Owner Coeur d'Alene Mines Corporation, Palmarejo, Mexico +++ **Contractor** Aker Kvaerner Solutions, Oslo, Norway +++ **Subcontractor** Aker Mexico, Chihuaha, Mexico +++ **Engineers** Isreal Fimbres; Tom Holcomb; Sergio Sotelo
DSI Unit DSI Anclas Mineras S.A. de C.V., Jalisco, Mexico
DSI Scope Supply of 12t of Omega-Bolt ®s in lengths of approximately 2.4m and supply of the hydraulic pump needed for installation

Mexico: Omega-Bolt ® Technology for Precious Metal Mine of International Standing

The foothills of Sierra Madre, in Mexico's northern state of Chihuahua, are known for their precious metal deposits. One of the mines in this region, the Palmarejo mine, has been part of the world's leading silver and gold producing company since its opening in March 2009.

The mine is operated by Coeur d'Alene Mines Corporation, one of the world's leading silver producers. According to the current 11 year plan for the operation of the new mine, approximately 120,000 ounces of Gold and 9 million ounces of silver will be mined per year at Palmarejo.

Because the strata near the main portal is predominantly unstable, a rock bolt was needed that could be installed quickly and reliably in order to provide the necessary stabilization for gallery advancement. The contractor chose DSI's Omega-Bolt ®s, which were used for the first time ever in Mexico.

The Omega-Bolt ® is a special anchorage system used for temporary rock reinforcement in mining and tunneling. The anchor offers immediate full load bearing capacity along the entire bolt length and can be flexibly adapted to varying borehole diameters. The Omega-Bolt ® is shaped into a Greek Omega and is expanded by high pressure water after insertion into the borehole. The result is immediate form closure and friction transfer with the surrounding rock mass. Another important advantage is the Omega-Bolt ®'s deformation flexibility. This feature makes the anchor suitable for use in unstable rock mass as well as in seismically active mining regions.

For the construction of the main ramp, DSI Anclas Mineras supplied a total of 12t of Omega-Bolt ®s in lengths of approximately 2.4m as well as the hydraulic pump necessary for the expansion of the anchorages. In Palmarejo Mine, Omega-Bolt ®s are also used at the intersections, where longer bolts are needed.

Thanks to the usage of the specialized Omega-Bolt ® system, work at the main portal could be carried out quickly and safely.

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