

DEAR

IT HAS BEEN QUITE SOME TIME SINCE OUR LAST NEWSLETTER. THIS IS NOT BECAUSE WE HAD NOTHING TO TELL YOU, BUT BECAUSE OUR ORGANIZATION HAS EXPERIENCED STRONG GROWTH, SO THE TIME WAS LACKING TO SHARE AN UPDATE. IN THE PAST YEAR, WE HAVE MADE TREMENDOUS PROGRESS ESPECIALLY IN THE FIELD OF WATER TREATMENT PLANTS FOR PFAS. OUR KNOWLEDGE OF THESE SUBSTANCES IS GROWING DAILY, AND WE ARE FULLY COMMITTED TO INNOVATION TO REMEDIATE PFAS MORE EFFICIENTLY. FOR EXAMPLE, WE HAVE DEVELOPED A MOBILE, COMPACT TREATMENT PLANT THAT IS EASY TO MOVE, AND WE ARE TESTING DIFFERENT TYPES OF ADSORBENTS IN SPECIAL SETUPS.

WE WERE ALSO SELECTED FOR AN INNOVATION PROJECT SUPPORTED BY FLANDERS, OVAM, AND THE KNOWLEDGE CENTER FOR INNOVATIVE REMEDIATION TECHNIQUES (KIS VZW) IN WHICH WE ARE INVESTIGATING THE POSSIBILITY OF IMMOBILIZING PFAS IN SOIL BY INJECTION OF ORGANOCLAY. OUR INNOVATIVE APPROACH IS PAYING OFF: WE RECENTLY RECEIVED A FINAL CERTIFICATE FROM OVAM FOR A SUCCESSFUL REMEDIATION PROJECT IN WHICH BTEX WAS TREATED BY INJECTION OF SULFATE.

YOU CAN READ MORE ABOUT THESE INTERESTING PROJECTS IN THIS NEWSLETTER!

WE WISH YOU ALL THE VERY BEST FOR 2025!

HANS AND WOUTER

SODECON

SODECON is an innovative, knowledge-driven company specialized in soil and groundwater remediation providing consultants, project developers, companies and private persons with sustainable, economic solutions to their soil issues.



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CHARITIES

EVERY YEAR WE SUPPORT A NUMBER OF CHARITIES PROPOSED BY OUR EMPLOYEES. IN 2024, WE CONTRIBUTED TO THE FOLLOWING PROJECTS:

- Children's Cancer Fund
- Stand Up to Cancer
- VZW Welzijnsschakel
- University Fund Antwerp
- Little Hearts: orphanage in Cambodia
- VZW Kisangani: sustainable development in Congo



NEW EMPLOYEES

Jake, Frederik and Michiel

Michiel joined us this year as water treatment technicians.

They each bring their own expertise helping us elevate our installations to the next level. In 2025, we will also be welcoming **Inez**, who will join as a project engineer, ensuring smooth management of our projects.



