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Dewatering the Drumlummon

By EVE BYRON Independent Record | Posted: Tuesday, December 15, 2009 12:00 am

http://www.helenair.com/news/local/article_33d3f9ba-e943-11de-8baa-001cc4c03286.html?mode=story

MARYSVILLE — The slumbering mine known as the Drumlummon is stirring after half a century's sleep, awakening dreams of riches for investors.

During the past year, RX Exploration has installed a \$500,000 treatment and pump system deep inside the historic underground mine, hoping to remove the arsenic-tainted water that flooded the mine's lower depths when work stopped here in 1953.

The Toronto-based company also has spent \$8 million blasting new tunnels and reinforcing ancient ones, while chasing old and new veins they believe hold \$100 million in gold and silver.

On a recent frosty morning, Joe Bardswich, chief mining engineer for RX, led a group underground to explore the effort to reopen the mine and bring it back into production. Irish immigrant Tommy Cruse discovered gold here in the 1870s, and the Drumlummon mine made him one of the richest men in Montana.

RX started renovations about one and a half years ago, and Bardswich, a large man with a hint of a Canadian accent, is proud of their recent accomplishments while open about some of their missteps.

He said he's amazed at how Dave Swanson with CDM Engineering in Helena was able to install the four large blue water treatment tanks deep in the mine, which pull arsenic from the mine's waters so it can be discharged outside.

Working with only an inch of clearance in places, Swanson built a special low-profile cart to carry the tanks through the narrow, rocky and mucky mine tunnel into the No. 1 mine shaft room, where they stand today.

"I must admit I was a little concerned when those large pre-fabricated tanks arrived on site and initially looked larger than the opening," Bardswich said.

He readily acknowledges they've had some "glitches" with the treatment system. While the water that flooded miles of tunnels usually is clear, when disturbed it brings sediment and mud with it that clogged the system.

So RX installed a new filter designed to capture the larger materials before the water flows into the two-tank “absorption” arsenic-treatment system.

“You use iron-based media that bonds with the arsenic to pull it out of the water,” explained Pete Strazdas, a consultant for RX.

While their discharge permit for water is for 400 gallons per minute, they’re only going to pump 300 gallons per minute. When it reaches the 2,600 feet of perforated pipe RX buried in an old railroad bed, the water will contain arsenic at levels below 3 parts per billion; the standard for drinking water is 10 ppb.

So far, they’ve dropped water levels by 40 feet.

“We did have some unpleasant surprises, but worked through those,” Bardswich said.

At that rate, he expects it will take about four months to dewater down to the 600-foot level, eventually removing 42 million gallons.

Bob Cronholm with the Montana Department of Environmental Quality said RX Exploration is complying with state regulations.

“We’re keeping an eye on them, to make sure they don’t get things out of whack,” Cronholm said. “They’re doing what we’ve asked them to do.”

RX hopes to begin production of gold and silver by April, Bardswich said. But before then, there’s a lot of work to be done.

On this day, Tim Hunter and his crew are reinforcing the timbers that line the No. 1 shaft, from which water is being pumped, and installing a phone line that will connect them to the main office above ground.

It’s difficult work. The mine shaft, which goes down about 1,200 feet, is about 6-by-10-feet in diameter, and the landings the men have installed are at an unusual pitch, accessed by wooden ladders. On these platforms, Hunter, a third-generation mine “timber man,” is attaching 3-by-10-inch slabs of Douglas fir to the wall as a safety measure. It’s like constructing a building from the top down.

“We’re going down 5 feet at a time,” Hunter said, peering at the inky black water only a few feet below him. “It’s slow going, but we’re making progress.”

His is one of four crews working in the mine these days on a rotating schedule of seven 10-hour days on, then seven off, then seven days on the night shift. Eventually, Bardswich hopes to have up to 300 people working the mine, and have the ore processed either at Montana Tunnels in Jefferson County or at an existing facility near Philipsburg.

Depending on how it pans out, a mill could be constructed three miles east of the mine.

The plan is to finish the reinforcing for safety reasons while continuing to blast away internally at veins that show promise. Bardswich said in some places, they're finding 6.6 ounces of gold and 280 ounces of silver per ton of rock. With gold hovering around an all-time high of \$1,200 per ounce and silver fetching \$18 per ounce, the math works.

"That narrow little vein of high grade blossomed when the raise (a diagonal upward tunnel) was driven on it," Bardswich said. "It would be nice to find a few more hot spots like this."

They'll tunnel downward at a 15-degree angle back and forth, building a ramp that crosses back and forth, at a cost of about \$1,000 per foot. At one point, the ramp will fork to chase other veins.

Brooks Hintze is the mine's geologist, who climbs a metal ladder up into one of the veins they're exploring and uses a hammer to knock loose a few chunks of rock. It's laced with a variety of minerals, and after being washed off, the chunks reveal flecks of gold.

"If this vein holds, it's worth over a million dollars," Hintze said.

All this activity has some impacts on the nearby town of Marysville, built originally to house miners and their families. Tom Johns, one of the people on this day's tour, said his home was slightly damaged while RX was blasting outside the mine.

"It rattled our house a little bit and did some damage, like the doors won't close. It also blew the TV dish off the house," Johns said. "But they're working with us to take care of it. I think they're doing a good job here."

Bardswich said the residents won't hear or feel anything when they're blasting inside the mine, and they've taken steps to minimize impacts to residents when they do blast outside.

"The reality is we didn't do as good of a job as we should have," he said.

The company also is monitoring water quantity and quality in the residents' wells, to try to ensure there aren't any changes to residents brought on by the company's pumping and discharges.

"We don't think there will be any impacts, but we're monitoring to make sure," Strazdas added.

Johns said he used to explore the mine as a child, and isn't surprised that it's being reopened for production.

"It's changed quite a bit since I was in here as a kid," Johns said. "It was pretty dark and scary with just a flashlight.

"It'll be neat to see it come back. My wife's grandfather used to work in here."

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