



Documentation for
grease and odor control project
using

Micro-Solve[®]

PROJECT - Grease and Odor Control in Port Isabel/South Padre Island, TX

CLIENT – Laguna Madre Water District

LOCATIONS – Lift Stations #15, #16, #20, #19, #3, #4, #10 and #11



Tavo Ochoa – Lift Station Supervisor

Laguna Madre Water District
105 Port Road
Port Isabel, Texas 78578

June 7, 2018

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

Tavo,

This report is for the observations and progress made up to November 5th. Thanks to you and your crew for taking the time to discuss your system and the results that you're receiving with Micro-Solve® and Odor-Solve. This last visit allowed me to gather a lot more information for Mr. Valdez, assisting him to get a "Big Picture" view of the progress we are making, including the performance of your Odor-Solve filter units.

All of the modifications from the previous quarterly report have been highlighted in **bold**.



Lift Station #15:

November 5, 2013

Issues:

This Lift Station is located on Yturria Street in Port Isabel and is being fed primarily by tourism industry. With multiple Tex-Mex restaurants, an Italian restaurant, Burger Grill, Lift Station #14 and a laundromat feeding the area, an abundance of grease topped with detergents was forcing the crew to vac this wet well out at least once every two months. And as we have seen in many similar situations, this type of industry mixed with South Texas heat was creating a dangerous level of H₂S (Hydrogen Sulfide).

By using Micro-Solve® to keep the grease from building up in the wet well, LMWD has been able to manage the downstream odor as well. Looking at the foam in the picture above (left), we can assume that there is an excess of bacteria killing detergents entering the well. By bio-remediating the grease in this well, we are able to get to the root of the problem by way of cleaning up the environment where corrosive gasses breed.

The above photo on the right shows a significant decrease in foam and grease from the previous visit. With a lot of the tourist industry slowing for the winter months the dosage can be reduced until the early spring.

Currently the dosage is at 5 gallons per week and the drum is 1/3 full.

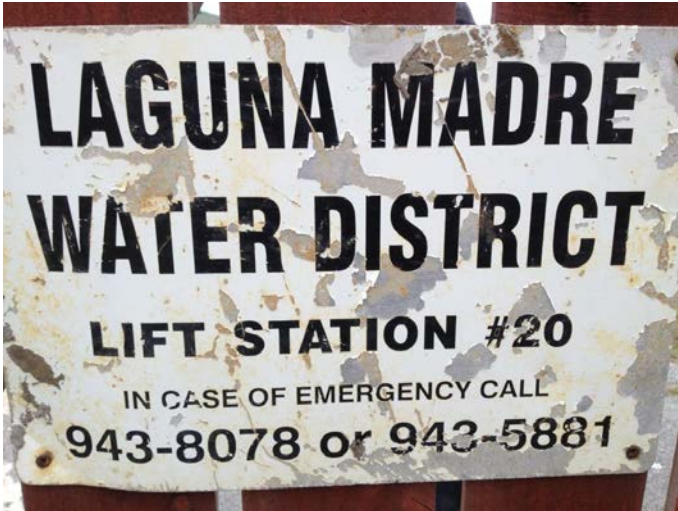


Lift Station #16:

November 5, 2013

Issues: This Lift Station is located on South Shore Blvd. and is fed by LS#6, LS#24 and LS#17. The industries feeding this area include Garriga Elementary School, a Shrimp House, a Fish House, residential and all of this discharges directly to LS#11. Previously this wet well had a serious build up of H₂S gasses and needed to be pumped down on a weekly basis. Tavo and his crew are literally able to identify when the Micro-Solve® drum is empty at LS#15 by the smell of this wet well.

There is currently not any odor at the lift station and the photo on the right, taken November 5th shows a continued reduction in solids. There is not any Micro-Solve® being fed at LS#16.



Lift Station #20:

November 5, 2013

Issues:

This Lift Station is located at E. Dolphin Street on South Padre Island and is fed by Tom and Jerry's Restaurant, The Brewery Restaurant, as well as a number of hotels and condominiums along the Gulf side of the Island. This line discharges to a 12" line that runs directly to Lift Station #19. Originally there was grease collecting and causing floats to malfunction and the discharge line was supplying LS#19 with an abundance of hydrogen sulfide.

