

**DSI References**

Owner Barrick Gold, Kalgoorlie, WA, Australia
DSI Unit DSI Australia, Bennetts Green, NSW, Australia
DSI Scope Design, development, production and supply of approx. 3,000 dynamic bolts; technical assistance



DSI Australia Develops new Dynamic Bolt for Seismic Stability in Deep Mines

R&D Activities in Australia

Among other mines, Barrick Gold also runs **Kanowa Belle Metaliferous Gold Mine** near Kalgoorlie, about 570km east of Perth in Western Australia. Barrick Gold had already experienced the versatility and reliability of DSI's mining products in several other mines. Consequently, when presented with a seismic activity problem on site, Barrick Gold asked DSI Australia to find a solution for stabilizing the working areas.

In accordance with the client's specifications, DSI developed a new dynamic bolt that could be installed efficiently and safely and anchored with a standard resin capsule. The

specific challenge in this case was the small borehole with a diameter of merely 43 - 44.5mm. An even greater obstacle was the fact that the dynamic support needed to be appropriate for installation using a face jumbo installation method, bolting in cycle in a crowded space.

During the development of the prototype bolt, DSI Australia's specialists worked in close collaboration with Garford Pty Ltd's mining engineers. Extensive static and dynamic load testing was then carried out in WASM, a world renowned Geo-Mechanics testing facility located in Kalgoorlie. Excellent teamwork between DSI and Garford lead to successful testing results at first go for the new bolt prototype.

The initial site installation of the Dynamic Bolt also proved to be a success. The mine operator was impressed with the easy handling of the new dynamic bolt, which allowed fast installation without the need for extensive training. DSI Australia has now supplied in excess of 3,000 Dynamic Bolts to Kanowna Belle for the substantial stabilization of the mine.

The development of this new dynamic bolt is yet another example of DSI's innovative spirit and close connection to markets. As there is a tendency for today's mines to become deeper and higher in ground stress, demands on mining products are increasingly severe. With its properties and performance characteristics, today's new dynamic bolt now complies with the market's future demands.

