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Rix's Creek Train Load-Out Rail Loop Concept Design, Feasibility Study

Client

Bloomfield Collieries

Project Location

Rix's Creek, 5 kilometres northwest of Singleton in the Hunter Valley, New South Wales.

Engenium provided preliminary Engineering Design for a new train load-out rail loop for Bloomfield Collieries at their Rix's Creek mine site near Singleton in New South Wales.

Bloomfield Collieries were leasing an existing Train Load-Out system owned by a competitor on a per usage basis. However, it was becoming increasingly difficult for them to obtain time slots to use the facility.

As a result, Engenium were engaged to prepare the Concept Design and Feasibility Study so that a Cost Benefit Analysis could be undertaken to determine the project's future viability.

The design comprised of:

- The refurbishment of existing product surge bin.
- New discharge feeder under product surge bin.
- New haul road overpass.
- New 500 metre overland conveyor (750tph capacity).
- New underpass under rail loop formation to new stockpile area.
- New 400 metre stockpile stacking conveyor (750tph capacity).
- New 600 metre reclaim tunnel conveyor (5200tph capacity).
- New product sampling system.

- New 5200tph train load-out facility (including a 2400 tonne surge bin).

Existing details provided by the client of the existing product surge bin, stockpile drawdown hoppers and the train load-out loading chute were also required to be incorporated into the Concept Design's.

To allow the Cost Benefit Analysis to be carried out, Engenium were required to model the Concept Design to a level of +15%, in order to achieve the client's desired accuracy.

The 3D model allowed quantities for items such as bulk earthworks, fabricated structural steel, materials handling chutes, mechanical equipment and electrical equipment to be quickly and accurately estimated.

During the concept design workshop meetings with the client, Engenium employed the use of interactive walk through's of the 3D model to ensure their requirements were clearly understood and correctly implemented to their satisfaction.

An added benefit was that our client was able to clearly visualise the Concept Design and see how it was going to interface within their existing facility.

Upon completion of the Concept Design the Cost Benefit Analysis report was well received by the Bloomfield Collieries Board. Subsequently, an application was lodged with the relevant regulatory authorities for the approval of the proposed rail loop.

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.

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