

Carving its way toward the wealth

Stillwater Mining Co. | A new tunnel is being constructed through 23,000 feet of rock



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NYE (AP) – First comes a loud whoosh.

Next, the sirens begin to wail.

But the real attention-getter is when the ground begins to shake almost violently as the state-of-the-art underground tunnel boring machine begins to cut through the side of the mountain.

Within seconds, rock – referred to as muck – begins to appear on a conveyer belt and is sent some 450 feet to a waiting truck.

Welcome to the Stillwater Mining Co. Blitz project.

The custom-built boring machine will eventually cut through 23,000 feet of rock and connect the east portal of the Nye mine with a portal near the Benbow mill site, allowing for lateral development of the JM Reef.

An official TBM Commissioning Event was held at the mine earlier this month with a small group of Stillwater County officials, the Northern Plains Council and special guests. Even before the presentation started, SMC officials could not contain their excitement.

“You’re going to be amazed,” said CEO Frank McAllister with wide eyes and a broad smile as he introduced himself to an attendee.

What makes the TBM unique is its size and, consequently, its capabilities. At 18 feet in diameter, it is a rotating cylinder-shaped head equipped with 33 cutting discs, according to project supervisor Curt Jacobs. Those discs have 2,640 horsepower with a cutting speed of 0 to 10 rotations per minute and a maximum cutterhead torque of 2.22 million foot-pounds.

It is powered by electricity – and a lot of it – weighs approximately 360 tons and takes seven people to run. That does not count the haulage personnel that take the muck in railcars from the back of the machine out of the tunnel.

It advances six feet at a time and has two gripper shoes on either side that actually compress against the walls for leverage. It took roughly 48 loads to get all parts of the machine to the Nye site, and staff began to construct it this past May. Approximately 150 feet had been drilled prior to the commissioning.

Simultaneously, a team will drive a parallel tunnel about 600 feet above the TBM,

using conventional methods. The tunnels eventually will be intersected by a new surface portal that will provide ventilation and emergency egress for the Blitz area.

The project is expected to span five years and the cost is now estimated at \$197 million. The company considers the Blitz project to provide a “backbone for potential future operations to the east” of the Nye mine, according to the company website.

TBMs have been used by the mine previously, but again, the size of the Blitz TBM is an entirely different ball game. A demonstration was proof of that. Eighteen-feet was drilled in the demonstration for the group, which created 30 tons of muck.

And that was with just two railcars running the muck haulage. There will be a total of 10 railcars running muck haulage when fully operational. Prior to the demonstration, seven of 11 trailing decks were in place and also planned was an additional 200 feet of “launch chamber” scheduled to be built.

SMC bought the TBM from the Robbins Co., which is known worldwide for tunnel boring and holds all records for hard-rock boring. It has been rebuilt twice – once after an 18,000-foot metro subway tunnel with a 23-foot diameter in Sydney, Australia, and then again after a 14,000-foot metro subway tunnel with a 22-foot diameter in New York.