Documentation for Foam Control Project Using:

Micro-Solve®
grease and odor control

with

PROJECT – Foam Control with Micro-Solve®
CLIENT – City of Cuero, Texas
LOCATION – WWTP

P.O. Box 40843 Austin, TX 78704 512-775-5358

Wayne Berger-Director
Gary Shock-WWTP Chief Operator

1925 Stockdale Rd.
Cuero, TX

July 28, 2020

Re: Foam, Control Using Micro-Solve® Solubilizer-Demulsifier/Bacteria Accelerator

Gentlemen,

This report is being generated at the end of our 11th week of Micro-Solve® treatments at the WWTP in Cuero, TX. There are still several weeks remaining before we reach our 90 to 120 day final report, and even though our successes have been up and down, it appears that we are making progress.

Gary and Joe have been super accommodating with supplying information and allowing us to make adjustments to our treatment plan as we go along. There is no success without teamwork in this situation, no matter how well Micro-Solve® works. We appreciate the professionalism, flexibility and support. This report will outline the changes made and reasoning behind them, while illustrating our progress.

Up to this point, we have experienced reductions in foam, followed by increases, then again followed by reductions. This is very typical when dealing with problematic build-up. As we move further along in our project the 'ups and downs' have begun to 'flatten-out'. Even though the increases and decreases have come and gone, the undeniable changes in the density, texture, color and odor have continued to give us hope that we are headed in the right direction.

Regards,

Chuck Jones

WWTP Basin 1:

4/8/19

5/20/19

5/31/19

This Wastewater Treatment Facility is located at 1925 Stockdale Rd. in Cuero, Texas and is receiving approximately 1 mgpd of wastewater.

Issues: The initial stage aeration basins have developed a high-density foaming issue that has been around for months and spread to basins 2 and 3. Mr. Gary Shock has confirmed the issue is not related to a filamentous bacterium. Through process of elimination we've identified the primary cause, being as a result of the build-up present in the master lift station and on the water surface throughout the basins themselves.

Progress: On April 22nd, approximately one month into our Micro-Solve® treatment, we added 'The Bubbler' mixing unit to help increase the rate of bioremediation in wet-well #1 of the master lift station. This adjustment has allowed us to take a percentage of the allotted dosage for the lift stations, and move it to the aeration basins. This was done in an effort to assist with the density of the existing foam on the water's surface in the aeration basin. Adding mixing and oxygen in the lift station gives Micro-Solve® the ability to work at an increased rate, even with the 50% reduction of chemical moved from the master lift station, to the aeration basins. At this point we're not only seeing a reduction in the quantity of foam and lift station build-up, but the foam that was previously present in basins 2 & 3 has completely subsided. The density, color and odor has significantly improved and we look forward to more progress with consistent treatment as we move further into the project.

Current Dosage: The current dosage is 1 gallon a day or 1ppm, alternating and splitting the dosage between the master lift station's two wet-wells and the 3 x aeration basins in the initial stages of the WWTP.

WWTP Basin 2:

4/8/19

5/20/19

5/31/19

WWTP Basin 3:

4/8/19

5/20/19

5/31/19

Master Lift Station Well #1:

4/22/19

5/6/19

5/31/19

Master Lift Station Well #2:

4/8/19

5/6/19

5/31/19

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 NOT an enzyme, a bacteria, or a 'quick-fix' emulsifier. Micro-Solve® makes hard grease loose and soluble. It also bonds to the grease and aids in oil-water phase separation. These processes release bound oxygen, nitrogen, and trapped micronutrients strengthening and increasing the population of the microorganisms already living in the system, so they can more effectively bioremediate. Through these processes, Micro-Solve® climatizes the ecosystem. It also accelerates the bioremediation process at point of application all the way to the treatment plant. Grease and sludge will not re-solidify downstream. All of this is great for the entire treatment process.

With regular applications, Micro-Solve® eliminates grease and sludge build-up in the collection and treatment system and saves O&M cost. Micro-Solve® is 100% biodegradable.

Thanks for your time and consideration.

An ounce of prevention, worth a pound of cure.