Dismissed Petrol Filling Station, Liguria, Northern Italy

Pit Application: ISCO and Aerobic Bioremediation Treat TPH

Summary

At a disused petrol station, Liguria NW Italy, historic leakages from underground storage tanks (UST) resulted in significant TPH contamination of the soil and groundwater.

The bulk of the contamination was removed by excavating the leaking tanks and immediate surrounding soil. However, significant residual TPH contamination (up to 1,000 µg/L) remained within the surrounding ground, requiring further remediation.

Treatment

The leaking tanks had been removed and surrounding soil excavated leaving a 5 m x 15 m pit to a depth of 3 m BGL. RegenOx Part A (oxidizer), RegenOx Part B (catalyst) and ORC-Advanced were mixed into a single slurry and applied to the pit in a single event.

Why of Interest?

RegenOx destroys contamination upon contact rapidly reducing contaminant concentrations. ORC-Advanced will drive enhanced aerobic bioremediation for periods of up to 12 months, treating the remaining low contaminant concentrations.

Once the slurry is applied, the two technologies will work uninterrupted, allowing the pit to be backfilled and redevelopment to commence immediately.

Monitoring is ongoing. Immediately after application a good desorption effect of TPH has been observed in the water inside the pit due to RegenOx, which is expected to be oxidised and degraded by the two compounds.

Remediation Details

Site Type:
Petrol Filling Station

Project Driver:
Contamination posed an unacceptable risk to groundwater

Remediation Approach:
ISCO and Bioremediation

Technologies:
RegenOx® and ORC-Advanced®

Geology	
	Bedrock
	Gravel
	Sand
X	Silt
	Clay

Medium	
X	Groundwater
X	Saturated Soil
	Vadose Zone

COC	
X	Petro HCs
	Petro LNAPL
	Chlorinated VOCs
	Metals

COC Concentration Levels:
TPH - up to 1,000 µg/L

Treatment Depth:
3 m BGL

Volume Treated (m^3):
NA - pit application

Product Cost Only:
€20.000