

Case Study: Biologic Lift Station Dramatically Reduces Hydrogen Sulfide and Odors in an Industrial Wastewater System

SUMMARY

Hydrogen Sulfide (H₂S) was reduced on average by >96% as measured from the top hatch of the equalization tank (EQ tank) of an industrial wastewater treatment system after daily treatment with Biologic Lift Station.

BACKGROUND

An industrial waste disposal and treatment site receives an average of 26m³ (7,000 gallons) a day of various wastewater streams into an aerated balance tank. These waste waters include septic, industrial oils, fats and greases, as well as waste chemicals. H₂S levels from the 300m³ (80,000 gallon) EQ tank averaged 553ppm, with spikes up to 670ppm of H₂S occurring regularly. These high levels of H₂S are the cause of odor complaints from local housing developments, and also give rise to safety and corrosion concerns at the site.

OBJECTIVE

The treatment objective was to reduce the H₂S and odors being discharged from the EQ tank, reducing odors at the site and surrounding areas.

METHOD

Biologic Lift Station was administered to the EQ tank with an initial dose of 200mL (6.4oz) and after a period of 6 days an ongoing dose of 200mL (6.4oz) was added daily. To demonstrate success, H₂S concentrations were monitored with a gas monitor placed at the top hatch of the EQ tank, with data collected for 5 days before the initial dose and ongoing throughout the trial. H₂S values were recorded every 5 minutes, with the results of the trial shown in Figure 1.

RESULTS

After the initial Biologic Lift Station dose, H₂S values plummeted to an average of 104ppm, with peaks reduced to less than 300ppm of H₂S. Ongoing daily dosing of Biologic Lift Station reduced H₂S levels even further, with most daily H₂S peaks less than 20 mg/L. Occasional high spikes from large influent flows quickly reduced back to sub 20 mg/L levels in less than an hour. The reduction in H₂S levels and odors has persisted for the period of Biologic Lift Station treatment, with H₂S levels returning to the previous high levels when the treatment is halted.

