



CASE STUDY: ChemGrout CG500

GROUTING ROCK BOLTS

BACKGROUND

Tahmoor Coal Mine is an underground coal mining operation situated in the Southern Highlands Region of New South Wales, which is located just south of the Tahmoor Township and approximately 75km south west of Sydney.

Tahmoor Coal Mine operates in the Bulli coal seam, with the majority of its product being hard coking coal while also producing small amounts of steaming blend coal. Both the coking coal, used for steel making and the steaming blend, used for power generation, are sold to European and Asian markets.

JOB DESCRIPTION

The Mine is currently developing coal underneath the town of Picton and will soon mine an area directly below the main south railway line linking cities of Sydney and Melbourne. A brick lined culvert installed many years ago within the rail track embankment that provides a passage for water from one side of the embankment to the other was in need of structural re-enforcement to prevent further subsidence prior to the ground below being developed by the mine operator Glencore.

A process of meshing and drilling several hundred rock anchors into the earth, grouted into position transfers loads from unstable exterior surfaces to the interior of the rock mass ensuring no further subsidence is evident, protecting an infrastructure asset located directly above (a working railway line).



ANTEC SOLUTION

Positioned above a creek bed some 55 metres from the grout culvert injection points the ChemGrout CG500 Diesel Hydraulic mixer pump was the perfect machine for the project. This machine provided a self-sufficient incredibly reliable and trusted solution to high volume grout production with continuous mixing working in remote bushland on the city fringe.

Neat cement was mixed and pumped the distance through 1 ¼" grout hoses with each hole consuming 55 litres of grout pumped into the strata through grout tubes and ventilated through steel hollow bar.

Benefits:

- The progressive cavity pump is variable speed which allowed the operator to gradually increase grout delivery, prevented line blockages and wastage of material.
- The design of the mix tank, side baffles and with reversible paddles allowed each batch to be produced quickly and efficiently reducing mix time and hence reducing overall labour on the project.
- Reversible mix paddles allowed us to produce a superior grout mix quickly with minimal bleed ensuring perfect strength characteristics required for bonding.

Tech Specs:

- **Grout Output:** 76 litres per minute @ 261psi (18 bar) through open throat pump with non- pulsating positive displacement rotor stator. Variable speed.
- **Tank/Hopper Capacity:** Twin 265L mix tanks featuring reversible paddles with 57 litre hopper
- **Power Source:** Kubota Diesel Engine driving hydraulic twin circuit pump



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