

# CASE STUDY



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| <b>PROJECT</b>  | PROCESS WATER, POTABLE WATER & SEWAGE TREATMENT FOR GOLD MINE  |
| <b>PRODUCT</b>  | Sea Water Reverse Osmosis, Sodium Hypochlorite Sterilisation, Activated Sludge Bioreactor, Packaged Sewage Pump Stations |
| <b>INDUSTRY</b> | Mining   |
| <b>LOCATION</b> | 20 kilometres west of Laverton, Western Australia  |

## BACKGROUND

The Mt Morgans Gold Project is located in the Laverton gold district - the second highest endowed gold district in Western Australia (behind Kalgoorlie) and the highest growth gold district in Australia over the last 25 years.

In April 2017 the \$107.1M engineering, procurement and construction (EPC) contract, to construct the project's treatment facility and supporting infrastructure, was awarded to a reputable Perth based engineering firm.

MAK Water had supported the EPC contractor throughout the scoping and feasibility study phases, and was subsequently engaged to construct the desalination plant, to supply the mine's process and potable water requirements, as well as a packaged sewage treatment plant for the mine offices/administration area.

## SOLUTION

Containerised 450 m<sup>3</sup>/day sea water reverse osmosis (SWRO) plant, designed to treat ground water with up to 35,000 mg/L of dissolved solids.

Activated sludge bioreactor (ASBR) sewage treatment plant and four (4) off packaged sewage pump stations.

## POTABLE & PROCESS WATER SYSTEMS

- Pre-filtration for suspended solids removal
- SWRO plant designed for high TDS feed water
- Permeate pH correction with caustic dosing
- Potable water disinfection via sodium hypochlorite dosing, with tank recirculation and online monitoring

## SEWAGE TREATMENT PLANT

- ASBR with corrosion resistant fibre-reinforced plastic (FRP) bioreactor, with internal balance tank and plant room
- Treatment to Class C (low risk) for disposal to the tailings dam

## RESULTS AND BENEFITS

- **Reliability.** MAK Water's plants are renowned for reliability and ease of operation: quality products delivered on time.
- **Aftersales Support.** Service & maintenance agreement with monthly site visits for peace of mind.
- **Lowest Costs.** MAK Water offered a project discount to the EPC contractor, and ongoing savings for spares and consumables to the end user.



*SWRO installed onsite at the Mill*



*ASBR sewage treatment plant installed onsite*