



Bionetix Newsletter

April, 2011

Welcome to Bionetix International

Cortec® Corporation is pleased to announce the formation of Cortec® Canada. Bionetix International; headquartered in Montreal, Canada, is now a Wholly Owned Subsidiary in the business of manufacturing microbial based bio-products.

With Cortec's 30 years plus experience as a world leader in environmentally-safe materials protection technologies, The Bionetix's product range is a natural extension of the Cortec® product offering. Our integrated resources will provide our customers with unique benefits of bacterial removal, remediation, and bioaugmentation. We will continue to expand our portfolio of products and service capabilities, creating additional value for our many clients.

Additionally, with this acquisition, Cortec® is well positioned in the marketplace to continue as a technology leader. The Bionetix business unit is comprised of solid, proprietary technologies. Cortec® Canada is a logical, strategic step to foster further development of promoting "Green" solutions for every facet of industry. This alliance is a wonderful opportunity for the Cortec®/Bionetix team to focus on market needs, scientific collaborations, and providing anyone from household to manufacturing with quality bio-products.



The home of Bionetix biologicals. The environmentally safe alternative to current waste treatments methods. Cost-effective, efficient and environmentally friendly technology.



Bionetix
INTERNATIONAL
A Subsidiary of Cortec® Corporation



On the Liquid Line

Biological Cleaners, Maintenance Products, and Non-Chlorinated Solvents

... effective cleaners combining microorganisms and green chemistry

Additives and Concentrates

Green formulations manufacturers seek for ease of use and cost effectiveness



On the Powder Line / Waste Treatment Products

Bioaugmentation of Polluted Environments

Specially selected, all-natural microorganisms break down organic pollutants without the use of chemicals and further damage to the environment.

- *Treat industrial waste water to meet stringent discharge standards*
- *Increase waste treatment efficiency in municipal waste water treatment plants*



Long-Acting Biological Cleaning Treatments

Blocks are not water soluble, so as waste water flushes through the system, the blocks don't dissolve away. Smaller blocks are used in restroom urinals, usually 30 – 60 days. Large blocks are used in grease traps to keep them clean and odor free.



Case Study

Bioremediation of Petroleum Hydrocarbon Contaminated Soil Under a Residential Building Using Stimulus and BCP35S

In June of 2009, a series of soil samples taken under a residential building in Montreal, Quebec, revealed the existence of petroleum hydrocarbon concentrations exceeding the applicable provincial environmental criteria.

The results indicated petroleum hydrocarbon concentrations in the center of the contaminated area – the ‘hot-spot’ - were 1200 mg/kg. Since the contamination was under the concrete slab of an underground parking, close to the footing of the exterior wall of the building, and the excavation of the soil posed significant technical difficulties, it was decided to use *in situ* remediation as a means to rehabilitate the site.

ENUTECH INC, an environmental company that specializes in *in situ* remediation of contaminated sites, was mandated to rehabilitate the site.

TREATMENT

The project consisted of installing seven (7) injection wells in and around the contaminated area and injecting a solution of biosurfactants and the appropriate type of bacteria among others in the affected soil.

The biosurfactant that was used, called Stimulus, is a liquid plant extract produced by Bionetix International. The biosurfactant has the ability to desorb and emulsify the petroleum hydrocarbon adsorbed onto soil particles making it vulnerable to bacterial biodegradation.

The bacterial culture, called BCP35S, also manufactured by Bionetix International, was injected at the same time as the biosurfactant. It contains different naturally occurring bacteria that are well adapted to petroleum hydrocarbon contaminated environments and are used to treat such contaminants.

After two series of injections in the contaminated soil using a solution of Stimulus, BCP35S, and other additives, samples were taken from the ‘hotspot’ and analyzed in a certified laboratory.

The results showed that petroleum hydrocarbon concentrations in the soil were undetectable (<100 mg/kg) where concentrations were 1200 mg/kg approximately ten (10) months before.

Since petroleum hydrocarbons were undetectable in the once-contaminated soil, the biodegradation of the sum total of these hydrocarbons probably took less than 10 months.

However, if we assume the biodegradation of 1200 mg/kg of petroleum hydrocarbons took ten months, we can extrapolate the environmental goal (700mg/kg in this case) was achieved in approximately 4 or 5 months (the estimation taking for granted that the degradation rate was constant).



Bionetix Products at Work Around the World

Soil Remediation in Fields of Table Grapes in the Chilean Desert

ORGANIC PLUS SP Biological Soil Amendment was applied to table grape vines in the desert. Two applications, 13 days apart, were used in a technique simulating irrigation. Larger healthier vines resulted. These vines are likely to produce a greater harvest of healthier grapes than untreated vines.



Treatment of Protein/Vegetable Oil-Based Waste From a Food Processing Plant in Japan Using BCP22 and Stimulus

A food processing plant discharged 600 kg/day of material consisting of: 50% protein, 30% vegetable oil, 20% water. BCP22 and STIMULUS were applied. Fourteen days later there was only some untreated materials due to continuous discharge.



Before



After



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