

Active Industrial Unit – Off-Site Migrating Plume, Falkenberg Sweden

Chlorinated Solvent Contamination Treatment



Summary

Perchloroethylene (PCE) contamination was discovered in the groundwater under a large industrial unit in Falkenberg, Sweden. The contamination was shown to have migrated offsite under neighbouring residential properties downgradient. A remediation strategy was implemented to reduce the risk to human health and downstream controlled waters. An in-situ remediation strategy was chosen to minimise the disturbance onsite and allow use of the facility to continue.

Treatment

WSP commissioned RGS90 to undertake the application of 3-D Microemulsion into the groundwater under the factory. The self-distributing properties of 3-D Microemulsion allowed the number of injection points to be minimised, reducing the amount of coring required through the building’s concrete floor slab and reducing the cost of the project.

Why of Special Interest?

Validation sampling was undertaken across 17 No. monitoring wells within the building and a further 13 No. monitoring wells down gradient outside the building.

Monitoring data seven months post application demonstrated a mass reduction in contamination within the impacted source area, and evidence of reductive dechlorination down gradient of the source.

After 18 months, the trend still persisted and the site specific target levels are expected to be achieved within 3 years from application.

Remediation Details

Site Type:

Active industrial unit

Remediation Driver:

Protection of environment

Remediation Approach:

Anaerobic Bioremediation / Enhanced Reductive Dechlorination (ERD)

Technologies:

3-D Microemulsion®

Geology

	Bedrock
	Gravel
	Sand
X	Silt
	Clay

Medium

X	Groundwater
	Saturated Soil
	Vadose Zone

COC

	Petro HCs
	Petro LNAPL
X	Chlorinated VOCs
	Metals

COC Concentration Levels:

PCE

Treatment Depth:

2.5m to 6m BGL

Treatment Volume:

4800m³