REMEDICATION OF BTEX WITH THE HELP OF SULFATE-REDUCING BACTERIA



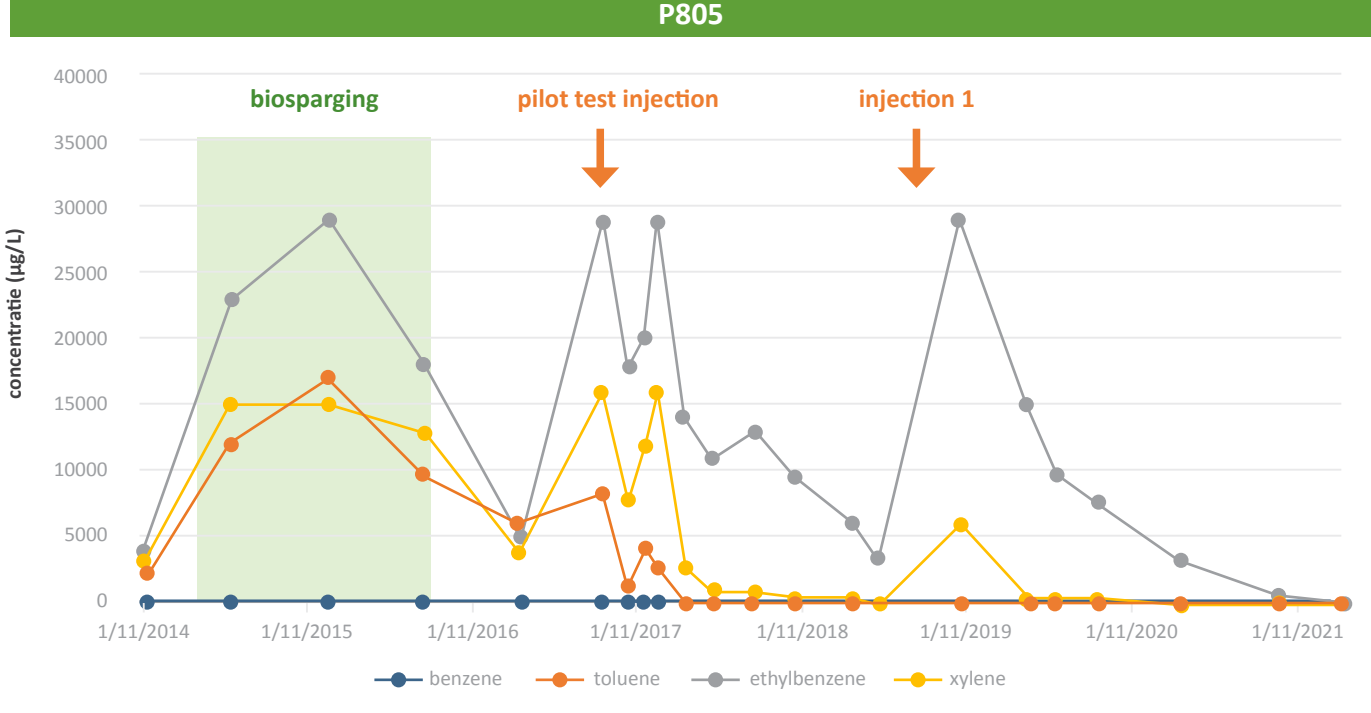
A former industrial site in Belgium has extensive BTEX contamination due to the former underground storage of solvents. It was decided to remediate the site before it was reused as industrial land. After removal of the buildings and tanks and remediation of the unsaturated zone, extensive contamination remained in the groundwater. The groundwater contamination covered an area of about 3,000 m² and spread to a depth of 20 m. Concentrations of 100 mg/L were present in the groundwater. An attempt to remediate the groundwater with biosparging was unsuccessful due to the poor permeability of the soil.

Sodecon then proposed an innovative approach to stimulate sulfate-reducing bacteria by injecting sulfate. These bacteria work more slowly than aerobic bacteria, but sulfate has the advantage that it can be injected into the soil at much higher concentrations than oxygen, making it a good alternative in less permeable soils. Moreover, sulfate remains in the soil for a very long time, allowing the bacteria to be activated even a long time after injection.

A pilot test was conducted in 2017. Based on the successful results, large-scale remediation was started in 2019. 160 injection wells were installed. Strong decreases in BTEX were observed after the first injection in 2020. In 2022, an additional injection was performed on 40 wells to additionally treat the highest concentrations. Increased degradation capacity in the soil was observed up to 4 years after the injection.

After 2 injections, the remediation was complete and a final certificate was issued for the site by OVAM in March 2024, allowing redevelopment of the site to begin. Even after remediation, the sulfate-reducing bacteria continue to degrade the contamination.

In cooperation with Uniersoil, we were able to bring this remediation to completion.



INNOVATIVE APPROACH TO PFAS CONTAMINATION IN SOIL

We have been selected by Flanders, OVAM and the Knowledge Center for Innovative Remediation Techniques (KIS vzw) to carry out 2 KIS projects: InSuFix and InjectAnt.



