Operational Petrol Fueling Station, Milan, Northern Italy

PetroCleanze removes high concentrations of sorbed hydrocarbons

Summary

A major leak from underground storage tank (USTs) at an operational petrol fueling station near Milan, resulted in a significant hydrocarbon contamination plume extending 50m outside the site boundary. The leaking USTs were excavated, however a significant mass of contaminant remained sorbed to the soil, providing an ongoing source of contamination.

A remedial solution was required that tackled both the contaminant source and addressed the migrating plume.

Previous attempts to remediate the contamination included dual phase vapour extraction (DPVE), pump and treat (P&T) and air sparging. However; ongoing, these proved to be ineffective after a initial period of good contaminant removal.

Treatment

As a pilot test, PetroCleanze, a powerful desorption reagent, was applied to an area of the highly contaminanted source zone to release the sorbed contaminant and LNAPL bound to soil. Once in solution, the contamination was phyiscally extracted by a vacuum truck from the same well where product was applied.

Additionally, a full scale barrier of ORC-Advanced injections was placed at the site boundary to treat contamination migrating offsite.

Why of Interest?

Stand alone physical extraction systems are unable to remove contamination bound to soil. PetroCleanze however desorbs bound contamination into solution allowing for physical extraction of the desorbed mass.

Remediation Details

Site Type:
Operational Petrol Fueling Station

Remediation Approach:
Enhanced physical extraction, in-situ chemical oxidation and enhanced aerobic bioremediation

Technologies:
PetroCleanze® ORC-Advanced®

Geology	
	Bedrock
	Gravel
X	Sand
X	Silt
	Clay

Medium	
X	Groundwater
	Saturated Soil
	Vadose Zone

COC	
X	Petro HCs
	Petro LNAPL
	Chlorinated VOCs
	Metals

COC Concentration Levels:
Very high TPH, including LNAPL
Very high BTEX and MtBE

Treatment Depth:
3m to 10m BGL

Remediation Cost:
€20.000