

MICROBE-LIFT®

Ecological Laboratories INC.
Solving Environmental Problems Naturally Since 1976

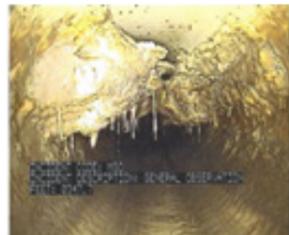
WASTEWATER



COLLECTION SYSTEMS PROBLEMS SOLVED*

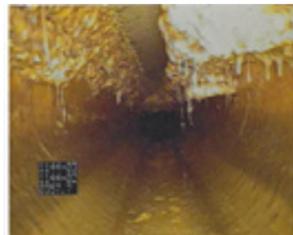
MICROBE-LIFT®

Formulated Specifically for Industrial & Municipal Wastewater Treatment



MGO - General Observation @ 347.7 ft.

Before Treatment



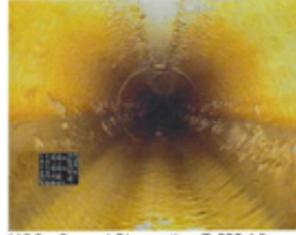
MGO - General Observation @ 357.7 ft.

5 Months Later



MGO - General Observation @ 224.6 ft.

Heavy Deposits



MGO - General Observation @ 225.4 ft.

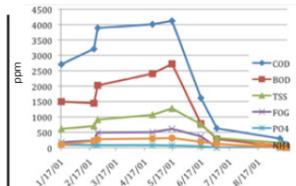
Corrosion Controlled

It should be noted the treatment and accompanying results of all of the lines pictured, was introduced into one manhole 700 feet from the lift station. The line was treated once per week in this location. All this was done with 10 gallons of Microbe Lift IND.

MICROBE-LIFT IND a highly active liquid culture consortium designed specifically for use in practically all environmental applications. IND select cultures promote increased biological degradation capabilities in all types of designs of biological wastewater systems, open lagoon and polluted environments. The IND consortium is every effective in degrading hard to degrade compounds such as fatty acids, various chemical compounds, hydrocarbons and fibrous matters that indigenous bacteria often unable to degrade them, hence result in system performance deficiency.

Wastewater Treatment of Poultry Plant, Karak Jordan*

- A well-designed, well-built wastewater treatment plant at National Poultry Slaughterhouse, in Karak, Jordan experienced difficulty meeting effluent requirements.
- Neighbors were complaining about bad odors.
- Effluent parameters were significantly out of control.
- A 65" floating sludge layer had accumulated on the top of the sludge containment tank.
- Effluent parameters improved significantly in the first month
- Odor reduced after one week • Odor eliminated after two weeks
- The floating layer of sludge virtually disappeared in the first two months
- MICROBE/LIFT was effective in reducing all wastewater parameters.
- All parameters were reduced by 90-100% compared to pretreatment levels



Plant design was adequate consisting of a 160 m³ collection tank, followed by 7500 m³ aeration tank, and 1600 m³ clarifier before a 1130 m³ sludge collection tank. Microbial activity was inadequate.

A 120 day dosage plan was developed using MICROBE-LIFT technology was implemented. All effluent parameters were monitored.

Ecological Laboratories Inc. is a biotechnology company that develops and manufactures novel, proprietary, liquid microbial formulations that are capable of solving many of the most challenging environmental problems facing the world today. On its two-acre campus in Cape Coral, Florida, Ecological's state of the art research and manufacturing facility focuses its growing team of microbiologists and chemists on providing ever-advancing, cost-effective, sustainable solutions to the twin challenges posed by polluted water and the need to improve crop and livestock productivity.

MICROBE-LIFT bio-technology products are the ideal choice to improve wastewater treatment processes. With unparalleled capabilities to breakdown waste, reduce toxic and corrosive gases, and significantly reduce sludge, MICROBE-LIFT drives down costs, increases operational efficiency, and assists in the achievement of regulatory compliance. The unique consortium of microbes in MICROBE-LIFT combine with indigenous populations to provide a bio-system that enhances the natural elemental cycles responsible for processing wastewater in a wide variety of systems. MICROBE-LIFT enhances biomass efficiency and stability in wastewater treatment systems with bio-technology designed to breakdown, oxidize and remove difficult to degrade waste.

Manufactured in the US by Ecological Laboratories Inc. with over 40 years experience in the enhancement of environmental processes, MICROBE-LIFT products are the most cost effective means for treating large volumes of water for the removal of dissolved organics.

For product questions please call:
800-645-2976

BIOTECHNOLOGY FOR WASTEWATER TREATMENT

- Reduce Operating Costs
- Speed Waste Degradation
- Reduce Hydrogen Sulfide & Ammonia
- Decrease Corrosion
- Reduce Equipment Service Costs
- Increase Capacity
- Remove Fats - Oils - Grease
- Improve System Stability
- Improve Compliance
- Eliminate Odor



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About MICROBE-LIFT

MICROBE-LIFT biotechnology is a proven solution used by municipal wastewater treatment facilities, textile manufacturers, food processors, and major agricultural operations, worldwide. Wastewater operators and managers experience superior results from the efficiencies and related improvement in system stabilities regarding the reduction of COD, BOD, TSS, & Fats-Oils-Grease (FOG). Elimination of odor associated with the generation of hydrogen sulfide and ammonia is a significant benefit when using MICROBE-LIFT.

