

Case Study: Biologic Lift Station Reduced Odors, FOG, and Maintenance Problems at Municipal Lift Station

SUMMARY

A municipal lift station had significant issues with odors, fats, oils, and grease (FOG) accumulation, and hydrogen sulfide corrosion. After 60 days of treatment with the Biologic Lift Station, the FOG cap was reduced by 75%, odors were reduced by 50%, and no corrosion maintenance was required. The FOG cap consistency also changed from a solid thick mass to a chunky fluid that didn't require manual cleaning and didn't block lift station equipment.

BACKGROUND

The subject facility was located in the southern United States with the majority of water flow coming from a nearby shopping center that includes a fast food restaurant and large grocery store. This lift station has a total flow of 20,000 gallons/day (75m³/day) and historically experienced high levels of FOG accumulation, odors and corrosion of electrical components due to hydrogen sulfide (H₂S). A very thick FOG cap accumulated in the lift station that required a cleaning crew to visit the site monthly. The FOG accumulation would get so thick and hard that a block was needed to break the surface. Odors were very high, causing discomfort to the community. Hydrogen sulfide corrosion caused electrical component failure, which required component replacement every 2-3 months.

OBJECTIVE

The treatment objective was to improve operational efficiency and reliability, reduce FOG, odors, H₂S and lower associated costs.

MATERIALS AND METHODS

Treatment started in November 2017 and finished January 2018. When the system was initially dosed, it was due for its monthly clean out which did not occur. The lift station was dosed for 8 weeks daily with 16oz Biologic Lift Station. The lift station was surveyed regularly throughout product application to assess odors, FOG cap thickness and cap consistency.

RESULTS

Treatment with the Biologic Lift Station effectively stopped accumulation and reduced FOGs in the lift station. Biologic Lift Station digested and liquified the existing FOG cap. Prior to treatment, the lift station had a solid 12" (30cm) thick FOG cap that completely covered the water surface inside the lift station. After 8 weeks of treatment, cap thickness was reduced by 75% and broken up into small chunks (Figure 1). No cleaning of the lift station was required during the treatment period. Lift station treatment prolonged for lift station cleaning beyond 3 months (3X improvement). Treatment with the Biologic Lift Station also reduced odors by 50% and did not require any electrical component replacement due to H₂S corrosion during the treatment period.

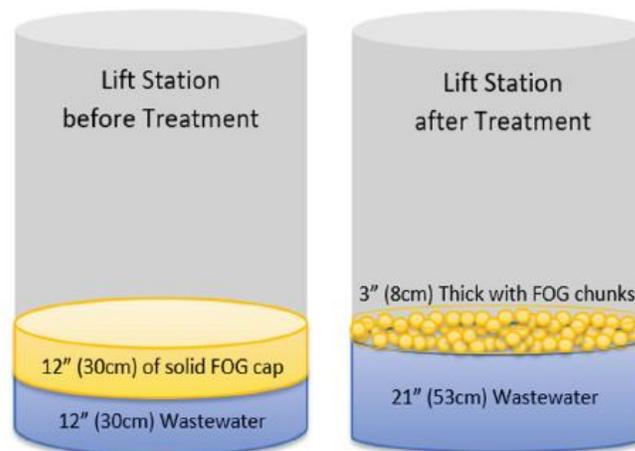


Figure 1: Solid FOG cap prior to treatment (left), digested & liquified FOG cap after two months of treatment (right)