

Barrick Bald Mountain Tire Shop

Location: White Pine County, Nevada

Submitted by: Suncoast Post-Tension, Ltd.

Owner: Barrick Bald Mountain

Engineer(s): Mendenhall Smith

Contractor: Canyon Construction Company

P/T Supplier: Suncoast Post-Tension, Ltd.



Overview:

The With a cash-cost revenue of about \$68.9 million produced in 2006, the Barrick Corporation Bald Mountain Mine, located about 40-miles northwest of Ely, Nev., has claims to gold that date back to the 1860s. To ensure its commitment to sustainable economic development and a 10-year expansion plan, the owners of the mine recently completed the construction of a 28,800-square-foot tire shop and changing pad. As construction began in October 2006, the project called for slab-on-ground foundations to be built on a rigid pavement surface, heavily trafficked by the induced loads of haul trucks. Another issue facing designers was the placement of the tire changing equipment, which included a 70,000-pound capacity fork lift with a 16,000-pound tire handler attachment, and a 200-ton jack. Also accounted for was the added pressure on the slabs during the tire changing procedure, which requires the changing out of two 12,000-pound tires on a 360-ton capacity Model 797 Caterpillar haul truck. To achieve superior flexibility and strength of the foundation, 106,000-feet of post-tensioned strands were used.

Two concrete slabs were constructed for the changing of tires on haul trucks, as well as to host the building structure of a tire shop. The design required a 12-foot-by-14-foot slab with 18-foot-by-48-foot exterior beams. Every 18-feet, the slab tendons were placed in bundles of three, with up to 12 tendons in the exterior beams. Concrete had to be mixed on-site at 5,000-psi because of the remote location of the mine. Additionally, custom subgrade fill was necessary to optimize the post-tension design and to meet a subgrade reaction rate of 500-pci (k-value). Project managers were impressed by the installation performed by PTI certified crews, as they encountered no issues with placement or stressing of the concrete. Completed in October 2007, the tire shop and changing pad will allow the Barrick Corporation to continue service to more than 250-square-miles of claims, which produced 300,000 ounces of gold in 2006.