

CASE STUDY



project: Sludge Conditioning of
Municipal Waste Water
product: Flocculant
industry: Municipal Water Treatment
location: North Queensland

background

A regional council in North Queensland has a number of sites utilising Belt Filter Presses (BFP) to remove solids from wastewater. A BFP is a simple & reliable process that passes a liquid sludge stream over a pair of filter cloths, separating the solids from the liquid then using a series of rollers to compress & dewater the sludge.

A BFP's effectiveness is greatly dependent on the type of solids, how well the sludge is spread across the belt, and the addition of chemicals to promote the formation of a thickened sludge, known as sludge conditioning

The council had identified an opportunity to reduce its waste disposal costs if it could further reduce the moisture in the sludge produced by the BFPs.

WTS was commissioned by the council to visit each of the sites operating BFPs to undertake test work and identify suitable chemistry solutions to improve the dewatering process.

approach

We applied our four-phase solution development process to identify the chemistry challenge and develop the most effective and cost-efficient solution.

WTS completed laboratory testing of water samples collected. We demonstrated to the council that they could both reduce their chemical cost and reduce moisture in the sludge by using a targeted combination of polymers and flocculants.

Site trials were then undertaken to confirm the lab testing prior to the council adopting the WTS polymer and flocculant solution on an ongoing basis.

solution

WTS 8-CE8409BF flocculant for wastewater applications plus other chemistry optimising polymers.

Polymer makeup and dosing systems

WTS supplies the same polymers to the different sites and holds stocks locally for reliable service.

Results and benefits

- **Reduced Waste Disposal Costs.** As a result of the reduced volume of sludge now required for disposal Achieves required water discharge compliance.
- **Reduced chemical cost.** Fit for purpose chemicals and optimised dosing resulted in an overall cost reduction.
- **Technical Support.** Regular site visits by WTS personnel ensures that the process remains consistent.



Belt Filter Presses at one of the sites



Polymer preparation and dosing system installed at one of the site to make up and dose the polymer + flocculant solution