCK INVESTIGATING BENEATH A WAREHOUSE



3D MODEL OF PLUME GENERATED FROM MIP DATA



BENCH SCALE TRIALS OF CHEMICAL OXIDANTS



FIELD TRIAL INJECTION AND RECIRCULATION OF $KMnO_4$



MIXING ZVI SLURRY AND HIGH PRESSURE INJECTION PUMP



GEO PROBE RIG INJECTING ZVI SLURRY