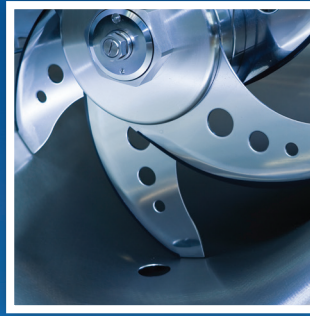


*If It Stinks and Flows... We Have The Solution*



*Let Us Help You Find Your Solution...*

INDUSTRIAL  
MUNICIPALITIES  
AGRICULTURE  
ENVIRONMENTAL  
SEPTIC  
PONDS

 **AquaNatural**  
SOLUTIONS

352 West Bedford | Suite 112 | Fresno, CA 93711

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[www.AquaNaturalSolutions.com](http://www.AquaNaturalSolutions.com)



EXCLUSIVE DISTRIBUTORS OF

**MICROBE-LIFT**<sup>®</sup>

Solving Environmental Problems *Naturally*

## ABOUT US

At AquaNatural Solutions we supply our customers with breakthrough, environmentally-friendly solutions for the treatment of municipal and industrial wastewater, agricultural waste, odor control, open water pollution, soil remediation, composting, and crop yield enhancement.

We take the time to analyze each situation, identify problems, and develop treatment protocols specifically designed to resolve the challenges in that system. We understand that needs change, and pride ourselves with providing superior personal service, so we continually follow up to insure success.

We are an exclusive distributor of Microbe-Lift products. Manufactured since 1976 by Ecological Laboratories in Cape Coral, Florida, our products contain unique proprietary blends of beneficial bacteria. Microbe-Lift products are capable of reducing H<sub>2</sub>S and ammonia emissions at the source — lowering odor complaint calls. The bacteria also diminishes the buildup of fats, oils and grease in lift stations and collection systems, and reduces sludge generated by the operation of secondary biological treatment systems. The savings through the reduction of man hours, equipment costs, and handling of these materials can be substantial.



# MICROBE-LIFT®

Solving Environmental Problems *Naturally*

## THE SCIENCE

All bacteria are not created equal, some work and some don't. Our biological engineers have grown, blended, and fermented beneficial bacteria to create a solution capable of adapting to the environment, and performing multiple tasks in a single product. Microbe-Lift provides the means to manage waste in a safe, effective, and natural way.



The predominant organisms in Microbe-Lift are of the purple sulfur group. This bacteria consortium is divided into two major categories — purple sulfur and non-sulfur organisms. The purple sulfur bacteria, which include *Thiobacillus sp.*, utilize hydrogen sulfide as an electron donor and oxidize the sulfide to elemental sulfur which is temporarily stored inter cellular. This metabolic process makes Microbe-Lift extremely efficient in curtailing odors due to hydrogen sulfide when moderate levels of hydrogen sulfide are present. The purple non-sulfur bacteria are highly efficient at the assimilation of organic compounds, including difficult to degrade compounds such as fatty acids, organic acids, proteins, and other odorous compounds — some of which cause odors themselves. This combined biological process reduces H<sub>2</sub>S emissions and reduces the organic matter necessary for H<sub>2</sub>S production.

## OUR MANUFACTURING FACILITY

We use our proprietary fermentation process to provide products that are environmentally safe without sacrificing consistent performance. Our highly advanced facility makes the difference when it comes to providing safe, economical, consistent products. All Microbe-Lift® products are manufactured in our FDA and EPA registered facility to food grade standards.

### • Production Clean Room

Our facility is designed to accommodate our multistage fermentation process by utilizing stainless steel equipment, HEPA filtration for controlled air quality, and operating room flooring to assure a sterile environment during bottling.

### • Warehouse Fulfillment

Rotating inventory combined with long-term shelf stability allows for quick turn around — usually within a few days of submitting your order. This assures you will receive the products you need, when you need them, without any long delays.

### • Laboratory, Research and Development Center

At our state-of-the-art facility you will find Genetic Sequencing and Analysis, DNA Amplification, Real Time PCR, Anaerobic Chamber, Nucleic Acid Quantification, Two Culture Banks, and Fermenters.

