Stabilization of PFAS contaminated soil

PFAS contaminated soil at a fire station in operation

An operating fire station located in a suburban neighbourhood in Stockholm, Sweden, was expanding the facility for emergency vehicles. As a fire station handles hazardous products containing e.g. perfluorinated substances, a site investigation was carried out as a first step in the expansion, to document the environmental status of soil and groundwater.

Site investigation

The results from the site investigation showed that concentrations below the guideline values for arable land and NLDS soil, and releases levels of PFAS were found in the groundwater.

As a response to the findings, the local authority decided that the area was to be remediated to contain PFAS and highlight the necessity for the work. The previous removal, instead of sampling at the contaminated site as well as a group to prevent the development of PFAS.

As the soil was found to exceed the soil’s maximum soil concentration to be deposited in a containment or land treatment facilities, the local authority decided to remove the soil at the fire station using the remediation agent Volatile Pharma, which is also used in the excavation of the contaminated soils to remove PFAS.

Remediation of soil and groundwater at a former surface treatment industry

In June 2018, Envitech won a private partnering contract for a demolition and remediation project for a former surface treatment industry. Contaminants of concern involved heavy metals such as chromium, zinc, and lead.

Selected samples had been analysed for PFAS, which had shown use to moderate levels of PFAS. Contaminants had also been detected in the groundwater. Measured levels indicated very high levels of both metals as well as PFAS.

How it works

After the remediation of the original facility was completed, the site was prepared for the installation of the leachate treatment facility. The leachate water is treated on site with a combination of physical, chemical, and biological processes. The treated water is then discharged to the nearest watercourse or reclaimed for use on site.

The results showed that soil and treated waste at Soilwin treatment facility is provided with a combination of physical, chemical, and biological processes. The treated water is then discharged to the nearest watercourse or reclaimed for use on site.

The pilot was tested to mechanical mixing and addition of lime and fenced off. The pilot was a homogeneous mixture of sludge (different materials could be integrated).

The pilot was installed at the residential area to are removed and were stored in a leachate tank. The tank was designed to store the treated water for further use. No further tests were made because the tank was designed to store the treated water for further use. No further tests were made because the tank was designed to store the treated water for further use. No further tests were made because the tank was designed to store the treated water for further use.