

CASE STUDY



PROJECT SEWAGE TREATMENT FOR TRAIN MAINTENANCE FACILITY

PRODUCT Moving Bed Bioreactor

INDUSTRY Infrastructure

LOCATION Nebo, Queensland

BACKGROUND

As part of establishing a train servicing and provisioning facility in Nebo (regional Queensland, Australia) Pacific National, the facility owner, required a reliable and cost effective means of treating waste water for reuse. One of the main challenges on this site was the limited access to water and it was important to reuse water wherever possible, and to ensure environmental discharges were properly treated to meet license conditions.

SOLUTION

MAK Water (trading as Clearmake at that time) specified, installed and commission a custom system that would treat the waste water for reuse.

CUSTOM ENGINEERED SOLUTION

- Solution tailored to treat the site waste water suitable for reuse or discharge to the environment.
- Aerobic primary treatment process using activated sludge technology where digestion and oxidisation of the waste occurs in three cycles:
 1. Aeration for Biological Oxygen Demand (BOD) oxidation and nitrification
 2. Settling cycle for anoxic BOD oxidation, clarification and denitrification
 3. Decanting and media filtration

WATER QUALITY

- Following settling and media filtration the waste water is sterilised with chlorine
- A minimum 30 minutes chlorine contact time is provided prior to water reuse or discharge

REMOTE MONITORING – CLEARACCESS™

- Enables the MAK Water, or any other technical team to monitor the plant from wherever they are located
- Ensures plant reliability and reduces on site requirements

RESULTS AND BENEFITS

- **Water conservation through reuse.** Reusing waste water reduces environmental impact.
- **Operational cost savings through ClearAccess™:** Remote monitoring from MAK Water's operational centre ensures plant availability and reduces manpower on site.



Pacific National rail facility



Custom engineered aerobic primary treatment process and sterilisation