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Decontaminating soil using bioremediation

When replacing underground reservoirs at petrol stations, it is necessary to remove the soil around the reservoir to protect it from gasoline and diesel fuel contamination. Croatian company CorteCros, which is part of Cortec Corporation Group, provides environmentally safe bioremediation solutions for such projects with Bionetix products.

During oil and gas exploitation in the oil fields, pipelines and storage tanks often crack and contaminate soil. During exploration and drilling of new wells, soil pollution from various oils or diesel fuel may also take place.

CorteCros found a solution to soil remediation when in 2015 the company started the pilot project for INA, a Croatian multinational oil company and one of the biggest oil companies in the region. The client needed to remove all contaminated soil from the oil and gas fields as well as gas stations.

Based on positive results from the soil bioremediation using CorteCros' Bionetix products, the customer built a landfill for the treatment of contaminated soil.

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Contaminated soil was collected from oil fields and transported to the landfill. It then passed several laboratory tests.

About the products

BIOSURF and BCP 35S are products especially formulated by Bionetix for bioremediation of soil contaminated by petroleum hydrocarbons and related wastes. BIOSURF is a new biosurfactant treatment designed to help clean up oil spills naturally. It offers high dispersing power and acts as a strong biostimulant to promote hydrocarbon degradation. It is an excellent alternative to synthetic surfactants and dispersants commonly used to disperse oil slicks.

Surfactants work by lowering the surface tension of water – in essence, making the molecules slipperier, so they are less likely to stick to themselves and more likely to interact with oil and grease by breaking oil apart into



BCP35S and BIOSURF were mixed with fresh water and sprayed on the surface of the contaminated soil, which is simultaneously agitated.

smaller droplets that are more accessible to natural biodegradation processes.

BIOSURF is a non-toxic biosurfactant extracted from plants and fortified with micronutrients that speed up natural biodegradation.

Bioremediation with BIOSURF and BCP 35S will deep clean soils, and also:

- Enhance natural process.
- Eliminate unsightly areas.
- Reduce pollution liability.
- Lower disposal costs.

INA says it now successfully uses this procedure. The process of mixing contaminated soil and spraying with the fresh water/BCP35S/BIOSURF mixture is repeated every 10 days. After three to five months, depending on the type of pollution (crude oil, gasoline, diesel), the soil can be returned to nature completely unpolluted. □