Pilot Study at Former Gasworks, Southeast England, UK

PetroCleanze and ORC Advanced used to Reduce Mass Loading Onsite

Summary

REGENESIS have recently been involved in a remedial pilot study for a former gas works site in the South East, as part of its proposed high density development scheme. The site is situated within a high risk area for groundwater vulnerability with an aquitard protecting the underlying principal aquifer. A reduction in DNAPL and groundwater LNAPL concentrations are required to allow deep piling to take place.

Design & Application

Multiple PetroCleanze applications were used to desorb soil-bound TPH and PAH contamination including DNAPL. This was then removed using a pump and treat system, rapidly reducing the contaminant mass in the target area. This will then allow piling works to occur, reducing the risk that this will drive contamination down into the deep bedrock aquifer below.

ORC Advanced was then applied in order to degrade residual groundwater contamination in the area. The ORC Advanced will also mitigate against residual contamination entering the shallow aquifer through disturbance during piling.

What's Special?

- The pilot showed that within 10 weeks, significant mass reduction could be achieved
- A number of dosages, pumps, spacing and abstraction rates were tried during the pilot in order to discover the most effective treatment
- The pilot study is scalable to the entire site
- Targeted remediation to reduce the contaminant mass in the most sensitive areas has the potential to dramatically reduce remediation costs for the developer

Remediation Details

Site Type:
Brownfield

Project Driver:
Redevelopment into Residential

Remediation Approach:
Enhanced Desorption and Enhanced Natural Attenuation

Technologies:
PetroCleanze®, ORC-A®

Geology	
	Bedrock
X	Gravel / Made Ground
	Sand
	Silt
	Clay

Medium	
X	Groundwater
X	Saturated Soils
	Vadose Zone

COC	
X	Petro HCs
X	PAHs
X	DNAPL
	Chlorinated VOCs
	Metals

COC Concentration Levels:
BTEX, TPH and PAHs
>20 mg/L

Treatment Level:
3 - 7m BGL