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## Technology predicts rock slide at Kennecott mine

August 23rd, 2010 @ 6:06pm

By John Hollenhorst

BINGHAM CANYON -- Just last week, [Kennecott's Bingham Canyon mine](#) experienced a giant rock slide, but the company was ready for it and got people out of the way days before the slide actually happened.

***Kennecott's Bingham Canyon Mine is 2-3/4 miles across at the top and 3/4 of a mile deep and is so large it can be seen from space.***

When you're constantly expanding the biggest man-made hole on Earth, rock falls and dust come with the territory. But Riverton resident Angela Gallacher knew something unusual was up when she saw dust flying out of the mine for days on end.

It kind of resembled a lazy volcano; all the dust was rising up," Gallacher said.

She went to a mountaintop vantage point and took her camera. She photographed plenty of dust.

"Also, we hear this really deep rumbling -- you hear the rocks hitting," Gallacher said. "I turned around, and there are really big slides occurring. So, I started taking shots as fast as I could."

She captured a memorable sequence: thousands of tons of rock sliding down, terrace after terrace, toward the depths of the 3/4-mile deep mine.

"We actually moved the people out of the area probably a week or more before the movement took place," said Ted Himebaugh, Kennecott's general manager of mining.

Predictions are possible because of high-tech monitoring systems. Lasers bounce beams of light off hundreds of crystal targets to detect tiny changes in distance. Under the surface, sensors detect the slightest seismic activity and water movements.

***If you stretched out all the roads in the open pit mine, you'd have 500 miles of roadway - enough to reach from Salt Lake City to Denver.***

Radar bounces microwaves off the walls of the mine.

"It's capturing any movement that may be occurring in the way," explained Jack Bloom, Kennecott's superintendent of geotech and hydrology.

The data pours into computers that control automated alarms.

"If there's no sign of acceleration, then we're satisfied that the slope is safe," Bloom said.

Another safety system is 800 sets of eyes. Workers are told: "Never turn your back on a high wall."

The data from all the high-tech devices is also helping Kennecott come up with safer designs for the [big expansion plan](#) announced a few days ago.

"In fact, we're more confident today that we can do that than we would have been several years ago," Himebaugh said.

The detection systems seem to have paid off. No one can remember a rock slide killing a worker in the mine. Also, just a few months ago, the federal Mine Safety and Health Administration rated Kennecott's parent company, Rio Tinto, the safest mining company in the country.

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