



Documentation for
Grease and Odor Bioremediation Project
Using:

Micro-Solve®
grease and odor control

with



PROJECT – Grease and Odor Control with Micro-Solve®
CLIENT – City of McAllen, Texas
LOCATION – Blossom Ridge LS, Lark LS, Arthur Terrace MH

David Garza - Director of Wastewater Systems
Oscar Javier Hinojosa - Asst. Director of Wastewater Systems
Julio R. Oviedo - Wastewater Collection Manager
Alejandro Casas - Wastewater Collection Supervisor
1300 W. Houston Ave.
McAllen, TX

July 28, 2020

Re: Grease and Odor Control Using Micro-Solve® Solubilizer- Demulsifier/Bacteria Accelerator

P.O. Box 40843 Austin, Texas 78704 512-775-5358 www.egsw.us



Gentleman,

This "Final report" is to communicate our progress with Micro-Solve® after our three-month trial (12/19/19 thru 3/18/20) of treatment at Blossom Lift Station, Lark Lift Station to control the odor at the manhole in Arthur Terrance Subdivision on 36th & Gull Ave.

Micro-Solve® has made a difference at all three locations. Our 3-month trial has ended, and the results have shown significant success in the 90-day trial. Acculog H2S readings have shown great results the progress of this project and most importantly has demonstrated that Micro-Solve® works and the benefits have been proven. Micro-Solve® is not a 'quick-fix' product.

We have seen significant reduction in incoming grease build-up, as well as thinning in the hard, calcified, build-up on the wet-well's walls. We have experienced significant reductions in odors and complaints from the residents in the neighborhood. To our knowledge there were two complaints one when Micro-Solve started working within weeks due to grease build-up coming loose and one last week also do to grease build-up walls coming loose. Most importantly a safer environment for the workers and the community through the reduction of dangerous gases. Please see below last Acculog readings as you can see there is a 47% decrease in H2S odors.

It is important to remember that it takes time and patience to work through years and years of build-up, which is the environment where these odors are being generated. Although we have seen significant results it is very important to keep treating these areas so that again you will have a safer environment for the workers and the community through the reduction of dangerous gasses.

According to your staff the personal that are out there working those lift stations daily are very happy with the results they are seeing. There was also one employee that wanted us to pour in another area he stated that Micro-Solve was working. This is your community's collection system and without your staff's observations, it's difficult to realize the progress and to make any necessary adjustments to our treatment plan. Our dedication to Customer Satisfaction through Quality Communication and Teamwork contributes to our Continuous Improvement since 1999. It cannot be overstated how much we appreciate the opportunity to be a part of your team.

Water is Life. We are here to do our part in cleaning up the environment by using Micro-Solve® as a solution to wastewater treatments challenges, to help ensure a better and safer environment for your employees and for the community.

Regards,

Chuck Jones

Blossom Ridge Lift Station #49:



1/2/20



1/9/20



3/11/20



Blossom Ridge Lift Station is a medium flow lift station located on Bentsen Rd. This area is fed primarily residential and schools.

Issues:

- H₂S Odor coming from lift station
- Grease builds-up, needs pumping down on a weekly basis
- Electrical box issues weekly/bi-weekly/monthly as a result of an abundance corrosive gas
- Gravity manhole in front of lift station corrosion

Progress:

- No odor complaints from residents, since starting Micro-Solve® applications
- Significantly less gasses, which means less corrosion in well and on electrical panels
- Cleaner lift station, eliminating pumping down, which means less odor downstream, less wear and tear on pumps and the halt of the constantly adding to build-up where H₂S breeds
- Cleaner you can see in photo 3/11/20 clear water to the bottom of lift station

Lark Lift Station #36:



12/26/19



1/9/20



3/11/20

Lark Lift Station is a medium flow lift station located on Lark Ave and Ware Rd. This area is fed by primarily residential, a Christian School, various small restaurants and most importantly all of the flow from Blossom Ridge LS's forcemain. This location feeds the forcemain which is emitting the gasses that contribute to the odor complaints at the manhole at 36th and Gull Ave.

