

CASE STUDY

PROJECT DEWATERING OF STP WASTE ACTIVATED SLUDGE

PRODUCT DEWATERING SCREW PRESS (DSP)

INDUSTRY Mining

LOCATION North Queensland



BACKGROUND

A mining company operating a camp in a remote area of north Queensland was paying increasingly high costs for removal and disposal of liquid waste activated sludge from its sewage treatment plant. This was further complicated by fact that road access was cut off by flood events in the wet season, further complicating the sludge disposal process. Consequently, the site's sludge holding capacity was being exceeded which presented significant odour and spillage risks. MAK Water's onsite plant operations team proposed a containerised mechanical sludge dewatering solution that reduces waste sludge volume, handling costs and mitigates environmental risks in the wet season.

SOLUTION

Containerised Dewatering Screw Press (DSP) with integrated flocculation tank, polymer preparation & dosing system and dewatered cake screw conveyor, treating up to 10 kg/h of waste activated sludge with concentration between 2 and 5 g/L

MAK WATER KEY SOLUTIONS

- Containerised plant offering:
 - Equipment protection from the harsh environment
 - Simple site installation
- Fully automated dewatering plant with easy-to-use equipment and low operator input
- Robust and low energy equipment
- Onsite plant commissioning and operator training
- Full time facility management team to support ongoing operations

RESULTS AND BENEFITS

- **High DS content.** Dewatered cake with 15 - 20% DS content achieved.
- **Reduced operating cost.** Dramatic reduction in sludge handling & disposal costs with return on investment payback period of less than 9 months.
- **Reduced site risks.** Reduced environmental risks of odour nuisance, and elimination of potential for liquid sludge spillage.
- **Convenience.** Simple installation with smooth integration with existing process train.



Containerised DSP and Screw Conveyor plant under construction in MAK Water factory



Internal view of the plant under construction in MAK Water factory