

CASE STUDY



PROJECT DEWATERING SCREW PRESS TRIAL FOR DAIRY MANUFACTURER

PRODUCT Trial Dewatering Screw Press DSP-201

INDUSTRY Food and Beverage

LOCATION New South Wales

BACKGROUND

A dairy products manufacturer in New South Wales had a wastewater treatment plant consisting of a Moving Bed Bioreactor (MBBR), Induced Air Floatation (IAF) and Dewatering Screw Press (DSP). Their DSP was supplied by another company. The customer approached MAK Water as, despite their existing DSP, they still had high Biological Oxygen Demand (BOD) in their effluent water. It wasn't coping with the sludge volume, yielding low dry solids (14% DS) and high filtrate Total Suspended Solids (TSS). This poor effluent is cycled back to their MBBR at the start of their process, further compounding the problem of elevated BODs, causing compliance issues. Disposal costs were high and increasing due to the low %DS in their dewatered cake.

SOLUTION

MAK Water's solution was to provide a trial screw press DSP-201 to treat their high sludge volumes alongside their existing DSP. Our DSP-201 produced 22% DS and >95% TSS remove in their filtrate. This in turn lowered their BOD from 180 mg/L to 23 mg/L and reduced their transport cost of dry cake waste, as well as treating their sludge production volumes adequately and achieving compliant discharge. The trial was to prove the business case for the purchase of a DSP-301 permanent plant.

MAK WATER KEY SOLUTIONS

- Site visit and audit to understand the challenge
- Trial of Dewatering Screw Press – DSP-201
- Increased %DS of cake from 14% to 22%
- Reduce BOD levels from 180 mg/L to 23 mg/L
- Fast delivery time and installation of skid mounted DSP
- Optimised additive chemistry for sludge dewatering
- Reduction of sludge volume with increased capacity
- Onsite commissioning and technical support
- Ongoing service and maintenance
- Permanent DSP-301 to be supplied

RESULTS AND BENEFITS

- **Compliance** – Achieves required compliance on BOD levels.
- **Reduced disposal costs** – Reduced transport costs for dewatered cake at higher %DS.
- **Increased filtrate quality** – Less nutrient and solids loading to the WWTP
- **Fast Delivery** – 2 weeks lead time
- **Increased Capacity** – Increased dewatering capacity
- **Business case proven** – Approval for purchase of permanent DSP plant as MAK Water solution proven to work.



MAK Water DSP-201 Trial Unit



MAK Water DSP-301 Dewatered Cake