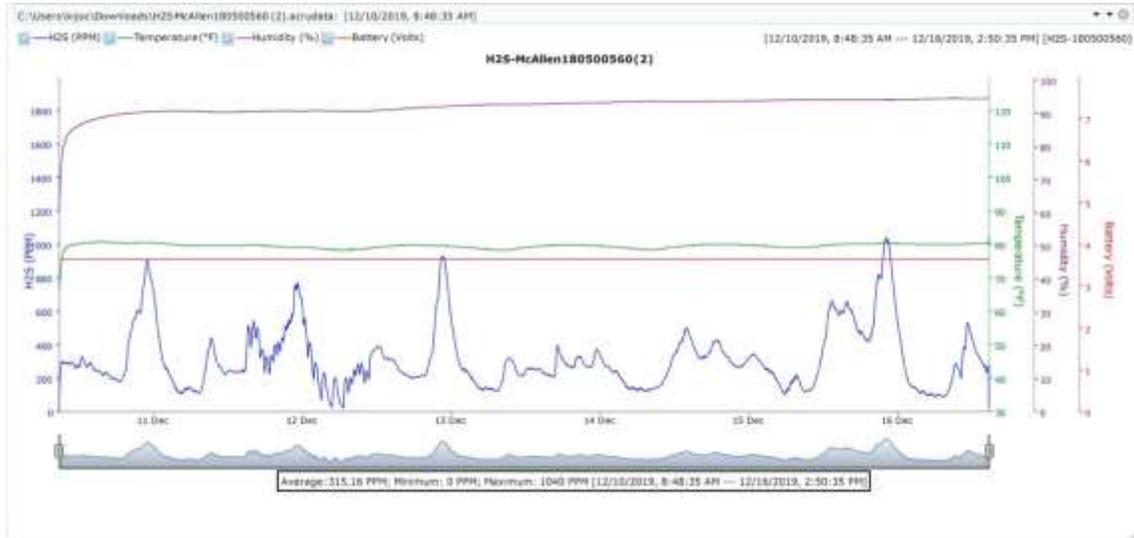
Issues:

- H₂S Odor coming from lift station
- Grease build-up, which requires weekly pumping down
- Strong odor at manhole where Lark LS forcemain is feeding

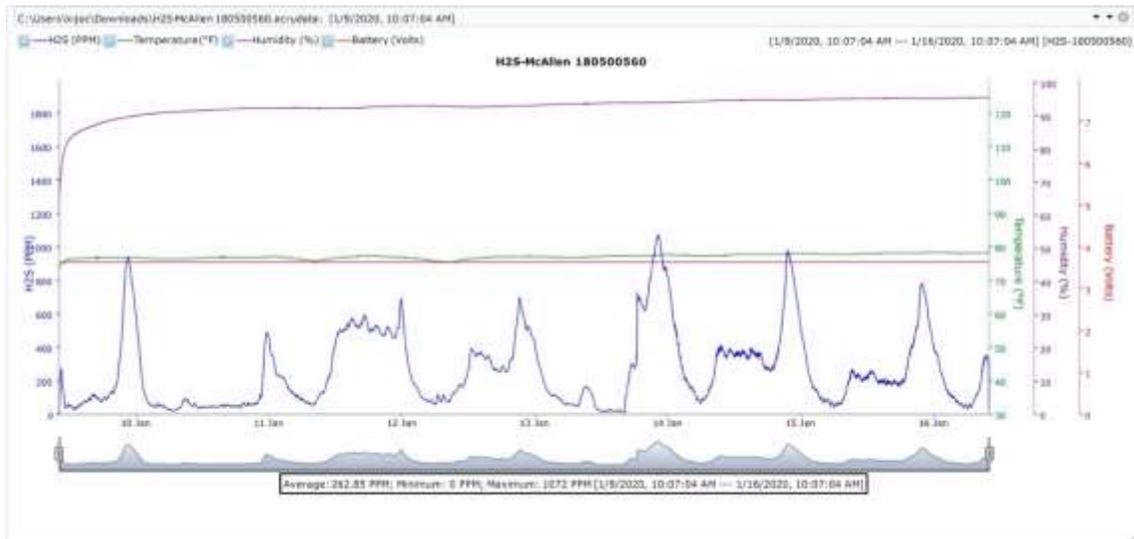
Progress:

- No complaints from residents, since starting Micro-Solve®, even with wind direction changing
- Cleaner lift station, eliminating the weekly pumping-down, which means less odor downstream, less wear and tear on pumps and the halt of the constantly adding to build-up where H₂S breeds.
- Cleaner you can see in photo 3/11/20 clear water to the bottom of lift station

