



High efficiency in Wandoona quarry

water solutions

SAND WASHING PLANT

Situation

Located in Moree in Northern New South Wales Australia, is the Wandoona Quarry sand washing plant. The quarry was drawing water from an adjacent river to wash sand and grade it as 3mm, 5mm and coarser stones. The pump itself has to draw water from the river which could be 10m below the river bank. As the water had to be paid for and disposed of onsite it was critical that the flow could be variable to suit the application and varying amounts of loam clay in the sand at any given time. A higher amount of clay in the sand required more water to effectively wash it off the sand. Given the 10m river bank, a surface pump was not practical and a column pump would have been too expensive and vulnerable to the potential high river flows so a submersible pump was the most logical choice to suit the application and to provide a higher efficiency. The installation itself had to be robust enough to withstand fast flowing water and debris in the case of flooding.

Solution

Using the Zeno Pump selection software a ZENIT Uniqa ZUG OC 100 37kW submersible, open channel pump was selected to meet the required duty point of 67l/s at 30m total head at 46Hz which allows the pump to speed up for the increased flow required to wash more clay off the sand, or slow down for reduced flow where the sand being washed is relatively clean already. ZENIT is represented in Australia by White International Pty Ltd.

Benefits

Since their installation the operation has been working extremely well to the satisfaction of all. It is estimated that by having the Zenit Uniqa has allowed the water savings on site to be maximised, thus saving cost of production per cubic metre of sand. Whilst also ensuring a longer service of the Zenit Uniqa pump by not running at its maximum capability non-stop.

"The team at White International were able to deliver the best possible solution for a challenging application. The powerful Zenit pump allow the quarry to operate at maximum efficiency." John Wilde - Moree Pumps, Irrigation & Plumbing



Plant view



Drawing water from the river

Customer	Wandoona Quarry Moree				
Company Profile	Concrete & Quarries				
Location	Moree, New South Wales	Country	Australia	Area	Oceania
Application	Washing sand at a quarry				
Installed Products	ZENIT Uniqa ZUG OC 100F 50Hz 37kW 2 pole pump				
Date	November 2015				