



REDUCING NUTRIENTS IN MEAT PROCESSING WASTEWATER

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|-----------------|---------------------------------|
| CLIENT: | Meat Processing Company |
| LOCATION: | Australia |
| TREATMENT TYPE: | Meatworks processing wastewater |
| CAPACITY: | 20m ³ per day |
| SYSTEM SIZE: | 3 x BioGill bioreactors |



SITUATION

When producing specialty meat products and processing fresh food, it is common for odors to be generated. This was the case at a meat-works processing company where hams, sausages and other meat-based goods were produced. Being located in an industrial estate, the company was concerned about the odor of its wastewater and wanted to improve onsite treatment and odor control.

The goal was to install an effective, low maintenance biological treatment system, onsite. In a pre-emptive move, the company also wanted to reduce COD to meet future guidelines from local water authorities and avoid potential higher discharge fees.



SOLUTION

A new plant, utilizing BioGill bioreactors with both primary and secondary treatment, was installed to manage the high concentration of odor-inducing FOG and COD in the wastewater.

The bioreactors provide the ideal habitat for microorganisms, Nature's best decomposers and recyclers, to consume nutrients out of the waste stream and quickly deal with the odor causing compounds.



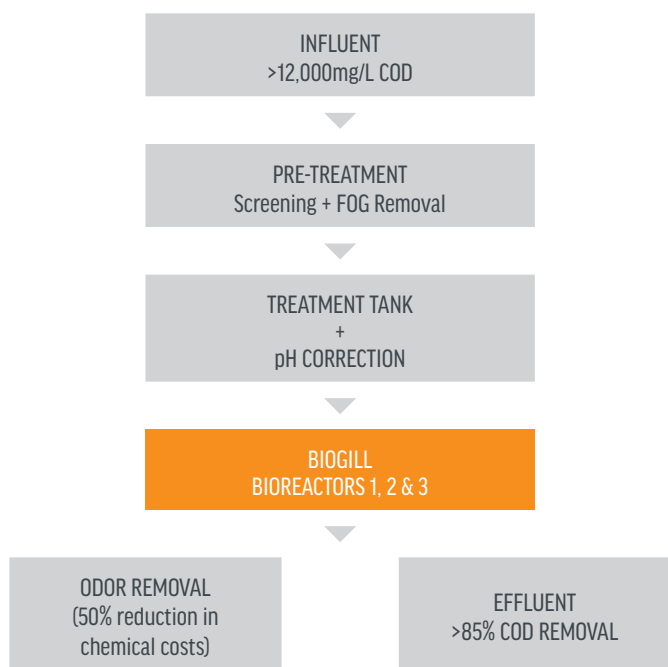


DESIGN

Wastewater is first collected in a pit and passed through a screening process to remove particles larger than 1mm. The wastewater then travels into a Hydrocyclone to remove high levels of FOG, then fed into a three-staged BioGill system, operated in series with pH adjusted in the first stage.

The wastewater is pumped to the top of the units and dispersed over the gills, then gravity fed through the media. Microorganisms grow on the gills, feeding on odor inducing compounds in the wastewater on one side and drawing oxygen from the opposite side.

The ventilation design of the BioGill bioreactors, delivers an abundant supply of oxygen for microbial growth. This effect is compounded by using the BioGill HydroSwirl™, a specially designed manifold suited to the high suspended solids in meat processing wastewater.

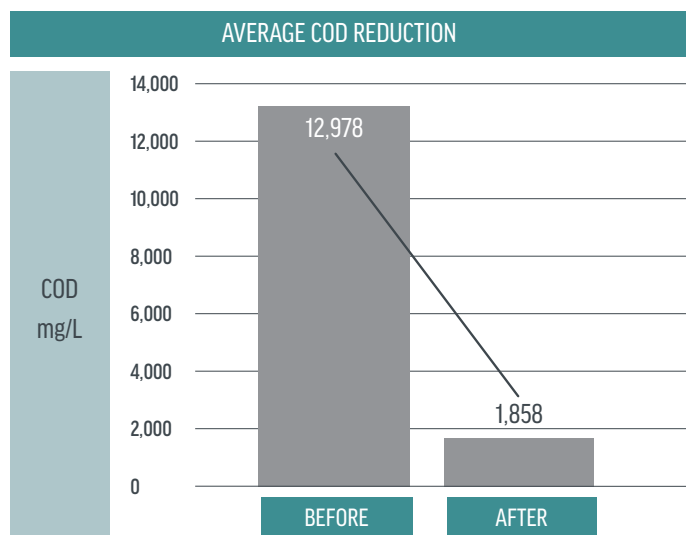


Three BioGill bioreactors replaced the ageing Dissolved Air Flotation (DAF) system.

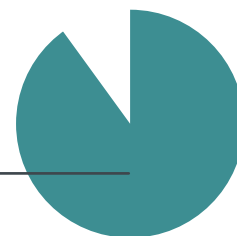


RESULTS

The treatment system has significantly reduced odor and has more than halved the use of chemicals at the site, leading to major cost savings. Additionally, a COD reduction greater than 85% was achieved, placing the client in a highly favourable position to comply with future local water regulations.



85%



COD mg/L on average is removed per cycle.

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Case studies and technical reports are available at biogill.com