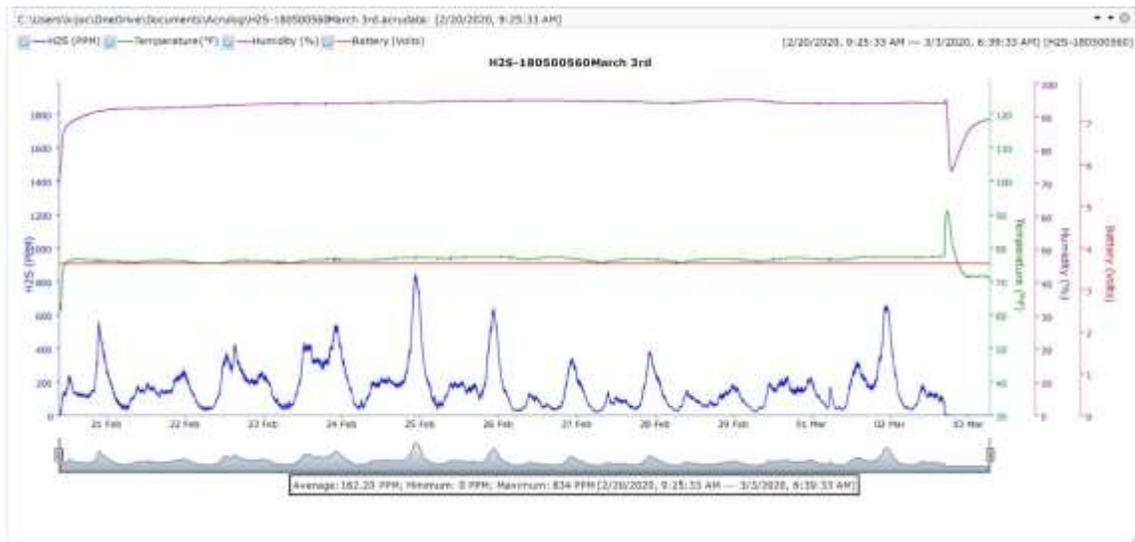
Arthur Terrace Subdivision Manhole at 36th and Gull Ave:



12/16/19



1/20/20



2/20/20

Issues:

- H₂S Odor coming from manhole, local resident complaints weekly
- Acculog readings peaking at 1000ppm of Hydrogen Sulfide around 11 pm daily

Progress:

- No complaints from residents, since soon after starting Micro-Solve® treatments
- Insert dish removed and manhole was left unsealed to see if Micro-Solve® is making a difference and to see if residents would complain
- Significantly reduced eliminated the odor related complaints
- 47% reduction in Average Hydrogen Sulfide readings

A 47% reduction in the average of Hydrogen Sulfide gases, from 262.85 ppm to 162.85ppm at the end of the project. Although we are still seeing some peaking in the graph, it's important to notice that the 'low-end' readings are becoming lower and more frequent. With your staff not having to pump these wet-wells down on a weekly basis, that mean that we are heading in a more positive direction, from constantly adding to the environment where H₂S breeds, to beginning to diminish the years and years of build-up in your collection system. This hard, calcified build-up is what gives the collection system the anaerobic environment where H₂S (hydrogen sulfide) breeds. The reductions of grease and odor are being noticed by your staff and most importantly the Odor Complaints by the residents have been almost non-existent. By reducing the volume of F.O.G. and H₂S gasses, corrosion and O&M costs for your city's assets are decreased, making Micro-Solve® a true cost-effective solution for grease an odor challenges.



Benefits:

- Reduces toxic and dangerous SSO's in the community
- Reduced lift station O&M costs
- Reduced call-outs
- Relief of awkward politics associated with residents coming in contact with H₂S
- Significant reduction in fats, oils and grease in the collection line and WWTP
- Significant reduction of jetting and vacuuming as it relates to grease
- Reduction in the use of polymers and other chemical at the WWTP
- Reduction in the amount of drying bed sludge
- Reduction in electricity and time treating wastewater
- Increased facultative microorganisms
- Risk management – reduced risk in dealing with hazardous gases
- Opportunity Cost

Micro-Solve® is a floating, non-water-soluble solution that increases bioremediation exponentially (pH 5.8-6.2.). Micro-Solve® is NOT a bacteria, NOT an enzyme, and NOT a quick-fix, Drano-like emulsifier.

Micro-Solve® makes hard build-up loose and soluble by sticking to fat, oil, grease, and petroleum and breaking the ionic bond to aid in oil-water phase separation. This process releases bound oxygen, nitrogen, and trapped micronutrients providing a readily available food source to fortify and exponentially increased populations of naturally occurring microorganisms.

Through these processes, Micro-Solve® climatizes the ecosystem and exponentially accelerates the bioremediation process from point of application all the way to the treatment plant enhancing the wastewater treatment process.

With regular applications, Micro-Solve® eliminates build-up and increases bioremediation of grease, sludge, odor, petroleum, and other solids in collection systems and treatment plants significantly reducing O&M cost.

An ounce of prevention is worth a pound of cure.