

# Anaerobic Resource Recovery Facility

## Food & Beverage | Case Study

### Woodlands Dairy

#### Location –

The facility is situated in Humansdorp, Eastern Cape on the eastern seaboard of South Africa.



### Key Figures

- High COD loading
  - ~ 15 ton COD/day
- Growing effluent demand
- Long-chain organics present in effluent
- Achieving plant effluent concentrations below municipal standards
- > 95% conversion

### The Client

Veolia Water Solutions & Technologies South Africa (Pty) Ltd (VWS) was awarded the contract by Woodlands Dairy (Pty) Ltd



to provide a viable processing solution for their growing process effluent stream. The facility contains a milk sterilisation and packaging plant as well as a cheese factory. All process effluent is sent to a combined effluent sump. Effluent specifications from this combined effluent sump are given below.

Feed rate	pH	TCOD	COD load
1500 m <sup>3</sup> /day	12	10 g/l	15 t/day

### The Solution

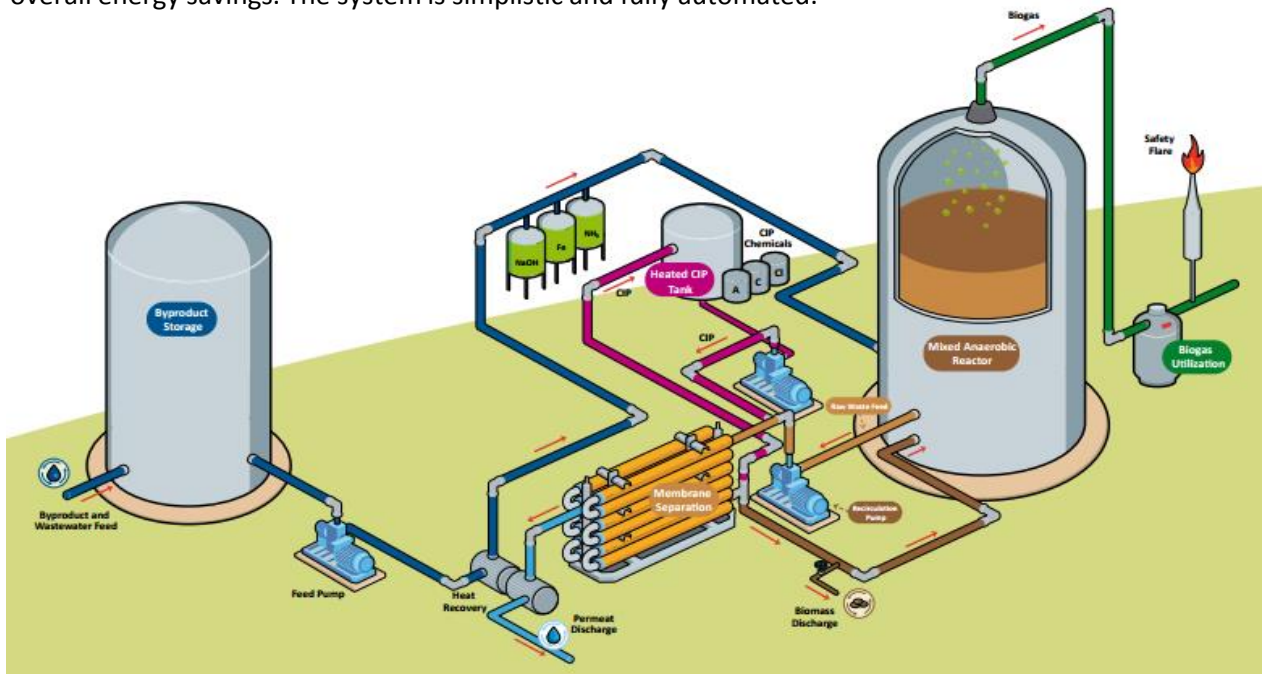
VWS proposed a resource recovery plant (RRP) capable of processing 1.5 MLD, which will later be upgraded to 2 MLD. The RRP will make use of Biothane's state of the art Memthane technology, capable of removing >95% of effluent COD.

A piloting study was performed to provide a effluent specific treatment facility, ensuring product performance and client satisfaction.

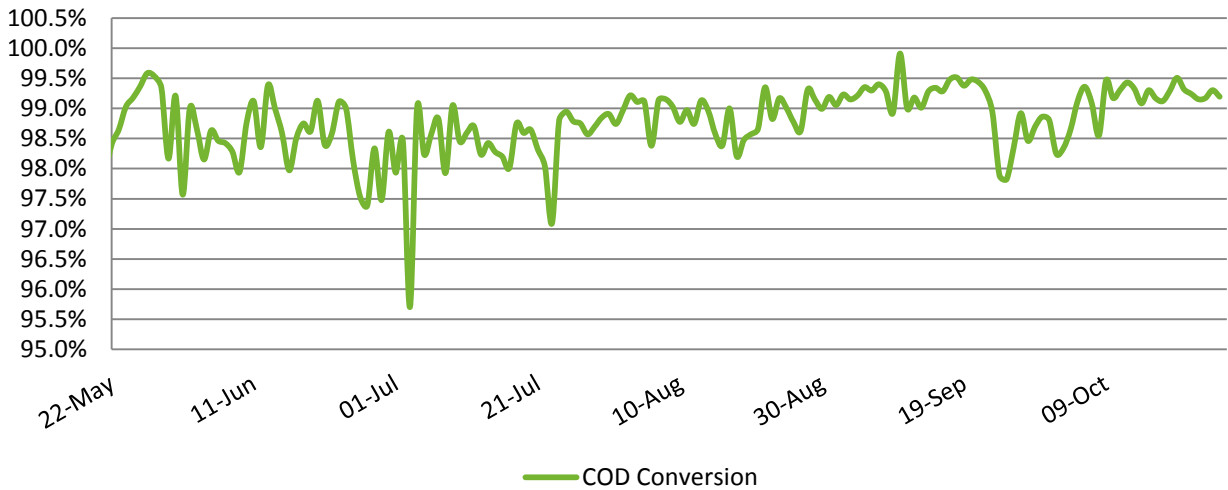
## Process Description

The Memthane® technology combines anaerobic biological treatment and membrane separation to provide a innovative and environmentally friendly waste water processing system. This process maximizes COD and TSS removal, minimizes disposal costs and generates methane rich bio-gas.

Memthane® delivers a significant total operating cost reduction compared to conventional technologies, taking into account all elements, including membranes, chemicals, sludge disposal and overall energy savings. The system is simplistic and fully automated.



## Pilot Plant Performance



### Veolia Water Technologies

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