

BIORAPTOR™

Stock Symbol "bugs"



Sub-Surface Waste Management, Inc. (SSWM) is an environmental cleanup equipment and products provider. SSWM was started in 1998 and introduced the patented BioRaptor™ process

which treats and remediates contaminated soil and sludge. The BioRaptor™ is designed to work in conjunction with U.S. Microbics' proprietary "bugs" and processes to cost-effectively maximize results, while minimizing the environmental liability at contaminated sites.

BioRaptor™ Process Features

- SSWM uses unique microbial blends and processes
- Effective for a wide range of waste streams, including soil and sludge
- Utilizes over 30 years of bioremediation success
- Technical support ensures correct blend and application
- BioRaptor™ is a patented process developed for field application specialists in real-world use
- BioRaptor™ is a patented soil remediation process system that incorporates U.S. Microbics' proprietary, naturally occurring microbes, which are specifically selected to decompose a wide variety of hydrocarbon wastes from soil or sludge

Contaminant Solutions

The patented BioRaptor™ cleans the following contaminants:

- Gasoline
- Diesel
- Creosol
- TCE
- Aromatics
- Jet Fuel
- MTBE
- PCB
- Kerosene
- Bunker C
- PNA
- Other waste streams from soil or sludge
- Dioxins and other recalcitrant chlorinated compounds

The BioRaptor™ is designed to optimally deliver selected naturally occurring microbes to hydrocarbon contaminated soil to meet or exceed regulatory clean-up requirements and/or site-specific needs.

BioRaptor™ Easy-To-Use Features

- Familiar construction/earth mobilizing components
- Large throughput standard (50TPH/150TPH/600TPH)
- Custom sizing and configuration for unique site requirements
- Proprietary automatic measurement and application system
- Contained amount, type and concentration

Automatic Blend Proportion

- Ensures no trace product due to measurement or mechanical inconsistencies
- Ensures shut down when microbial fluid blend is low
- Provides operator alert when flow levels are not consistent
- Exact volume of treated product with optional belt scale attachment

Fast Results

The bioaugmented soil is tested frequently (from daily to weekly to monthly) to confirm the clean-up process. When the cleaning process is complete, the soil may then be used

for landscaping, construction fill, landfill cover, as well as other cost beneficial applications depending on local regulatory requirements or site development plans.

Technical Support of BioRaptor™

- Configured to meet your specific throughput requirements
- Experienced technical staff provides the correct combination of U.S. Microbics' products, proven among the most successful in decomposing customer wastes, and minimizing environmental and transportation liability

Benefits of BioRaptor™

- Design allows a more regulatory-friendly permitting process in fixed locations or on mobile sites compared to other transportable units
- Fugitive emissions to trigger air quality management district interdiction
- Streamlined permitting process compared to other treatment methods
- Increased fuel efficiency due to highly efficient process plant operations
- Proven money saving/cost-effective soil remediation process



U.S. Microbics, Inc.

U.S. Microbics, Inc. (NASD OTCBB: Stock Trading Symbol "BUGS"), the parent of SSWM (a wholly-owned subsidiary of U.S. Microbics) is a publicly traded environmental technology conglomerate that licenses its patented proprietary technologies, manufactures its own proprietary microbial blends, and has thirty years of proven success in eliminating or reducing many different types of contamination and waste problems for Fortune 100 companies.

Thirty years of pioneering field experience and seasoned technical staff intimately involved in the day-to-day triumphs of our customers have made U.S. Microbics and its subsidiaries the treatment partner of choice for America's waste treating giants.

U.S. Microbics recently moved into a 22,000 square foot facility in scenic North San Diego County to expand the manufacturing and blending of our proprietary, naturally occurring microbes used in environmental clean-up.

Our proprietary microbes are among the most effective in accelerating the degradation of petroleum hydrocarbons and other waste streams without regulatory headaches associated with genetically-engineered microbes or inherent to bio-stimulation and limits appropriation.

Our new facility is currently manufacturing our proprietary microbes to meet the customer's most specific needs. With our many years of experience, we are able to combine the right microbes to meet many of the most challenging contamination problems.

Case Study

Polychlorinated Biphenyls (PCB): A facility in Fresno, California discovered 40,000 gallons of PCB laden waste with high levels averaging between 14-20 mg/kg. Bioremediation was one technology invited to solve the contamination problem. The bioremediation treatment

system was designed using U.S. Microbics' microbes with the objective to reduce the PCB level to below 5 mg/kg. After tests were taken on two separate sample dates, the PCB levels were reduced to non-detectable levels.

Other Successful Outcomes

- Hydrocarbon contaminated soil remediated in Goleta, CA. – 1989
- Oil well sump spillage remediated at Cat Canyon in Santa Barbara, CA. – 1969
- Swine waste in the urban area of Nipomo, CA., treated for stabilization and odor control – 1971
- Landfill waste and oil well drilling mud cleanup in Huntington Beach, CA. – 1971
- Contaminated soil from former underground fuel tanks at the Oxnard Airport cleaned up in Ventura, CA. – 1990
- Bioremediation of fuel contaminated site in Santa Barbara's Santa Rosa Island, CA. – 1989
- Jet, torpedo, and diesel fuel from Naval wastes cleaned up in the Naval Station, Port Hueneme, CA. – 1975