

# CASE STUDY

PROJECT	PROCESS WATER FOR LITHIUM MINE
PRODUCT	Ultrafiltration (UF)
INDUSTRY	Mining
LOCATION	Goldfields-Esperance Region, Western Australia



## BACKGROUND

The owner of a lithium mine undergoing expansion near Kalgoorlie in Western Australia required assistance with upgrade of the existing water infrastructure to provide a reliable supply of water for the new processing plant. With limited availability of fresh water the focus was to provide a water treatment to re-use existing process water.

MAK Water worked closely with the owner to design the best possible solution, which allowed for multiple feed sources of varying quality. The whole process consisted of four new water treatment plants and upgrade of an existing plant to achieve the required outcome. A UF plant was installed in the first stage of the treatment process to receive a blend of ground water, surface water and recycled process water.

The UF plant supplies consistent quality filtrate for use as RO feed water, as well as for dust suppression and backwash. MAK Water was also awarded a long term contract to operate and maintain all of the water treatment plants onsite.

## SOLUTION

Containerised Ultrafiltration (UF) plant to produce 5,300 m<sup>3</sup>/day of filtrate, for process use.

### MAK WATER KEY SOLUTIONS

- Fast 14 week delivery times
- Containerised (2 x 40') solution for easy installation
- Custom pre-treatment for manganese removal including: chlorine dosing and pH adjustment
- 2 x 50% UF trains in cross flow (concentrate recycle) configuration
- Conservative flux rate with 6,240 m<sup>2</sup> of filtration surface area
- Premium instrumentation package with ClearAccess™ Remote Monitoring
- Onsite installation assistance and commissioning
- Long term Operations Agreement for all plants onsite

## RESULTS AND BENEFITS

- **Technical Support.** Expert advice and consultation throughout the design and delivery phases. Operations Agreement to provide ongoing technical support, maintenance and operation of plant
- **Plant Reliability.** Custom design and quality equipment will provide reliable operation with minimal maintenance
- **Compact Footprint.** Fully containerised for easy site installation
- **Delivery.** New plant supplied and installed to schedule



*Containerised 5,300 m<sup>3</sup>/day Ultrafiltration (UF) plant*



*Ultrafiltration (UF) plant*