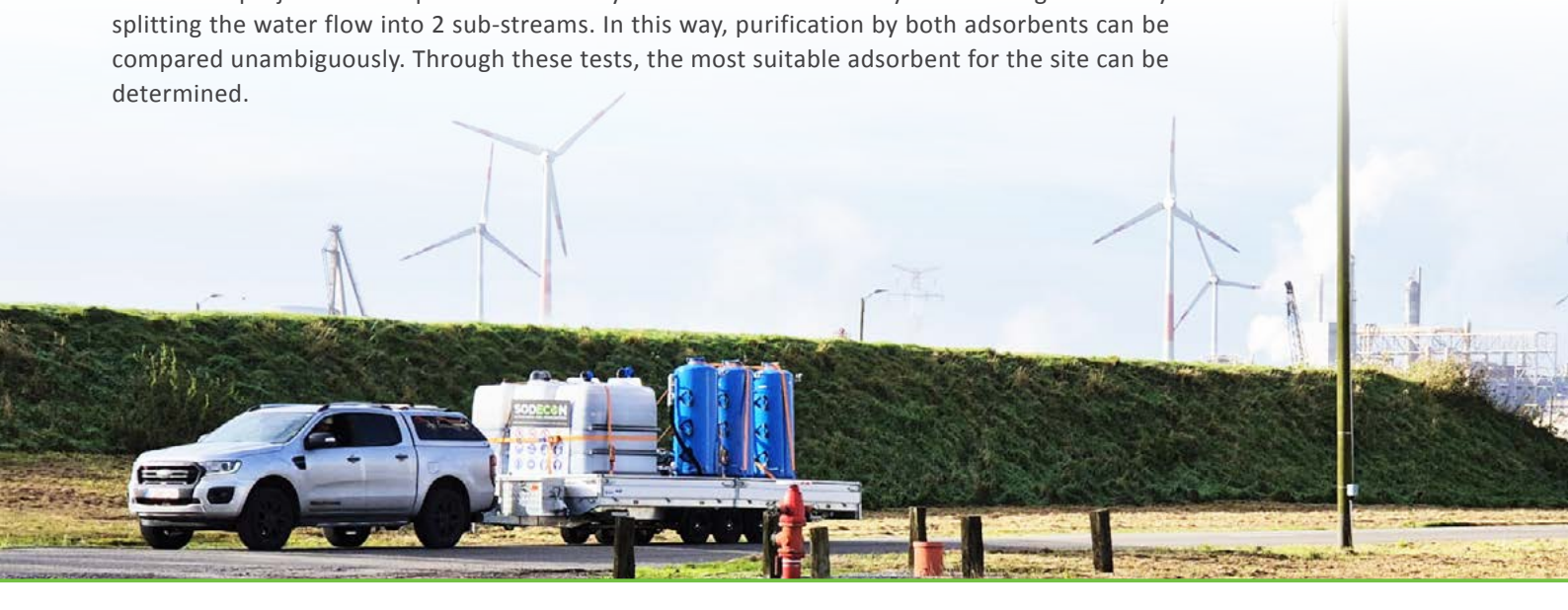
Within this project, we will investigate the in situ sequestration of PFAS in soil using organoclay. In the project, special injection toolings will be developed and organoclay will be modified for injection at 2 test sites of Brussels Airport Company and Port of Antwerp-Bruges. In addition, VITO will evaluate the long-term stability of the immobilization of PFAS. To make this possible, we are combining the extensive expertise of our project partners Sodecon, Injectis, VITO, Brussels Airport Company and Port of Antwerp-Bruges, complemented by the valuable support of our subcontractors i-Flux, Enissa, ABO and Witteveen+Bos.

THE PROJECT WILL START EARLY 2025...

INNOVATION IN WATER TREATMENT

This year we built and installed several new water treatment plants. At the request of a client, we developed a treatment plant for purification of PFAS contaminated groundwater with a flow rate of 5 to 10 m³/h that we can easily move on a site. To make this possible, we had to look for a way to reduce the weight of the plant as much as possible. Based on extensive testing and the use of alternative adsorbents for PFAS, we were able to greatly reduce the weight of the plant but still maintain treatment efficiency. Meanwhile, the installation was extensively tested at high concentrations (15,000 ng/L PFAS). The results were so good that, in the meantime, a second unit was built which will be commissioned in January 2025.

In another project we compare water purification by activated carbon and by ion exchange resins by splitting the water flow into 2 sub-streams. In this way, purification by both adsorbents can be compared unambiguously. Through these tests, the most suitable adsorbent for the site can be determined.



PFAS PURIFICATION

Doctor Sodecon, I am suffering from PFAS in my water

Let's purify your water

HELP!!! I'm stuck!

PHEW!

