CASE STUDY

PROJECT	PORTABLE AND PRROCESS WATER PRE-TREATMENT FOR NICKEL MINE
PRODUCT	Lamella Clarifier - Hire Plant
INDUSTRY	Mining
LOCATION	Goldfields-Esperance, Western Australia

mak water
water | wastewater | sewage

BACKGROUND

The Nova Nickel Project uses treated bore water to supply both potable water and process water to the accommodation village, mine site facilities and process plant. The bore water is high in salt and other minerals and therefore Reverse Osmosis (RO) is used to purify the water prior to use. The RO plants installed on site did not have adequate flocculation and solid separation prior to the RO process and consequently the membranes were fouling, equipment failing and RO plant downtime was affecting downstream operations.

MAK Water was requested to attend site to review the Reverse Osmosis system, recommend long term solutions and provide a quick solution to ensure a reliable water supply to the site.

SOLUTION

A hire pre-treatment plant to provide suitable pre-treated bore water to feed the existing RO plants.

SMART DESIGN

- In-house bench testing of bore water sample to determine the optimal treatment process
- Hire plant to remove both colloids and manganese

CUSTOM RO PRE-TREATMENT PACKAGE

- Custom flocculation and dosing skids, lamella clarifiers and additional pump skids
- Equipment hire (trial) with purchase option
- Fast four week delivery time
- Onsite installation support and plant commissioning

Lamella Clarifiers with flocculation and dosing skids

ONGOING TECHNICAL SUPPORT

- Onsite technical support to optimise process and minimise operational costs
- Monthly site visits by MAK Water Service Technician

Custom RO Pre-Treatment plant installed onsite

RESULTS AND BENEFITS

- Reliable Water Supply. Effective RO pre-treatment solution fixed RO plant issues and provided a reliable water supply
- Low Risk Solution. Technical expertise and proven experience to provide a low risk solution
- Cost Reduction. Dramatically reduced ongoing operational costs of the existing RO plants