MICROBE-LIFT is also effective in-situ for the remediation of pollution caused by hydrocarbons. Proven economic benefits have been experienced via the utilization of MICROBE-LIFT technology and its abilities to reduce the cost of sludge handling, while improving system maintenance by reducing hydrogen sulfide, and other corrosives. In agricultural facilities MICROBE-LIFT is also well known for its effectiveness when used for swine manure management, and poultry composting and bedding.

MICROBE-LIFT products are consortiums of biologic cultures that contain live vegetative bacteria, and a broad spectrum of aerobic, anaerobic, facultative, chemosynthetic and, photosynthetic organisms that function virtually in any environment. MICROBE-LIFT establishes a unique growth system creating a greater range of oxidation reduction via increased pathways and processes.

BIO-AUGMENTATION with MICROBE-LIFT is the addition of a consortium of specifically formulated microorganisms to the biomass of a wastewater treatment system, open water bodies or polluted lakes and rivers that can dramatically improve results where bio-stimulation alone has proven inadequate or ineffective. MICROBE-LIFT bio-augmentation has more than 40 years of field applications and often managed to partially and sometimes completely remove the mechanical limitation with regards to treatment objectives. MICROBE-LIFT bio-augmentation helps to achieve system performance often with very minimal or no system equipment upgrading. The value lies in potential saving on capital expenditure as compared to the conventional approach to solving the non-performance problem.



REDUCE YOUR COSTS WITH MICROBE-LIFT!

Reduction of Sludge - up to 35%

Reduce Cost of Handling Fats & Grease

Improve Plant Capacity - Speed Waste Degrading

Less Chemical Usage - Odor Control - Defoamers

IMPROVE SYSTEM EFFICIENCY!

Improves Nitrification

Solves Odor Problems

Rapid Startup

Improves Overall Performance

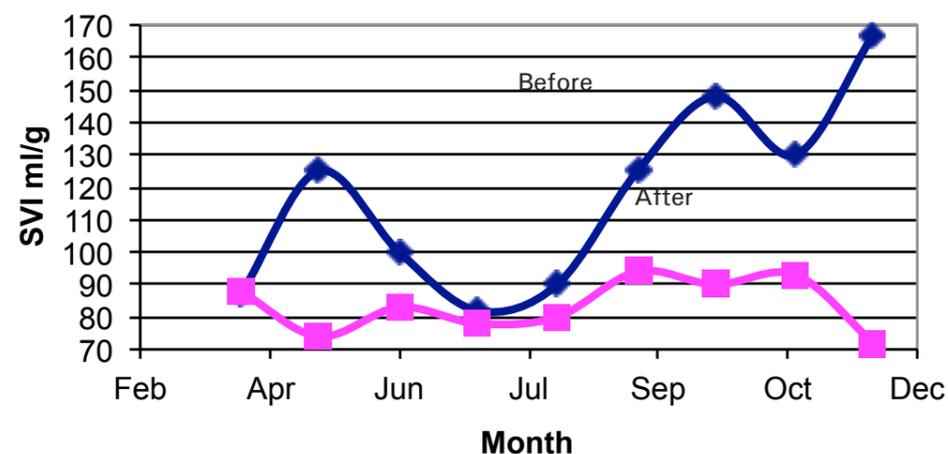
Achieve Compliance - Lower BOD, COD, TSS

Improve Settling

The Environmentally Safe and Effective Choice for the Treatment of Aerobic, Anaerobic, Pass-Through Lagoons and Collection Systems

Activated Sludge System, Deutsch Wagram, Austria*

Sludge Vol. Index Before vs After Treatment



Sludge Reduction of 34%
-Savings of \$130,000 in Sludge Handling

Improved Condition of Headworks via Reduction in FOGs

Significant Odor Reduction

Comparison of the duration of pressing and the volume of sludge when treated with MICROBE-LIFT/IND vs. without treatment.



Anaerobic Digester*

Microbe-Lift Technology was chosen to see if bio augmentation using the Microbe-Lift Technology could assist in the operation of anaerobic digesters.

A facility that consisted of two anaerobic digesters of 7,900 M3 each. The average flow rate was 1.8 M3 per second giving an average hydraulic retention time (HRT) of 21 days. The VSS reduction being achieved prior to the bio-augmentation program was approximately 30% for both reactors.

Six weeks after the initial dosage, VSS reduction had been increased to 37% versus a target of 50%. This improvement allowed the plant to handle the existing load without the immediate addition of a third reactor. The plant also achieved significant reduction in odors in and around the plant.

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