

Successful Pilot Test at Former Dry Cleaner Site with Restricted Access

Combined treatment at urban site with historic contamination in Belgium



Summary

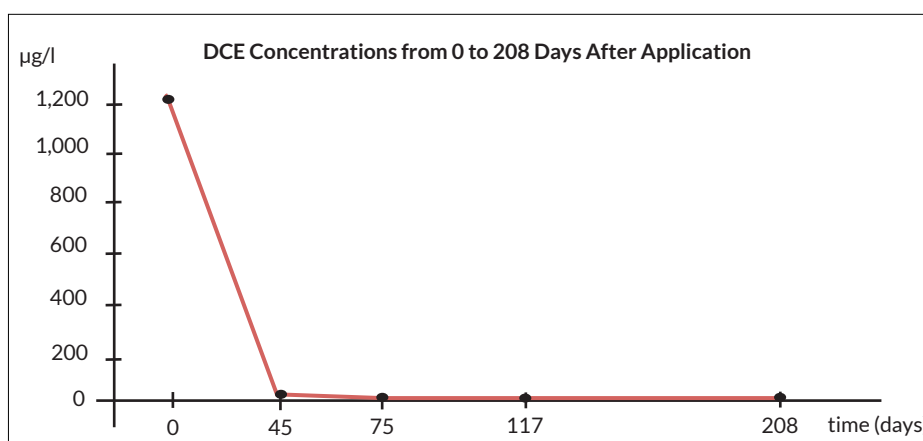
A historic chlorinated solvent spill from a former dry cleaning facility had caused contamination of the soil and groundwater below the site. With a high seepage velocity (approx. 17 m/year), the contamination was found to be migrating towards a local stream, posing an unacceptable risk to the environment. REGENESIS was asked by Environmental Consultant ABO NV to provide a solution to treat the plume onsite and stop its migration over the site boundary.

Design and Application

REGENESIS has provided a double pilot design using 3-D Microemulsion (3DMe) and PlumeStop. Following the pilot studies, the full scale applications will comprise 3DMe to treat higher concentrations of chlorinated solvents in the source zone, where accessible. PlumeStop will be used in a barrier formation along the edge of the site, to stop and treat the plume as it migrates into the treatment zone.

Pilot Test Results

The 3DMe pilot was successful, showing rapid and sustained enhanced reductive dechlorination. In the PlumeStop pilot test area >99% reduction was achieved 45 days after application, see graph below.



Pilot Results - PlumeStop area

What's Special?

- The *in situ* products were integrated to match treatment of high level contaminants in the source area and provide immediate and long term prevention of plume migration. This rapidly removed the offsite liability and is acting to reduce the onsite secondary source.
- This project is particularly challenging because the site is located in an urban residential area with access restricted to a narrow parth, immediately off a busy road.
- A 4-minute project video is available to watch: regenesisis.com/videos

Remediation Details

Site Type:

Urban, Former Dry Cleaner

Project Driver:

Regulatory

Remediation Approach:

In situ barrier and source treatment

Technologies:

PlumeStop®, 3DMe®

Geology

	Bedrock
	Gravel
X	Sand
X	Silt
	Clay

Medium

X	Groundwater
	Saturated Soil
	Vadose Zone

COC

	Petro HCs
	Petro LNAPL
X	Chlorinated VOCs
	Metals

COC Concentration Levels:

DCE up to 1,200 µg/l

Treatment Level:

1.5m to 6 m BGL

Treatment Thickness:

4.5m

Treatment Area (pilot):

75 m²