

Operational Petrol Fueling Station, Veneto, Northern Italy

Enhanced Aerobic Bioremediation Treats Hydrocarbon Contamination



Summary

Leakages from underground storage tanks (UST) at an active petrol fueling station resulted in significant hydrocarbon contamination impacting the soil and groundwater. The entire tank farm was replaced in 2007 and grossly contaminated soil excavated.

Yet, significant dissolved phase contamination remained present within the confined aquifer beneath the building and was migrating offsite. Further remediation and solution to contain the migrating contamination was required.

Treatment

A barrier of ORC-Advanced and ORC-Primer was injected into the full depth of the aquifer (from 8.5m to 3.5m BGL) at the site boundaries and immediately downgradient of the former tank farm. Application was via Direct-Push and the injections were carried out in a double barrier configuration downgradient of the former contaminant source and at site boundaries, ensuring that migrating contamination is effectively treated.

Why of Special Interest?

ORC-Advanced has been specifically designed to provide a controlled release source of dissolved oxygen, driving enhanced aerobic bioremediation for up to 12 months.

ORC-Advanced is effective in barrier applications where there is a continual influx of contaminant requiring treatment.

Remediation Details

Site Type:

Petrol Fueling Station

Project Driver:

Prevention of contamination migration offsite

Remediation Approach:

Barrier application - Enhanced Bioremediation

Technologies:

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:

TPH - 500 µg/L
Toluene - 80 µg/L
MtBE - 200 µg/L

Treatment Depth:

3.5 to 8.5 BGL

Remediation Cost:

€20.000