

Remediation of the former Gasworks Site Gifhorn



BAUERUmweltgruppe

Client:	RWE Solutions Liegenschaften GmbH & Co. KG, Germany
Engineering Design and Supervision:	Ingenieurbüro Dr. Röhrs und Herrmann, Holzminden, Germany
Scope of Works:	Remediation of the former Tar Pit and the former Gasworks Site including Off Site Disposal of Contaminated Material and Water Treatment
Contract Period:	September 2004 to December 2004



Project

BAUER und MOURIK Umwelttechnik in co-operation with BAUER Spezialtiefbau carried out the remediation of a PAH and Cyanide contamination at a former tar pit situated within the former gasworks site in Gifhorn, Germany by replacement drillings. Additionally the remaining area of the gasworks site was handled by conventional excavation technique.

due to the fairly high groundwater, with groundwater levels between 2.2 m to 3.2 m below ground level.

Following the replacement drillings 15.000 tons of contaminated soil were replaced by conventional excavation on the gasworks site.

Due to regulations by the responsible administrative centres BAUER und MOURIK Umwelttechnik had to modify the given remediation concept. Subsequently soil had to be separated and treated in biological, chemical-physical as well as thermic soil treatment plants.



Contaminated soil is removed with a drilling bucket, then cement suspension and gravel is filled into the borehole.



Free tar phase was monitored in the boreholes several times on top of the groundwater.



The groundwater treatment consisted of two sedimentation reservoirs, a sand filter, an activated carbon filter and a Cyanide treatment step.

Remediation Site

The contaminated site in Gifhorn, now under the ownership of RWE Solutions, Germany was used as a gasworks site between 1899 and 1956. Considering the former use of the site the community of Gifhorn conducted soil- and soil vapour investigations. Preliminary site investigations by Dr. Röhrs & Herrmann, Holzminden, Germany between 2001 and 2003 identified highly PAH-contaminated soil.

Result

During the remediation process 780 m³ PAH- and Cyanide-contaminated soil was substituted by replacement drillings in the tar pit. Therefore 95 completely overlapping drillings, diameter 1,200 mm were carried out to a depth of 11.5 m. Since the tar pit was situated close to a building protection to avoid damages at the building was necessary. Therefore the drillings were refilled with a cement suspension and a special gravel mixture to built a concrete block next to the building.

In addition a comprehensive water treatment system, including Cyanide-treatment, was carried out to avoid recontamination