

Plume Treatment Under a Former Gas Works Site in Italy

In situ barrier prevents offsite migration of groundwater contamination



Summary

A former gasworks site undergoing redevelopment was found to be contaminated with TPH, PAH and BTEX in the shallow formations. In order to prevent any off-site migration of the contaminants and potential liability, an in situ barrier has been installed along the property boundaries. The barrier consists of PlumeStop® Liquid Activated Carbon, which provides rapid and sustained treatment of the contaminants through sorption and bioremediation.

Treatment

The PlumeStop application has been performed via 76 fixed injection locations. The well installation and injection activities were performed by REGENESIS Remediation Services. The injections took 3 months and have been carried out at the same time as other onsite activities including demolition and construction of new buildings.

Careful scheduling and minimisation of working equipment has allowed for the works to proceed without interruption, also avoiding any interference with the other ongoing activities on site.

What's Special?

- Due to PlumeStop's ability to continuously bioregenerate its sorption sites, the barrier will prevent the offsite migration of any onsite residual contamination for many year/decades.
- As the PlumeStop is active for so long, the treatment cost is very low, when compared to active hydraulic containment systems.
- As PlumeStop can be injected by Direct Push or via wells, the application can be easily worked into onsite redevelopment programmes.

Remediation Details

Site Type:

Former gasworks redevelopment

Project Driver:

Protection of off-site receptors

Remediation Approach:

In situ sorption and biodegradation to prevent off-site migration

Technologies:

PlumeStop®

Geology

	Bedrock
	Gravel
X	(Silty) Sand
	Silt
	Clay

Medium

X	Groundwater
	Saturated Soil
	Vadose Zone

COC

X	Petroleum Hydrocarbons
	Chlorinated VOCs
	Free Phase
	Metals

Treatment Level:

3 to 12m BGL

Barrier Length:

150m

Injection Points on Grid:

76 point with a 2m spacing

Remediation Cost:

Approx. €200k