



Mandalong Mine Stockpile Conveyor

Engineering Design and Shop Fabrication Drawings

Client

Laing O'Rourke for Centennial Coal.

Project Location

Mandalong Mine, Newcastle Coalfields near Morisset, New South Wales.

Scope

Engenium was asked to complete the Civil and Structural Engineering Design and Shop Fabrication Drawings for part of the Centennial Coal Mandalong Colliery Upgrade. The scope included a 75 metre high cantilevered stockpile conveyor, tension tie supported, braced tower, two trestles and 200 metres of elevated gantries from surge bin.

Business Objective

The overall objective was to increase output from the mine and provide an alternative out loading system via road haulage.

Challenges to Overcome

The main trestle was inclined to allow a greater stockpile base circle for increased storage. The erection of the stockpile conveyor required a planned erection sequence with multiple cranes due to the main trestle being inclined.

engenium

smart project delivery

Demonstrated Capabilities

- Engineering Design completed using SpaceGass Structural Analysis and Design software.
- A ProSteel 3D Intelligent Model of the structure was developed and from that fabrication drawings were produced.
- Design engineer's capability in assisting in the erection sequence.
- Efficient design to enable a lower tonnage of steelwork.

The Engenium Principal Engineers and Designer added further value to the project through supporting the optimisation of the site erection procedures.

Smarts

The client required a light structure due to budget constraints. As designers Engenium also required a light structure due to the significant cantilever of the output end of the conveyor. With this in mind SpaceGass structural engineering analysis and design software was used for the structural modelling and optimisation.

Project Outcome

Delivered on time and under budget. Fabrication drawings were produced using ProSteel. Engenium went from engineering design directly to fabrication drawings. The ability to undertake the design, design drafting and detailing resulted in significant time and cost savings for the client as well as a greater delivery quality.

Want To Know More?

For more information please contact our Newcastle office on +61 (0)2 4940 4100, email info@engenium.com.au, or visit our website engenium.com.au.

Delivering Value. Delivering Results.