

**CLIENT:**

Centennial Newstan Pty Ltd

LOCATION:

Fassifern, NSW

SERVICE:

Water Treatment

CAPACITY:

16 ML/d

CONTACT:

Mohsen Mobarghei

ISSUES:

Had a licence to discharge 7 million litres of water off-site per day when 11 million per day was extracted

SOLUTIONS:

Design and construct a WTP

BENEFITS:

Treatment of used water for reuse or to discharge as per EPA licence

PRODUCT:

Lamella Plate Clarifier, Dosing systems, Lamella Thickener, Storage Tanks

COMPLETION DATE:

April 2014

Centennial Newstan Water Treatment Plant

In October 2012, Aquatec Maxcon were awarded the design and construct of a water treatment plant for Centennial Newstan's coal mine site at Fassifern on the NSW Central Coast.

The mine extracted up to 11 million litres of water per day from the underground operations when the tender was released. However, the Principal's Site only has a licence to discharge 7 million litres off-Site per day which left a deficit of up to 4 million litres that would have potentially been stored on Site. To enable the Site to increase the volume of water discharged from the Site, a Water Treatment Plant was required to improve the quality of the discharge, allowing Centennial Newstan to discharge the extra 4 million litres into the main By-Wash Dam, via a Licenced Discharge Point. The plant was also required to produce an additional 3 ML/d of water for on Site reuse. This meant the total production capacity of the facility needed to be a net 14 ML/d output.

Aquatec Maxcon were the Principal Contractor on this project, constructing the water treatment plant including civil works. The plant was designed to treat an input capacity of 16 ML/d.

Main elements of the plant include:

- Concrete lamella clarifier complete with MRI plates and flocculator
- Dual media sand filters
- Lamella thickener
- Sludge collection tank
- Storage tank
- Reuse system
- Ferric chloride and polymer dosing systems
- Pump station and associated pipework and valves

The water treatment involves the following processes:

- Flocculation, clarification
- Sludge reticulation & collection
- Coal & garnet filtration
- Washwater
- A reuse system encompassing a UV system and storage tank