**FDA Registered**  
Facility # 3005925249

**EPA Registered**  
Facility #74466-FI-001





# PROVEN RESULTS

## 100% NATURAL PRODUCTS

- Decades of Success Since 1976
- Specially Formulated Strains of Bacteria
- Environmentally Friendly
- Cost-efficient Answers to Complex Issues
- Safe for Plants, Animals, and Humans
- Superior Technology
- Made in the USA

## REDUCE OR ELIMINATE ODORS

- Control Odor Problems at the Source
- Stay in Compliance with Government Regulations
- Greatly Reduce the Number of Odor Complaints
- Reduce the Impact on Neighbors
- Provide a Healthier Work Environment

## REDUCE OPERATING COSTS

- Keep Systems Flowing Freely
- Reduce Backups and Overflows
- Reduce or Eliminate Odors in Drains and Wet Wells
- Reduce BOD, COD and TSS from Your Effluent Lines

## REDUCE COSTS OF SLUDGE HANDLING

- Reduce 90% or More of Volatile Solids from Wastewater Ponds and Wells
- Reduces the Need for Mechanical Dredging and Haul Away



## WASTE TO PROFITS

- Maximize Efficiency and Capacity Volume by up to 10%
- Improve Methane Concentration up to 8%
- Biologically Reduce H<sub>2</sub>S by up to 98% Within Each Retention Cycle
- Reduce Solids and Foaming

## TOMATO PROCESSING

Reducing H<sub>2</sub>S emissions from discharge ponds is accomplished with the addition of Microbe-Lift. The pictures shown here are of a pond that received hundreds of complaints each year prior the addition of our products. Now, the number of complaints has consistently been reduced to only a few each year.

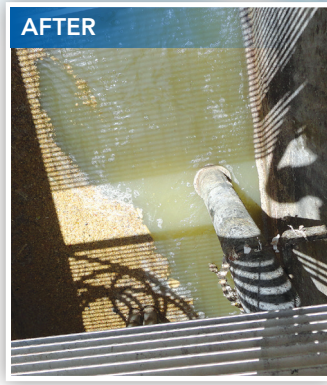


## BEEF PROCESSING

The pond pictures below are from a beef rendering plant in California. This pond is approximately four acres in size and 20 feet deep. The before picture shows the condition of the pond when we started treating with Microbe-Lift products in November of 2020. At that time there was between two and three feet of solidified grease floating on top of the entire pond. By injecting Microbe-Lift products under the grease cap, the bacteria got to work and started to ingest the grease.

During the process of ingesting the grease cap, we also removed majority of the odor, reducing complaints from neighbors to nearly nothing. The after photo shows what the pond looks like today.





## WASTEWATER TREATMENT

The pictures above are of the headworks this city installed when a new wastewater treatment facility was built in 2010. The collection system and lift stations were plagued with rapid grease buildup. However, a bigger problem was the buildup of two to three feet of grease in the new headworks that required costly pumping every five to six weeks.

We started treatment in 2012, and after only three months of using our Microbe-Lift products, the headworks are clear of grease and flowing freely. The wastewater manager stated that he had never seen any technology that worked to clear the grease so quickly and efficiently.

Treatment has now been expanded to the entire collection system. The reduction in backups and overflows, and less need for hydro flushing has saved the city tens of thousands of dollars annually since they started using our products.

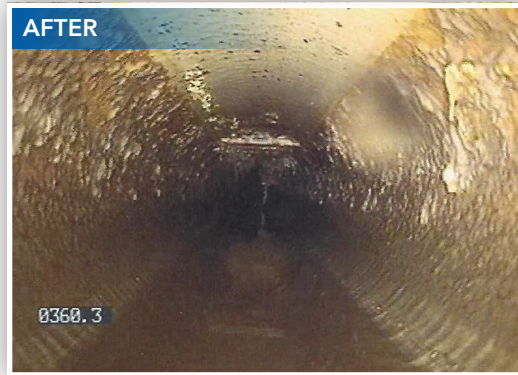
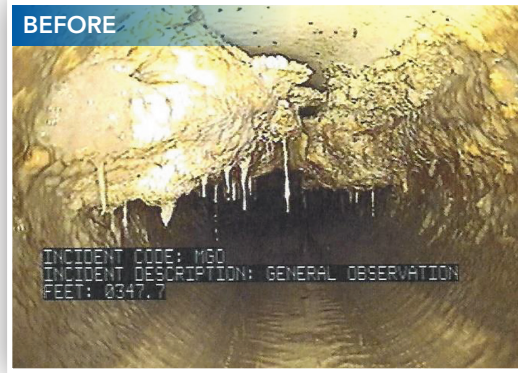


## COMMERCIAL KITCHEN

The pictures above show a grease trap in a community center commercial kitchen in California. The before photo shows the buildup of grease and organic materials that was causing frequent backups and a terrible odor inside the facility. Within a few weeks of treatment, the odors were gone and the buildup in the grease trap and connecting lines had been eliminated.

## SEWER COLLECTION SYSTEM

This city manages over 200 miles of sanitary sewer collection systems, and they have five pump trucks on a constant rotation flushing lines in an effort to reduce sanitary system overflows.



The pictures above show a 10-inch sewer line that had recurring heavy grease buildups. This part of the system is set to fill completely before the lift station pumps start up, allowing grease to attach to the surface of the pipe.

A video camera unit routinely inspects the lines for breakage and potential weak areas with the hope of catching issues before they become large problems. On August 29, 2013, because of massive amounts of grease in the line, the camera was only able to go a little over half way down the pipe before getting stuck.

