

In Situ Treatment of Chromium on an Industrial Estate, Mansfield, UK

Source, Plume and Barrier Treatment using MRC



Summary

The groundwater beneath an industrial unit near Mansfield was contaminated with up to 5,000 µg/L of hexavalent chromium (Cr(VI)).

It was determined that remediation should be undertaken to protect site users and off-site controlled waters. ERS were employed to complete remediation of the source, plume and provide a barrier at the site's perimeter to prevent off-site migration.

Treatment

The site was divided into three target zones: the indoor source area, the down gradient plume area and a barrier on the perimeter of the site. The application rate of MRC was specifically designed by RegenesiS to match the contaminant loading present in each of these zones.

ERS completed the injection works onsite using a direct push drilling rig and progressive cavity pump to apply the MRC across the site, taking approximately 2 weeks to complete the works and causing minimal disruption to site activities.

What's Special?

The MRC application works successfully treated the onsite contamination source and protected the offsite water course without the need for costly and disruptive excavation work or installation of pumping equipment.

Remediation Details

Site Type: Industrial Site

Project Driver:

Remediation to reduce potential impact on the environment

Remediation Approach:

In Situ Reduction and Immobilization of the source and plume and installation of a treatment barrier to protect migration off-site

Technologies: MRC®

Geology

	Bedrock
	Gravel
X	Sand (silty)
	Silt
	Clay

Medium

X	Groundwater
	Saturated Soil
	Vadose Zone

COC

	Petro HCs
	Petro LNAPL
	Chlorinated VOCs
X	Metals (Cr(VI))

COC Concentration Levels:

5000 µg/L Cr(VI)

Treatment Depth: 4 m BGL

Treatment Area: 250m²

Injection Grid: 3m by 3m, plus barrier: 2 lines of 7 points on 3m spacing

Injection Points: 56 points