

Groundwater Remediation at the former Gasworks Site Munich-Moosach with a Funnel and Gate System



BAUERUmweltgruppe

Client: Stadtwerke München GmbH, Germany

Engineering Design and Supervision: bfm Umwelt GmbH, München

Scope of Works: Supply and Installation of Remediation Plant Technique and Parts

Contract Period: August 2004 to March 2005



Project

The worlds biggest Funnel-and-Gate System was recently built in Munich. Therefore Bauer Spezialtiefbau GmbH installed a 1.2 km long sheet pile wall containing four gates. The complete equipment of the gates with containers, tubes as well as control, measuring and visualisation technique was set up by BAUER und MOURIK Umwelttechnik GmbH & Co. The remediation time is considered to be a minimum of 50 years.



Installation of one of altogether 26 GFK containers for activated carbon (diameter 3 m) in one of the four gates. The base frame for the containers was made of V4A steel.



Inlet pipes and pipes for back washing were installed on site in the up to 35 m long gates. The gates are built as a steel sheet pile wall box.

Remediation Site

The existing Pump and Treat remediation system at the former gasworks site in Munich-Moosach will be replaced by the new installed Funnel and Gate System. For the first time in the world the gates will be equipped with pressure-containers filled with activated carbon. Water flow through the containers is controlled by hydraulic gradient. Due to this construction feature flushing of the containers for backwashing and exchange of activated carbon is possible.

Result

The extremely long operation time as well as the limited accessibility of the equipment had to be considered before installation. Therefore BAUER und MOURIK Umwelttechnik operated with special chosen materials and additional material tests. 26 pressure containers with a diameter of 3.0 m and a height of 5.3 m were built of glass fibre reinforced plastic (GFR) material. The beneath structure for the containers was built of V4A steel. The aim was to avoid fouling and leakages. In addition every single container was checked by an independent certified technical supervisor called TÜV. All pipes and connecting pieces are made of PE100 or V4A steel.



The central control panel, which monitors all parameters of the entire plant on-line, is located in gate 1. The gate is equipped with eight filter containers.

A major challenge was the small water flow velocity with 0.5m/s in the tubes. The data transfer between the gates and the central control panel is carried out by a lightwave conductor. Besides using the central control panel it is possible to check and adjust all technical parameters by touchscreens in every single gate by maintenance personnel. For safety reasons the air quality in the gates is controlled permanently. All safety concerns will be submitted immediately to the responsible department of the client.