

CASE STUDY

PROJECT	PROCESS WATER FOR LITHIUM MINE
PRODUCT	Multimedia Filtration (MMF)
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 water supply, and variable quality the focus was on a design capable of treating process wastewater for reuse.

MAK Water worked closely with the owner to design the best possible solution, which included multiple new water treatment plants and upgrade of an existing plant to achieve the required outcome. The MMF plant is designed to remove additional solids and trace levels of oleic acid from process wastewater and is the final polishing stage of an innovative water treatment system designed to recycle process water.

MAK Water was also awarded a long term contract to provide plant operators to maintain and operate all of the water treatment plants onsite.

SOLUTION

Multimedia Filtration (MMF) plant to treat 4,800 m³/day of process wastewater, for reuse onsite.

MAK WATER KEY SOLUTIONS

- In-house bench testing to confirm process design
- Primary media filtration
- Granular Activated Carbon (GAC) secondary media filtration
- Hydrocarbon removal cartridge filtration
- Post-filtration pH adjustment chemical dosing
- Skid mounted plant
- Fast 15 week delivery time
- Premium instrumentation package with ClearAccess™ Remote Monitoring
- Onsite installation assistance and commissioning
- Long term Operations Agreement for all plants onsite

RESULTS AND BENEFITS

- **Oleic Acid Removal.** Required level of oleic acid removal for reuse
- **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
- **Delivery.** New plant supplied and installed to schedule



4,800 m³/day skid mounted Multimedia Filtration (MMF) plant



MMF plant during FAT at Perth Fabrication Facility