

Case Study RO Wintamarra

ABCO Water Systems was awarded the contract to provide water solutions from its rental fleet for a temporary 600-person accommodation village at an iron ore mine.

The mine is located in the mountainous Hamersley Range region of East Pilbara, north-west of Newman in Western Australia.

In addition to an RBC wastewater treatment plant, ABCO installed a reverse osmosis (RO) water treatment plant. The RO system enables water purification on site, with ABCO steel tanks offering three-day storage.

Water is drawn via the RO feed pumps from the raw water tanks. These tanks are 2 x ABCO 13/4290 galvanised steel bolted tanks roofed and fitted with potable grade liners. The RO system comprises of 1 x 140m³/d system that offers approx. 70% recovery. The lower recovery enables us to provide a system that is virtually maintenance free over the rental period.

ABCO incorporated a blend line within the RO unit that bypasses the membranes with 100m³/d of raw water, this is reintroduced to the permeate prior to it entering the potable water tanks; this combination provides the 210m³/d of potable water. This blending system offers a form of redundancy and allows maintenance to be carried out (if required) without drastically compromising the water supply to the village.

All permeate water is then directed to the potable water tanks, these tanks are 2 x ABCO 12/4005 galvanised steel bolted tanks, roofed and fitted with potable grade liners. The reject from the RO plant of 30m³/d is directed to the wastewater irrigation tank and disposed of in the spray irrigation field.