Treatment with Microbe-Lift products started on September 24, 2013. After five months of treatment, the grease had cleared and the camera was able to easily run all the way through the line to the next manhole.

It should be noted that the once per week treatment, and the accompanying result, was introduced into one manhole 500 feet upstream from the line. This incredible success was achieved by using a total of only 10 gallons of our product.



## BUTTERBALLS

The photos above are from a creamery in Tipton, California, that processes raw milk into sour cream and butter. Ultimately, some of the byproducts from these processes end up in the wastewater ponds. The butterballs pictured in the before image shows a large build up floating on the surface. This can be problematic as the facility is very close to State Hwy 99, and there have been instances where the butterballs started to blow in the direction of the highway.

As you can see in the after photo above, after treatment with our Microbe-Lift products the floating butterballs were ingested and no longer a concern or threat to highway traffic.



## MANURE LAGOON

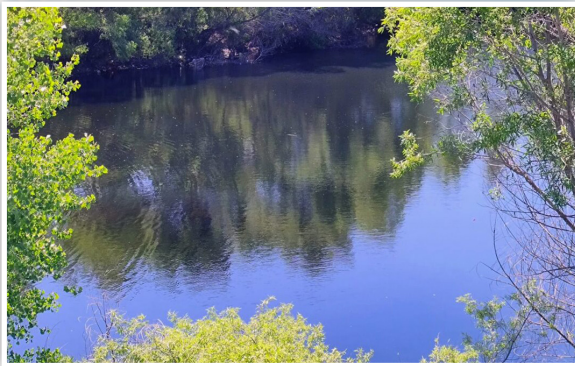
The dairy lagoon shown above has a six-million gallon capacity and had significant top solids in addition to a heavy sludge buildup on the bottom. This made agitation prior to pumping expensive and time consuming.

After six months of treatment, there was significant improvement in clarity, and when pumping to the fields, they were able to pump much closer to the bottom without agitation. As shown below, there was also a noted improvement in the cleanliness of the lanes, as well as a reduction in odors and flies.



## COMMERCIAL SEPTIC INSTALLATION

This lift station services a Pilot Flying J Truck and Travel Center, a small hotel, two fast food restaurants, and an additional gas station in Madera, California. It has three large septic tanks totaling 70,000 gallons of capacity and 70 dry wells for the discharge from the septic tanks. As shown above, we are auto dosing the entire system with one gallon of Microbe-Lift per day to reduce solids in the system and help maintain the efficiency of the dry well system. So far, the operators are very impressed with the results.



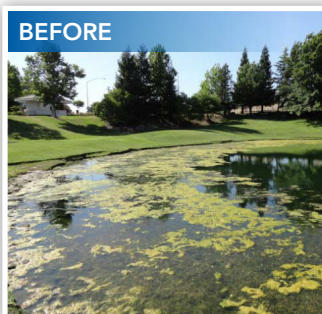
## STORMWATER POND RESTORATION

The original design of this pond in Lodi, California, was intended for stormwater storage. It was repurposed to be used as an ornamental pond next to a public park. Surrounding the park are several housing developments, and the city is in the process of building sports fields on the other side of the pond. When we originally started treating this pond in 2021, it was heavily laden with algae buildup, murky water, and had a foul odor affecting the neighborhoods close by. After treatment, the pond water is effectively clear to the bottom, and no foul odors or algae bloom are present.



## GOLF COURSE POND

Ornamental ponds on golf courses serve many purposes. In each case, they bring an aesthetic value to the players and a great place to lose a golf ball. They create a welcome environment for fish and wildlife when maintained properly, and lastly they are a back up source of water for irrigation. The pictures below show before and after treatment with our Microbe-Lift technologies. The balance in this pond was returned to normal, eliminating foul odors and unsightly algae bloom, and restoring its natural, beautiful appearance.



## ANAEROBIC DIGESTERS

The photo to the left is a good example of a large scale anaerobic digester. Our bacterial formulations are extremely efficient in stabilizing and maximizing the anaerobic digestion process. Concurrent reductions in sludge and increases in biogas for energy has been a performance factor in most cases. By leveraging innovative bacterial technologies, we have harnessed the power of specialized bacterial “teams” and focused strain products to expedite this natural biological process, resulting in enhanced methane (CH<sub>4</sub>) output. Our unique formulation of several heterotrophic bacteria, purple sulfur and non-sulfur bacteria, and methanogens excels in degrading resistant compounds to maximize methane production. Beyond methane output, the technology uniquely addresses accumulated digester solids and foam, while reducing undesirable H<sub>2</sub>S. This breakthrough allows us to harness new energy sources, as well as provide additional income streams for our agriculture, municipal and industrial waste partners.