

PROJECT DETAILS

Customer:

Centennial - Mandalong

Location:

New South Wales, Australia

Project Duration:

10/2020 – 01/2021

Products Offered:

- Sprayplast
- FB200R
- Pillar formwork systems

Industry Sector:

Mining - Coal

Applications:

- Cavity and void filling
- Ground control
- Ore recovery optimisation



MANDALONG PRE-DRIVEN RECOVERY ROADWAY PILLARS CASE STUDY.

Mandalong Mine is an existing underground coal mine operation located near Morisset in the Lake Macquarie Local Government Area (LGA). It is approximately 130 kilometres (km) north of Sydney and 35 km southwest of Newcastle. The mine supplies thermal coal both to the domestic and export markets, producing up to 5 Mtpa.

Mandalong utilise a combination of longwall and continuous mining methods to extract coal from the West Wallarah Seam.

CHALLENGE

Minova was approached by Mandalong Mine to develop a Pre-driven recovery roadway pillar system to enable them to improve the safety and efficiency of longwall recovery and change-out for LW28.

Due to the geotechnical conditions and orientation of the longwall blocks, the mine sought to trial a new approach that would allow them to produce coal from the next longwall quicker.





SOLUTION

Working with the team at Mandalong, Minova assisted with the design, implementation and QA/QC of Pre-driven recovery roadway grout pillars. Based on a nominal strength of our high-volume grout, FB200, pillar dimensions were calculated to support the roof and fender on holing into the supported roadway.

Minova actively supported Mandalong through the construction and filling process to ensure each pillar was built to specifications. We were also present to ensure the pillars were filled with grout of the appropriate strength for the project.

RESULT

Upon construction and curing of the grout pillars, Mandalong were able to cut with the longwall shearer into the pre-supported roadway. Using Minova's pillar system, the mine reduced the bolt up and recovery cycle from 13 days to 5.6 days, a 57% improvement. This equated to approx. 150,000T of additional coal which could be mined.

Testimonies from site personnel have stated that shield recovery was easier, and that the roadway and associated goaf behaved better with the additional roadway support.

It has also been stated that using this method of longwall recovery was the safest operators had felt during the change-out process. This further highlights the benefits of using Minova's PDRR Pillars for Longwall recovery.

ACHIEVEMENTS

- Completed on time with no incidents
- Saving of 8 days in the longwall bolt up and recovery cycle.
- Increase in the total amount of available coal produced by 150 kt
- QA/QC process for pillars and grout ensured the design pillar strength was reached

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