

# CASE STUDY

<b>PROJECT</b>	<b>WATER AND WASTEWATER TREATMENT FOR REMOTE MINING OPERATION</b>
<b>PRODUCT</b>	Membrane Bio Reactor (MBR)
<b>INDUSTRY</b>	Mining
<b>LOCATION</b>	Western NSW



## BACKGROUND

A large mining company operating in a remote location with no existing sewage or wastewater infrastructure needed a fit for purpose treatment system. Due to the remoteness of the site and the challenges posed by seasonal heavy rainfall, constructing an in-situ plant was not feasible. Additionally, access roads in and out of the site are subject to flooding, so the plant required a robust, reliable design that minimised waste streams for off-site disposal.

## SOLUTION

MAK Water prepared a concept design during the tender phase that addressed the remote location and challenging operating conditions. Through value engineering and adherence to client specifications, a customised plant was delivered to meet the client's budget. The final solution incorporated lessons learnt from previous projects to optimise the design and implementation.

## MAK WATER KEY SOLUTIONS

- Modular package plant built off-site under controlled conditions
- Interconnecting pipe spools prepared to minimise on-site installation time
- Sludge dewatering system to eliminate the need for a clarifier and reduce sewage treatment sludge requiring off-site carting.
- Septage Removal System for accepting and screening of tankered septage and raw sewage
- New package sewage pump stations
- 315 KI/day Membrane Bio Reactor (MBR) to achieve class A treated effluent
- Coal mine compliant electrical control panel with REPQ verification
- Client specific vendor data requirements (VDRL)
- Externally banded IBC enclosures for ease of chemical handling
- Installation and commissioning of new plant



*Membrane Bio Reactor (MBR) plant on site*



## RESULTS AND BENEFITS

- **Reliable Operations:** Robust plant design ensures dependable performance in remote and challenging environments
- **Reduced Downtime:** Off-site modular construction and rapid on-site installation minimise disruption and downtime
- **Cost Efficiency:** Value engineering and design optimisation deliver a fit-for-purpose solution at an acceptable cost
- **Simplified Waste Management:** Integrated sludge dewatering system minimises waste streams and reduces off-site disposal requirements