

Soil Remediation

Binary Industries, Australia

Background

On 25th August 2005 a fire at the Binary Industries chemical plant in Narangba Industrial Estate Queensland caused the release of a large quantity of herbicides and pesticides into the local environment including Saltwater Creek and a tributary.

The main chemicals involved were chlorpyrifos, 2,4-D, glyphosate and diuron.

To early 2008 it is estimated by QLD EPA that 5,283,441 Gal (20 megalitres) of water and 4,000 tons of soil contaminated with has been treated in-situ or removed from the site.

Challenges

Despite the progress made significant quantities of soil remain contaminated with high levels of 2,4-D. Current remediation options are either cost prohibitive or take an extended period of time with common remediation periods to achieve the maximum acceptable limit of 0.0008oz/lb (50mg/kg) of 9 to 12 months with regular turning.

BiOWiSH™ REMEDIATE Application

30 tons of Binary soil was secured by Thiess Services from QLD EPA for the purposes of an accelerated remediation trial. This trial was overseen by Luke Zambelli of Three Media Environmental. Sampling throughout the soil showed average contamination levels of 0.128oz/lb (8,000mg/kg) of 2,4-D.

BiOWiSH™ REMEDIATE was mixed into solution and applied at 0.100oz/cu ft (100gr/m³) or 100ppm with a microbial nutrient source rich in nitrogen and phosphorus (Fast Grow fertiliser) at 0.032oz/lb (2,000mg/kg) and moisture was maintained at 40-50% for the duration of the trial. All materials were thoroughly mixed as the *BiOWiSH™ REMEDIATE* solution was sprayed through the soil.

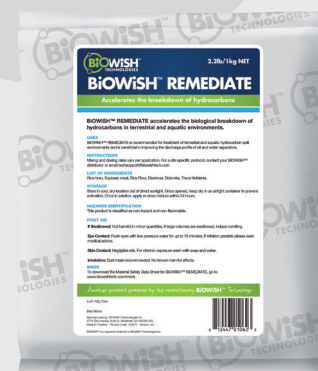
No further action was required other than to ensure moisture content remained >40%.

BiOWiSH™ REMEDIATE Benefits

- Rapidly breaks down a wide range of organic contaminants
- Reduces odor and volatile organic compound (VOC) emissions
- Neutralizes harmful toxins that may result from the bio-remediation process
- Reduces requirement for turning, aeration and other costly interventions
- Improves environmental outcomes

Available Sizes

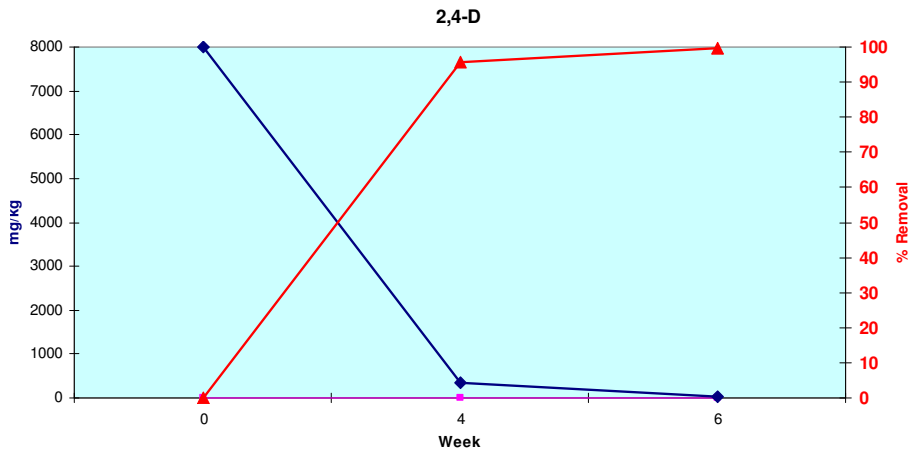
- 1kg/2.2lb
- 5kg/11lb



Results

Sampling showed removal of 2,4-D as follows:

Week 0	0.128oz/lb	8,000mg/kg
Week 4	0.0056oz/lb	350mg/kg
Week 6	0.00054oz/lb	33.9mg/kg



* It was observed that high levels of contamination remained in large clay bodies indicating that these need to be crushed prior to treatment.

About BiOWiSH™ REMEDIATE

The result of over 18 years of research and development, BiOWiSH™ is a powerful blend of biocatalysts that breaks down complex organic molecules to help eliminate waste, reduce odors, improve soil fertility and enhance water quality, among other uses. 100% natural and non-toxic, BiOWiSH™ is safe for everyday use in a wide range of consumer and industrial products. It has been proven to solve problems in environmental management (including wastewater, solid waste, soil and water remediation and industrial emissions), as well as agriculture. BiOWiSH™ products are used extensively and available in Asia, Australia, Europe, North America and Latin America.

Developed specially for the Soil & Water Remediation industries, *BiOWiSH™ REMEDIATE* accelerates the bio-remediation process by rapidly removing a wide range of organic contaminants including pesticides, hydrocarbons, phenols and amines from polluted soil or bodies of water.

Note: 2,4-Dichlorophenoxyacetic acid (2,4-D) is a herbicide commonly used in the control of broadleaf species.

Contacts

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