

# CASE STUDY

## PROJECT POTABLE WATER FOR REMOTE COMMUNITY

PRODUCT Sea Water Reverse Osmosis (SWRO)

INDUSTRY Infrastructure

LOCATION Eastern Goldfields, Western Australia



### BACKGROUND

The Government of Western Australia (WA) Housing Authority manages essential services at Aboriginal communities in the remote outback of WA via the Remote Area Essential Services Program (RAESP). Local Regional Service Providers are engaged by Housing Authority for the delivery of essential services to these communities.

MAK Water has now supplied eight of these communities with potable water treatment plants to improve the drinking water quality and reduce the impact of water born viruses in the community. This project required a custom designed Sea Water Reverse Osmosis (SWRO) plant to produce potable water using the available hypersaline ground water.

### SOLUTION

- Custom design and manufacture of a 45 m<sup>3</sup>/day SWRO plant
- Optimised Reverse Osmosis (RO) configuration and plant sizing to achieve required recovery rate and water quality across a wide temperature range
- RO design provides flexibility with feed water quality and the ability to safely blend the permeate
- Equipment and material selection to suit the extreme hypersaline feed water
- Iron and manganese removal system
- Duty/standby process pumps, dosing pumps and filtration for improved plant reliability
- Temperature adjusted, automated permeate remineralisation system
- Chlorine dosing, potable water tank recirculation and monitoring
- Containerised (1 x 40') with non-slip steel floor, insulation, air conditioning and vandalism protection
- High level of instrumentation with online monitoring of nitrate, conductivity, pH, temperature, tank levels, flow, pressure, free chlorine
- ClearAccess™ Remote Monitoring and Control
- Onsite commissioning and training of Regional Service Providers (RSP)

### RESULTS AND BENEFITS

- **Design Brief.** MAK Water's optimised RO design provides operating flexibility, reduced ongoing maintenance costs and equipment reliability.
- **Turnkey solution.** Custom "fit for purpose" design in a durable prefabricated containerised system.
- **Compliance.** Maintains compliance with ADWG.



MAK Water containerised SWRO during factory acceptance testing



MAK Water containerised SWRO installed onsite