

CASE STUDY

Biotifx[®] Treatment Program 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 our liquid product, ZymoBac[®] GTLS.

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

ZymoBac[®] GTLS 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.

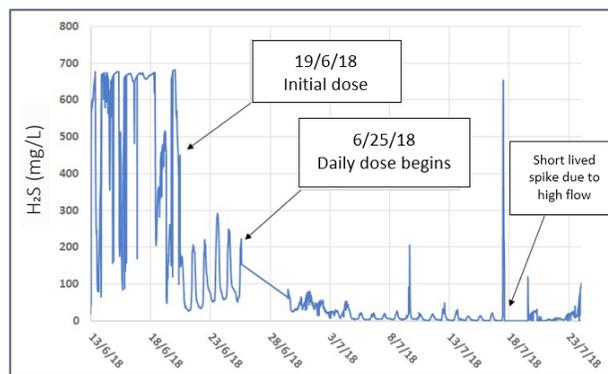


Figure 1: H₂S levels monitored from the balance tank watch before and during treatment with ZymoBac[®] GTLS.

RESULTS

After the initial ZymoBac[®] GTLS dose, H₂S values plummeted to an average of 104ppm, with peaks reduced to less than 300ppm of H₂S. Ongoing daily dosing of ZymoBac[®] GTLS 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 ZymoBac[®] GTLS treatment, with H₂S levels returning to the previous high levels when the treatment is halted.