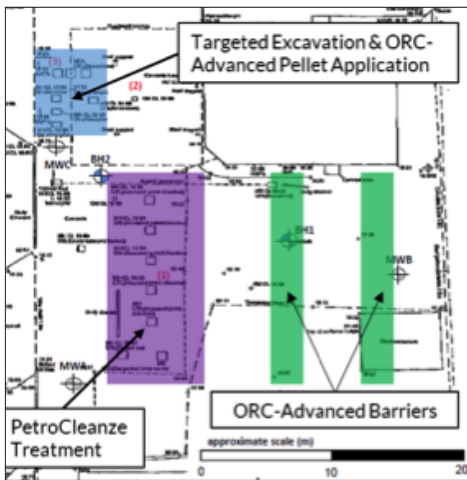


Integrated Remediation of a Petrol Filling Station, Middlesex, UK

Enhanced Pump and Treat, Excavation Application and Barrier Injection



Summary

REGENESIS worked with RAKE Remediation and WDE Consulting to devise a fully integrated remediation strategy in order to provide accelerated remediation of a former petrol filling station. The remedial strategy comprised:

- A tank-pull and targeted hot-spot excavation
- 'Pump and Treat' (P&T) system augmented with PetroCleanze
- ORC Advanced slurry injection in barriers to provide enhanced natural attenuations (ENA)

Remedial Design & Application

The treatment comprised targeted excavation of the most impacted soils, around the former UST location. This was followed by ORC Advanced Pellet application into the excavation to address the residual dissolved phase.

LNAPL was removed from the groundwater in the surrounding plume using a P&T system. This was enhanced with PetroCleanze to provide temporary desorption of contamination in the smear zone. This enabled the P&T system to remove a greater amount of contamination in a short period and avoid rebound.

ORC Advanced slurry was injected in two lines within the dissolved phase plume in order to degrade, through ENA, the migrating contamination and prevent any further egress from site.

What's Special?

- Within 6 months of the works commencing, the contamination onsite was reduced from measurable LNAPL down to stringent dissolved phase remedial targets for BTEX, TPH, PAH and VOC's. Regulatory closure of the site is now being sought.
- During the validation period, construction works were commenced allowing the site to be developed without delay.
- REGENESIS' technologies allowed for an increase in the number of techniques applied to the site, which provided a saving in time and cost. The integration of these remedial techniques optimised the remediation efficiency across the site and throughout the treatment process. Product type and format were tailored to take advantage of open excavations, enhance the physical abstraction system and provide barriers in situ.

Remediation Details

Site Type:

Former petrol filling station

Project Driver:

Real estate transaction

Remediation Approach:

Augmented Pump & Treat and Enhanced Aerobic Bioremediation

Technologies: PetroCleanze® and ORC-Advanced® powder and pellets

Geology

	Bedrock
X	Gravel
X	Sand
	Silt
X	Clay

Medium

X	Groundwater
	Saturated Soil
X	Vadose Zone

COC

X	Petro HCs
X	Petro LNAPL
	Chlorinated VOCs
	Metals

COC Concentration Levels:

LNAPL

Treatment Level:

3 – 6m BGL

Treatment Area:

800m²

Remediation Cost:

£32k