Vertase FLI

OPERATIONAL BATTERY MANUFACTURING PLANT, KILLINGWORTH

In-Situ Bioremediation

PROJECT SCOPE

VertaseFLI was contracted to remediate a solvent plume at an operating battery manufacturing plant in Newcastle Upon Tyne. The plume of halogenated hydrocarbons was confined to the saturated zone. Project management and Health and Safety were of particular importance because the site was an operating factory with hazardous environments.

VERTASE FLI ROLE

Our brief was to conduct a full options appraisal to appraise chemical treatments, thermal treatments, anaerobic biological processes and traditional sparging and vapour recovery.

Anaerobic biodegradation was selected as the most appropriate technique due to the nature of the site and the contamination concentrations. VertaseFLI was then commissioned to design and install an in-situ abstraction and recirculation system capable of delivering Emulsified Vegetable Oil (EVO) and other amendments into the plume to promote anaerobic conditions and hence reductive dehalogenation of the chlorinated solvents.

Some areas of the site found to have insufficient populations of indigenous bacteria were bioaugmented. Extensive negotiations were undertaken with the Environment Agency and the local Contaminated Land Officer.

TCE contamination concentrations were reduced within six months from 10,000's µg/L down to <100µg/L within most of the plume and DCE showed similar decreases over the project and no significant increase in Vinyl Chloride. After 12 months all concentrations of CHC's on site were between 10 and 100ug/l. Remediation monitoring is ongoing and further reductions in contaminant concentrations are expected.

The project was nominated and subsequently awarded a Brownfield Briefing Award for Innovative Remediation in 2009.

PROJECT OVERVIEW

CLIENT

CONFIDENTIAL MANUFACTURER

LOCATION

NORTH EAST ENGLAND

PROJECT VALUE

£600,000

DURATION

2 YEARS

SERVICES PROVIDED

- Enhanced in-situ anaerobic biodegredation of chlorinated solvents using emulsified vegetable oils, sodium lactacte and bioaugmentation

INSIDE VFLI EQUIPMENT

SHEET PILE WALL TO MANAGE OFFSITE MIGRATION

DRILLING AND INSTALLING WELLS

ABSTRACTION AND INJECTION EQUIPMENT

EVO AND SYSTEM IN BUNDED AREA

LIVE OPERATIONAL SITE

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