Press Release

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Inspired by nature: Soil replacement using the honeycomb method

Velten, Germany – The charming small town of Velten is located close to Berlin. It is well known for its remarkable treasure trove of historical buildings with lovingly renovated "Töpper" (potter) villas and as an important industrial site in the Oberhavel region. The former company called Polychemie Velten GmbH, which manufactured numerous chemical products for the leather and sugar industry on that site until 1990, also forms part of this history. This resulted in contamination of the soil and groundwater. The solution is soil replacement, but not in a traditional way. A special method is used instead, which has been significantly inspired by nature. And right in the center of the action is Bauer Resources, the leading remediators of contaminated sites in Germany.

Systematic and efficient
In November 2023, the Bauer Resources specialists got the green light. "We approach a project like this one very systematically", says Friedrich Leifheit. It all starts with the preparatory works and the creation of the infrastructure for the construction site. "After all, good preparation and design are the key success factors", the experienced project manager in the environmental division at BAUER Resources GmbH continues to explain. The next step is the replacement of more than 2,000 m^3 of soil using the honeycomb method. As part of this process, hexagonal steel elements are inserted in a honeycomb structure using a high-frequency vibrator attached to a duty-cycle crane. Afterwards, the honeycombs are dug out using a special excavator. The method has several advantages, as Holm Uhlig, a sales representative at Bauer Umwelt, the environmental division of BAUER Resources GmbH, knows from many years of experience as a project manager: "On the one hand, the honeycombs make it possible to excavate large areas efficiently and evenly, allowing the thorough removal of the contaminated material. On the other hand, the hexagonal cross-section of the honeycombs prevents possible gaps and any resulting penetration of contaminants into the surrounding soil."

Mission: safety first
Since protecting people and the environment is the top priority in a project like this, safety took center stage right from the start. And particularly due to the excavated soil being contaminated with volatile chlorinated hydrocarbons (CHC), the team works extremely carefully. For example, the excavated material is stored in liquid-tight and gas-tight lidded containers to prevent harmful substances from escaping. "In total, we are excavating approximately 2,200 m^3 of soil", explains Friedrich Leifheit. And what happens to the polluted soil? “It is disposed of properly so approximately 110 truck journeys are needed to remove it." After the excavation, the honeycombs are filled with clean soil and the steel elements are carefully removed.

For a fresh start
Work on the construction site will continue until April 2024. By this point, the groundwater flow will be secured and the surface will be restored. This means that the former polychemical plant is finally consigned to history and the large area is ready for a new chapter as an attractive industrial park. The development of the area is expected to begin in the coming months. This will finally bring this brownfield site back to life. "We are delighted that, thanks to the excellent work carried out by everyone who has been involved in the project, we can complete works at the construction site on schedule and contribute to the site getting a new start", summaries Holm Uhlig.

A project **video** is available at https://youtu.be/-Hov-SjBJM4

Photos: press-image-soil-replacement-honeycomb-method-velten-bauer-resources...


(1) Since November 2023, Bauer Umwelt has been restoring a former industrial site in Velten near Berlin.


(2) The honeycomb method is being used.

(3) A total of approximately 2,200 m^3 of polluted soil will be replaced and removed in special containers.

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About BAUER Resources Group

The regionally organized BAUER Resources GmbH is aligned to projects around the world with its subsidiaries in Germany, Africa, the Middle East and South America and has extensive expertise in the areas of drilling services and water wells, environmental services, constructed wetlands, mining and rehabilitation. With more than 30 years of experience, BAUER Resources GmbH's Bauer Umwelt business division is one of the leading specialists in site remediation, soil remediation and waste disposal, both in the domestic market and internationally. As an expert in pollution reduction, Bauer Umwelt offers a diverse range of services for all environmental issues. Other companies of the BAUER Resources Group are GERMAN WATER and ENERGY GROUP (GWE), SCHACHTBAU NORDHAUSEN GmbH and SPESA Spezialbau und Sanierung GmbH. More at https://resources.bauer.de/en.

About Bauer

The BAUER Group is a leading provider of services, equipment and products dealing with ground and groundwater. The Group can rely on a worldwide network on all continents. The Group’s operations are divided into three forward-looking segments with high synergy potential: Geotechnical Solutions, Equipment and Resources. Bauer profits enormously from the collaboration of its three business segments, enabling the Group to position itself as an innovative, highly specialized provider of products and services for demanding projects in specialist foundation engineering and related markets. Bauer therefore offers suitable solutions to the world’s greatest challenges, such as urbanization, the growing infrastructure needs, the environment, as well as water. The BAUER Group was founded in 1790 and is based in Schrobenhausen, Bavaria. In 2022, it employed about 12,000 people and achieved total Group revenues of EUR 1.7 billion worldwide. More information can be found at https://www.bauer.de/en. Follow us on Facebook, LinkedIn, Instagram and YouTube!