This location has been controlling the solids in the wet well and the gasses that were contributing to the odor downstream. As we move into some of the cooler months, I would like to recommend that the dosage be decreased. Per our previous reports, we can monitor this location on a "peak" vs. "non-peak" season dosage rate. Currently this drum is empty.



Lift Station #19 November 5, 2013

Issues:

This Lift Station is located on Padre Blvd on South Padre Island, nestled between the Boulevard, Isla Grand Resort and a strip center. This area is fed by Lift Station #20, #22, Isla Grand Resort, Saida Towers and the Sapphire Hotel, and then discharges to a 12" line that feeds the WWTP. Previously this area was receiving Odor Complaints in the winter from the shopping center and in the summer when the winds come from the southeast it would blow odor along the walkways were tourist pedestrians pass by.

To decrease the gasses in the system, LMWD is feeding Micro-Solve® at LS#20 and to eliminate the odor complaints there is an Odor-Solve filter unit on the vent. Even though there are several cracks and crevices in this well this system has totally eliminated odor complaints in the area. Currently Lift Station #19 is going through some modifications, so we'll keep observing the area for changes.

Currently there is not any Micro-Solve® being fed at this location.



Lift Station #3 November 5, 2013

Issues: This lift station is primarily being fed by residential and is said to develop a grease cake from 10" to 12" this and needs to be vacced out every 4 months. This wet well had a medium odor and was a major contributor to a strong odor being released at Lift Station #4.

At this point all the grease has a light fluffy texture and isn't causing any interference with the functioning of the floats. The log sized chunks of grease are nothing more than mush and the Odor in this wet well has subsided significantly. Currently the dosage is at 6 gallons per week.



Lift Station #4 November 5, 2013

Issues: This Lift Station is located on the bend on Washington Street and is fed primarily by residential (Laguna Heights), Lift Station #3 and Port Isabel High School. The hydrogen sulfide level in this area was high (700-900 ppm).

The area upstream has been treated all summer long with only one drum of Micro-Solve® and not only are the grease issues diminishing at LS#3, but the odor at LS#4 is very minimal. These two locations have been directed back to the long force main feeding LS#11. This coupled with the LS#10 location is believed to be helping with the gasses being released at the Maintenance Warehouse. We'll keep observing the progress and we should be able to confirm that as the weather warms up in the late spring.

Currently there is not any Micro-Solve® being fed at this location.



Lift Station #10 November 5, 2013

Issues: This Lift Station is located on State Park Rd. 100 and is fed by a ½ mile long 8" line coming from Beacon Bay a nearby residential community. This wet well discharges in to a 2.5 – 3 mile long force main that leads directly to the master lift station.

Previously this wet well would build up with 10"-12" of grease every week. The pumps at this lift station have a small capacity and previously had a difficult time handling the solids.

Since this location has been treated the area only being vacced-out once every three months. The above photo (left), taken on November 5th is a drastic improvement from three months ago. Make no mistake about it; this lift station is taking on a lot of fats, oil and grease. Micro-Solve® is keeping the floats clean, eliminating callouts and frequent vaccing. Currently the dosage is 4 gallons per week and the drum is over half full.



Lift Station #11 November 5, 2013

Issues: This lift station is located on the bend on Woodys Ln between the Maintenance Warehouse and Wal-Mart. The hydrogen sulfide coming from this area was not only corroding the collection system from the inside-out, but the high level of gas was also creating a significant number of odor complaints coming from Wal-Mart.

With two distant Micro-Solve® application points 3 miles upstream, Lift Stations #3 and Lift Station #10, a percentage of the gas has been reduced. That coupled with the Odor-Solve filter unit at Lift Station #11 the odor complaints have stopped. There are still some cracks and crevices where gasses are escaping, but there has been a huge improvement at an economically reasonable investment. During my visit there was a



pump being maintained, so with those hatches open it was difficult to locate where exactly gasses might be escaping.

Currently there is not any Micro-Solve® being fed at this location.

As I mentioned before, it sure would be great to get out there and agitate a few of those wet wells. We noticed at several of our other accounts that results being seen are significantly better where the lift stations are being agitated. I do understand your challenges with scheduling the truck, but it is still worth mentioning. Either way, you and LMWD are getting some stellar results. Thanks for all that you guys do.

Regards,

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