

 Mining

## Reference Details:

**Owner and Operator of the mine**

The Allen Company, Winchester, KY, USA +++

**Engineering**

Dr.K.Unrug, University of Kentucky, USA +++

**Subcontractor** Sub-Technical,Inc., Mars, PA, USA

**DSI Services** Supply of

26,100 m<sup>2</sup> 80/80 Geogrid and 4,500 DYWIDAG Threadbar Bolts, dia.25 mm, length 0.44 m.



## DSI Ground Support Safety-Wraps Limestone Pillars

### Boonsboro Quarry, Lexington, Kentucky, USA

"The Allen Company" operates an underground limestone mine producing in excess of 2.5 million tons of several grades of crushed stone per year for highway repair and new construction.

As a result of the mining activities cathedral like underground rooms up to 25 m high were formed. During the excavation works, 15 m wide and up to 25 m high pillars were left in place in order to support the large rooms.

Transitioning to a lower level some natural pillars were extended to over 60 m height. There were occurrences when the natural pillars spalled and rock chunks fell and caused severe damage to vehicles and conveyor belt systems.

DSI USA offered to solve the containment issue with geogrid wrapped and bolted to the pillars. This reduced the risk of falling rock chunks to a minimum.

The main advantage of using the lightweight geogrid material is that it fits the mine's available lifting capacity. All lifting and bolting was done with a basket using an out-rigged telescopic crane.

This measure represented an important step for the safety of employees and equipment. As the project was successfully completed in March 2002, we hope to obtain follow-up orders.