Novorem
Science supporting industry

Bioremediation services

Novorem: Your partner in groundwater and soil bioremediation.

Assays

Assays can be used to test the biological parameters of site soil quality, or quantify the disruption of soil by contaminants, to help determine the most effective bioremediation strategy.

- Soil Dehydrogenase enzyme
- Nitrate/Nitrite quantification
- Ammonia quantification
- AMES (mutagenicity) test

Bench-scale tests

It's essential to determine how effective – if at all – bioremediation will be for your site before implementing any processes. Bench testing allows for analysis of your contaminated samples to know how your site will react to different bioremediation agents.

- Microcosm studies

Environmental testing

Envionmental testing will detect and track the abundance of any microbe of interest in groundwater and soil samples. To do this we use quantitative PCR to quantify the abundance of specific DNA sequences from various types of bacterial genera. We also offer microbial community analysis to provide a detailed description of the microbial community of a site, which can be used to develop a remediation strategy.

- Bacterial quantification (qPCR) – Total Bacteria, Total Archaea, Dehalococcoides, Dehalobacter, Desulfitobacterium, Dehalogenimonas, vcrA, tceA, bvcA, mcrA
- Custom gene targeting
- Microbial community analysis

Isotope analysis and probing

Testing the reliability of the microbes used in your bioremediation process is important to ensure expectations are being met. Incubating stable-isotope-labelled compounds with contaminated samples can effectively trace and identify microbes and assess biological process.

- Compound specific isotope analysis
- Stable Isotope Probing (SIP)

Culture production

If microorganisms can't be enhanced in the current environment, they can be produced, transported and injected into contaminated sites. Injecting hydrocarbon or solvent-degrading cultures is a cost-effective and trustworthy method of contaminated site clean-up.

- Organochlorine respiring culture (AUSPCE)
- Phenol-Benzene-Naphthalene degrading culture
- 1,2-Dicholorethane respiring culture (AUSDCA)
- Chloroform respiring culture (AUSCF)
- Petroleum Hydrocarbons degrading culture (AUSGC)
- Crude oil degrading culture (AUSHC) With organic carrier

Biostimulation

Simple nutrient amendments can transform contaminants and change microbe abundance and consumption. This allows a sites exiting bacteria to be modified and stimulated to the point where it is capable of bioremediation.

- Biostimulator for aerobic hydrocarbon degrading bacteria
- Biostimulator for anaerobic degradation of chlorinated solvents

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Get in touch

Please use the contact details below to make an inquiry or to request services from Novorem.

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