

## Stockyard Industries (CEFN Pty Ltd)

Market segment  
Pig industry

Commission date  
N/A

#### Customer problem

A unit was sold to CEFN Pty Ltd for demonstration and trial purposes to assist with agency development, and commercialisation of the Fungi-Gulp process.

Fungi-Gulp is a patented biological treatment process for piggery effluent that has added application to sewage and troublesome effluents from the food-processing sector. For this process to function at optimum efficiency, the solids content of the raw effluent must be contained within a specific range.

Despite an exhaustive global search, a technology to achieve this level of solids content could not be found to complement the Fungi-Gulp process, originally conceived at the University of Queensland.

#### Customer objective

To identify a cost-effective technology capable of removing solids from piggery and similar effluent streams such that the solids content is at an acceptable concentration for the Fungi-Gulp process.

To identify a cost-effective technology capable of reliably removing in excess of 50% of the total solids from raw piggery effluent as a precursor to conventional treatment methods involving biodegradation methods.

#### Conventional options available to the Customer

Commonly available technologies for treatment of these types of effluent only remove approximately 10% of total solids present (at a screen size >0.5mm for very low flow applications).

#### Outcomes achieved with BALEEN

Trials with the demonstration unit purchased by the customer achieved acceptable solids content for the Fungi-Gulp process. In addition, BALEEN achieved a total solids reduction of approximately 50% (at 35 micron with no chemical assistance) for raw piggery effluent at least four times better than the current best available technology. Residual solids are fine colloidal faecal matter and dissolved solids such as nitrogen (viz. Urea and Nitrate constituents)

This application of BALEEN opens up immense opportunities in the pig industry and other highly concentrated effluents and wastewater applications. It also facilitates significant advancements in biological or secondary/tertiary waste treatments and paves the way for BALEEN to be applied in general sewage and municipal treatment applications.

It is expected that numerous associations with other innovations in search of the 'key-to-the-door' for unleashing significant commercial developments across the water and wastewater sector will result as a direct consequence of the innovation of BALEEN.