Reference Details

Owner Centennial Coal Company Limited, Sydney, NSW, Australia

DSI Unit DSI Pty. Ltd., Bennetts Green, NSW, Australia
DSI Scope Development, production and supply of special geo grid for the stabilization of longwall relocations

DSI Develops Geo Grid for Safe Longwall Relocation

R&D Activities in Australia

Longwall mining is a very efficient method for exploiting underground coal seams, with large blocks of coal being mined in a short time. However, the longwall mining equipment has to be relocated to a new location after mining of a block has been completed.

A new polyester geo grid developed by DSI Australia now makes this relocation quicker and easier. The geo grid is placed over the longwall shields to facilitate their removal.

DSI Australia assembled this geo grid for the Springvale Colliery managed by Centennial Coal Company Limited, one of the largest coal producing organizations in the Australian federal state of New South Wales. Springvale Colliery is located in central New South Wales, out 15 minutes' drive from the mining town of Lithgow. The mine uses a 305 meter long wall to mine 3.5km blocks of coal in the Lithgow seam.

The length of the Springvale long wall is another challenge during the relocation of the longwall equipment. The new geo grid is an integral part of the dangerous relocating process, providing a barrier between the loose material in the goaf and the drive in which the miners remove the equipment.

The development of this special geo grid for Springvale Colliery is another good example for DSI's client orientation. The process requires the constant close communication between DSI and representatives of their clients. In particular, tests are carried out in collaboration on site and concepts for solutions are closely coordinated.

This was also the case at the Springvale Mine, where DSI went underground for an inspection of local conditions and worked through and approved a pre-check list together with mine personnel. The conclusions drawn from this procedure formed the base for DSI's design of the geo grid. Subsequently, manufacturing and test plans were also presented to the mine owner for approval. Furthermore, mine representatives visited the DSI factory to inspect the assembly and the loading of the geo grid for transportation.

The critical point in the application of every geo grid is the process of pulling the assembly across the longwall face. DSI Australia provided supervision during this phase, with a full report being supplied after relocation. DSI Australia has participated at the last four relocations at Springvale Colliery. Excellent teamwork between DSI and the colliery allows the quick installation of the geo grid, thus speeding up the relocation process and making it considerably safer.

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