



AN OVERVIEW OF BIOREMEDIATION

Bioremediation uses natural processes to clean up contaminants in the environment. The contaminants may be hydrocarbons such as diesel, petrol and lubricating oils or other harmful organic chemicals.

Bioremediation uses the presence of naturally occurring (indigenous) bacteria present in soil and groundwater that have the ability to use the contaminants as a food and energy source, this results in the contaminants being converted into, biomass (more bacteria) and harmless by products such as water and carbon dioxide.

Successful bioremediation requires the correct conditions being present in the soil and ground water; typically the most important parameters are the availability of oxygen and nutrients, followed by pH, temperature and moisture. The type of soil, size and depth of the area contaminated and the concentration of contaminants also impacts on the process.

Given the correct conditions the bacteria are able to utilise the contaminants as a food and energy source. If the conditions are inappropriate the bacteria will be unable to grow and in some cases the conditions may also cause them to die. It is also possible that if the conditions are inappropriate that the bacteria may metabolise the contaminant into something more toxic.

Typically the bioremediation of hydrocarbons is carried out under aerobic conditions (i.e. in the presence of oxygen) whilst other contaminants are degraded anaerobically (in the absence of oxygen). Aerobic processes are usually quicker than anaerobic processes.

Sirius Remediation can apply a blend of specially selected indigenous bacteria, nutrients and co-metabolites engineered on a site specific basis to stimulate and augment the bacteria naturally present on site to enhance the bioremediation process.

Why use bioremediation?

- Safe, only uses naturally occurring bacteria, no harmful chemicals are used
- No harmful by-products
- Contaminants can be treated in-situ
- Although the remediation process takes longer it is not disruptive
- It is sustainable

For further information please contact us:

Sirius Yorkshire
Tel: 0113 264 9960

Sirius North East
Tel: 0191 378 9972

Sirius North West
Tel: 01928 515 715

Sirius Midlands
Tel: 0115 9061 335

Email: info@thesiriusgroup.com

Web: www.thesiriusgroup.com

