

## Customised Dewatering Pump System

**Customer:** Yancoal Australia Ltd  
**Location:** Boonal Joint Venture (Bluff, QLD)  
**Case Study ID:** CS-66  
**Date:** November 2017

### Overview

Dowdens Pumping & Water Treatment's Rockhampton branch working closely with Dowdens Mackay's Industrial & Fabrication Workshops have successfully designed, manufactured and commissioned a Customised Dewatering Pump System for YANCOAL Australia.

YANCOAL owns and operates the YARRABEE Coal Mine & Boonal Joint Venture Coal Load Out Facility that is located 40 kilometres northeast of the township of Blackwater, QLD in Central Queensland's Bowen Basin. The Boonal Joint Venture is a coal load-out facility located on the Capricorn Highway in Central Queensland, Australia. Coal from both the Yarrabee Coal Mine and Jellinbah Coal Mine are transported via rail link to the Port of Gladstone from the Boonal coal load-out facility.

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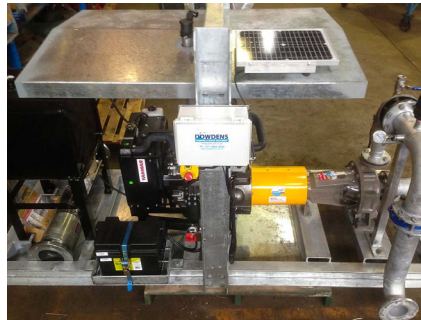
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## The Problem

Yancoal Australia required a skid-mounted dewatering pump system for their coal mine. The self-contained system needed to be easily relocated when required and run via a reliable diesel engine. The systems start batteries required to be charged by an included solar system.



## Our Solution

After initial site visits, Dowdens Pumping & Water Treatment Rockhampton were able to measure the height and distance required for the dewatering pump system, as well as clearly establish pipe sizes and required flow rates to adequately meet the clients on-site dewatering requirements.

This led to the in-house design of the unit by Dowdens Pumping Mackay's Engineering Department. Once the proposal had been accepted by the client CAD drawings were immediately created and passed onto the Dowdens Industrial Fabrication Workshop.

The Yanmar diesel engine recommended by Dowdens Pumping Rockhampton ensured long term problem-free operation. All fabrication, assembly and performance testing was conducted by Dowdens Pumping & Water Treatment in-house & onsite guaranteeing product quality.

As Dowdens Pumping is an authorised FLOWSERVE Pumps Distributor, we were able to quickly and easily size and source a FLOWSERVE Hydro Titan Pump. The Hydro Titan Pump has a capable duty of 14 l/sec (@ 50m total head) and perfectly matches the Client's site requirements. From here Dowdens Industrial Fabrication Workshop fabricated the skid base which was then bundled and fully hot-dip galvanised. This innovative system utilised a universal coupling, installed between the pump and motor to reduce the chance of misalignment occurring between the pump and engine.

Dowdens fabrication workshop then proceeded to assemble and mount the 125-litre diesel fuel tank, Hydro Titan Pump and install the universal coupling. Dowdens Electricians then connected the battery and solar array charger module to the canopy, whilst mounting the Yanmar 'Engine Protection Unit'. The

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engine ran through operation testing before it was transported to the site where final commissioning was successfully completed.

## Key Components

- Hydro Titan Pump with Universal Coupling
- Yanmar 3-Cylinder Diesel Engine
- Mine Site Specification Compliance achieved
- Custom hot-dipped galvanised pump base fitted with bunding to house diesel fuel tank
- The custom in-house design was undertaken by Dowdens Project Engineering Department
- Custom in-house fabrication undertaken by Dowdens Pumping Industrial Workshops

## Project Design Philosophy

Dowdens Pumping & Water Treatment's Rockhampton branches design philosophy for this project was:

- Cost-Effectiveness
- Innovation
- Ease of Installation
- Simple & Effective Pump Operation
- Engine Longevity
- System Reliability & Reduced Ongoing Maintenance

## Brands used in this project



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