

CASE STUDY



PROJECT	COMPRESSOR WASTEWATER FREE OIL REMOVAL FOR ENERGY COMPANY
PRODUCT	Abanaki Model 4 Belt Skimmer (OSM)
INDUSTRY	Gas Processing
LOCATION	QLD

BACKGROUND

A global energy company operated compressor stations producing wastewater containing free and emulsified oil. The stream required treatment before transfer to the gathering system for further reverse osmosis (RO) treatment.

Without effective oil removal, downstream treatment costs would increase and oil contamination could rapidly foul RO membranes. The client needed reliable wastewater treatment that improved process efficiency, reduced operating costs and supported sustainable water management.

SOLUTION

We partnered with the client to review the wastewater treatment process and gain a detailed understanding of the wastewater characteristics. Water testing confirmed the presence of both free oil and emulsified oil. Based on the results, our team demonstrated that a two-step treatment approach would effectively address the contamination challenge. Free oil removal was identified as the critical first stage, enabling downstream treatment processes to operate more efficiently and reducing the risk of membrane fouling in the reverse osmosis system.

MAK WATER KEY SOLUTIONS

- Abanaki Model 4 Belt Skimmer for proven free oil removal from the wastewater stream.
- Decanter to separate water from skimmed oil and maximise offsite oil recycling.
- Custom 5 kL waste oil tank skid, workshop assembled as an integrated module for rapid site installation.



Abanaki belt and tube skimmers

RESULTS AND BENEFITS

- **Sustainability.** Produced an easily recycled waste oil stream, reducing disposal requirements and supporting sustainable wastewater treatment.
- **Cost savings.** Reduced oil loading, downstream treatment costs and chemical consumption.
- **Reliable performance.** Protected downstream reverse osmosis membranes from rapid fouling and improved water treatment consistency.
- **Operational efficiency.** Reduced operator attention and manpower required at the wastewater source.
- **Rapid installation.** Delivered a workshop-completed modular skid for efficient installation onsite.



Abanaki belt and tube skimmers