

PROJECT DETAILS

Customer:

SIMEC, Tahmoor

Location:

Tahmoor, Australia

Project Duration:

October 2019 – November 2019

Products Offered:

- Carbofill
- Bevedan/Bevedol
- FB200

Industry Sector:

Mining - Coal

Applications:

Rehabilitation
Cavity and void filling
Ground control
Material bonding



INTERSECTION RECOVERY SIMEC TAHMOOR.

Tahmoor Coking Mine is an underground coal mining operation situated in the Southern Highlands Region of New South Wales. It is owned and operated by Simec GFG Alliance. The mine operates in the Bulli coal seam, with the majority of its product being hard coking coal. The coking coal is used for steel making in Australian domestic, European and Asian markets.

The Tahmoor South Project proposes to continue the Tahmoor Mine, with the extension of underground operations to the south into the Bargo area.

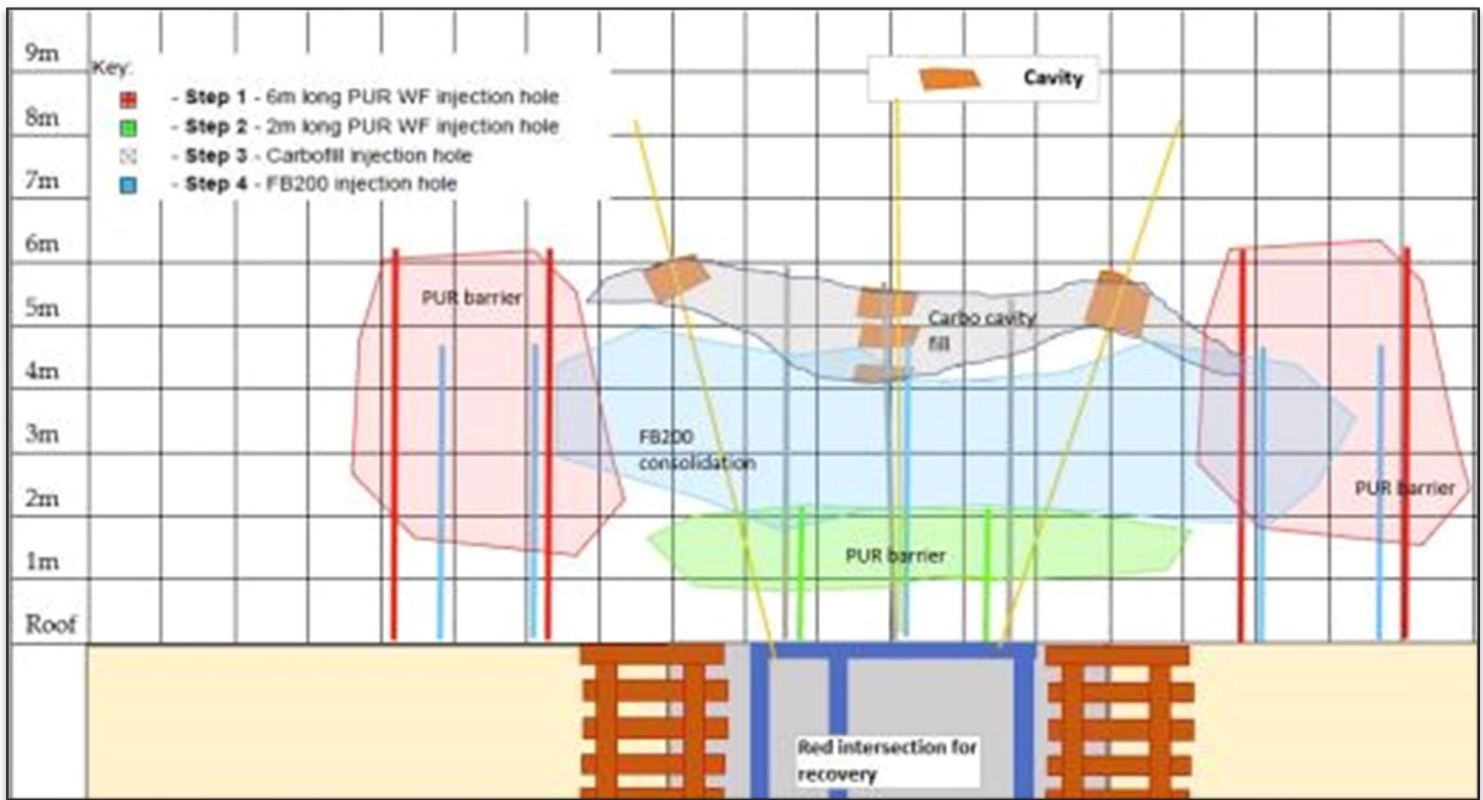
Minova supported Tahmoor in rehabilitating 3 intersections allowing removal of steel sets from the intersections. These had to be removed from this roadway for the installation of a conveyor belt.

CHALLENGE

Since mining began at Tahmoor in 1979, areas of the mine are up to 40 years old and have become badly damaged. The roof conditions in the target intersections were described as suspended falls resting on the steel sets and timber chocks. With these supports in place, there was no space for conveyor structures to be installed. Borescopes of the intersections identified cavities that needed to be filled to enable cablebolts to be effectively installed.

Minova was contacted by Tahmoor in 2018 to assist with the rehabilitation of intersections along this planned belt road. We attended several meetings and risk assessments with Technical and Operations teams to develop a robust roadway treatment that would allow for the removal of steel sets from the intersections.





SOLUTION

A Minova crew, with assistance from mine employees, successfully applied Carbofill in standpipes into the roof to fill in major roof cavities. Holes were drilled and standpipes inserted at 5m depth in order to target the identified cavities in the roof. Each standpipe was injected to full pressure to ensure the cavities were completely filled.

Bevedol / Bevedan was then injected into 2m and 6m holes through the centre and around the perimeter of the intersection. This created a curtain that was able to successfully contain the FB200, as well as consolidate the bottom portion of strata. Most holes were injected to the maximum 180L per hole with injection pressures of only 20-30 bar. Some of the holes only recorded 40-80L of product before the maximum injection pressures were reached.

FB200 through was then pumped through standpipes into the roof to consolidate all the broken strata and achieve a nominal 7-10MPa strength. Minimal leakage was observed while pumping FB200, indicating the PUR "curtain" was successful in containing it within the intersection.

RESULT

After the FB200 was pumped into the strata, further borescopes were undertaken which showed successful filling of each intersection. This gave the mine confidence to progressively remove steel sets as cable bolts were installed. Cable bolts were successfully installed and grouted to maximise consolidation and load transfer across the intersection.

All feedback from site confirms the applications to have been a success and were carried out safely and efficiently.

ACHIEVEMENTS

- Stability of the roadway maintained with no movement observed from ground monitoring
- Strata above intersection consolidated to ensure cablebolts could be effectively installed
- Steel sets successfully removed

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