

Soil Vapour and Groundwater Remediation on an operating Business Unit in Great Britain



BAUERUmweltgruppe

Client: GRS Ground Remediation Systems Limited, Great Britain

Engineering Design and Supervision: RemedX, Bristol/Great Britain

Scope of Works: In-situ Remediation of fractured sequential Sandstone and Mudstone Layers

Contract Period: since January 2003



Project

This project has entailed the installation of 29 recovery wells on the premises of a large industrial firm in Great Britain. The wells are connected to the remediation system with 1 km of pipe work suspended from the ceiling. Recovery wells are installed inside subsurface well chambers and short trenches provide ducting for the pipe works. Groundwater, soil vapour and free phase are simultaneously pumped from subsoil.

A programmable logic control system operates the fully automated treatment plant and allows operation by remote control. In case failure an autodialer system with text messaging function alerts the operator.



Several water ring vacuum pumps in different sizes allow an exact adjustment to the demanded suction capacity in the high and low vacuum range.



The entire control panel is accommodated in a separate container. Thus expenditure for the explosion protection was substantially reduced.

Remediation Site

The remediation system includes Xitech ADJ1000 smart skimmers with low vacuum applied to enhance recovery, for the recovery of floating white spirits where present in substantial volume. The maximum operational capacity of the groundwater remediation system is at 6 m³/h and the operational capacity of the soil vapour remediation system is at 1000 m³/h.

Result

The explosion proof high vacuum extraction system is equipped with a low and high vacuum header arrangement to facilitate simultaneous low vacuum SVE for skimmer wells and high vacuum MPE (Bioslurping) in less permeable wells with less product volume.

Extracted water is feed to an Oil Water Separator (OWS) and afterwards lead to clients water treatment facilities. Product from the skimmer pumps and from the OWS is stored in an special storage tank for external disposal.

Off gas is treated by two serial vapour phase activated carbon filters and released into the atmosphere.