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WTS 13-Zymobac GTLS Treatment Dramatically Reduces Hydrogen Sulphide and Odours In An Industrial Waste Water System

SUMMARY

Hydrogen Sulphide (H_2S) was reduced on average by >96% from the top hatch of the balance tank of an industrial waste water treatment system after daily treatment with WTS 13-Zymobac GTLS.

BACKGROUND

An industrial waste disposal and treatment site located in North Queensland receives an average of 26 kL/day of various waste water streams into an aerated balance tank. These waste waters include septic, industrial oils, fats and greases, as well as waste chemicals. H_2S levels from the 300kL balance tank averaged 553 mg/L, with spikes of up to 670 mg/L of H_2S occurring regularly. These high levels of H_2S are the cause of odour complaints from local housing developments, and also give rise to safety and corrosion concerns at the site.

OBJECTIVES

The treatment objective was to reduce the H_2S and odours being discharged from the vessel, reducing odours to the site and surrounding areas.

METHOD

WTS 13-Zymobac GTLS was manually administered to the balance tank. An initial dose of 200 mL was added, and after a period of 6 days an ongoing dose of 200 mL was added every day by the site operators. To demonstrate success, H_2S concentrations were monitored with an odour logger placed at the top hatch of the tank, with values collected for 5 days before the initial dose, and H_2S logging ongoing throughout the trial. H_2S values were recorded every 5 minutes, with the results of the trial shown in Figure 1.

RESULTS

After the initial WTS 13-Zymobac GTLS dose of 200 mL, H_2S values plummeted to an average of 104 mg/L, with peaks reduced to less than 300 mg/L of H_2S.

Ongoing daily dosing of WTS 13-Zymobac GTLS reduced H_2S levels even further, with most daily H_2S 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 H_2S levels and odours has persisted for the period of WTS 13-Zymobac GTLS treatment, with H_2S levels returning to the previous high levels when the treatment is halted.

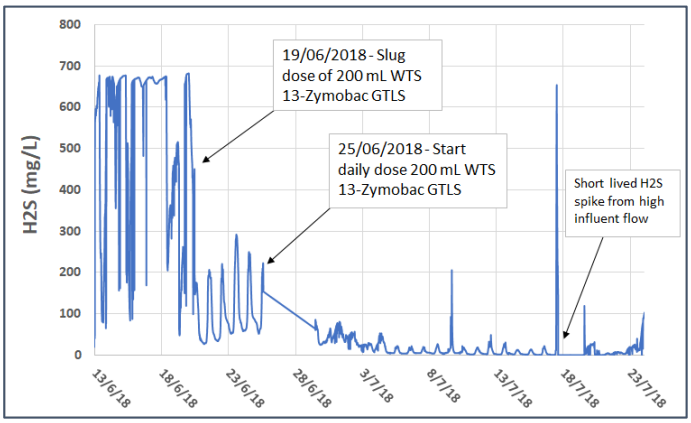

Figure 1: H_2S levels monitored from the balance tank hatch before and during the WTS 13-Zymobac GTLS treatment.