

# Southwestern Regional Mine Rescue Contest

Carlsbad New Mexico

April 5, 2016

## MINE INFORMATION

### Briefing

#### Happy Jack Gold Mine

The Happy Jack is a multi-level cut and fill gold mine located in a remote area of New Mexico. It is accessed by Forest Service roads and is in the middle of a national forest. The area is a historic mining district and most of the claims in the area were located around the turn of the last century. Two active mines are located in the area, the Happy Jack and the Sweet Water mine, both underground and both recently reopened. The two mines have a cooperative agreement for mine rescue and are classified as small and remote.

The Happy Jack currently employs 12 miners that work two 10 hour shifts, days and swing with 6 man crews on each shift. The crews have a hoistman, top lander, mechanic, electrician and two miners. One of the miners is a working lead man supervising the mines activities. The workings are accessed by two vertical shafts that tie into three working levels. Shaft One is primary/ intake and used to hoist men and mined material in a skip below the man cage. Shaft two is secondary / exhaust and used for utilities, back fill slurry and second way out of the mine. Both shafts have cages and can be used at will for hoisting men. The levels are identified as the 400, 550 and 650 levels. Active mining is on the 650 level with plans to start working the 550 level next month. The 400 level is abandoned but still accessible. All three levels share the ventilation at this time.

The Alpine cuts the headings and discharges the material into a rubber tired diesel powered haulage truck that delivers the material to a grizzly over the loading pocket that transfers ore to the number one shaft. The material is hoisted to the surface in a skip bucket, processed at the mill and the barren alluvial material stripped of gold and pyrite is slurred down Shaft two and used as back fill for the mined out stopes.

#### Notification

All federal, State and local agencies have been notified. MSHA is in route and has issued a verbal 103J order to secure the scene and protect miners.

They know men are missing underground and have authorized the use of underground mine rescue teams to attempt recovery and rescue efforts.

Geology	The ore body is an ancient alluvial deposit that holds placer gold and large amounts of iron pyrite known as fool's gold. The mine and all three levels are going through major rehabilitation and were cited several times on the last inspection from MSHA for poor ground conditions. It is believed because of the depth of this placer deposit it was an old lake bed which has produced detectable levels of Carbon Dioxide. Although the mine is classified as non-gassy the mine is liberating unusual and inconsistent levels of CO <sub>2</sub> . The geology is complex and a challenge for the operator because the ground is a conglomerate and is unconsolidated.
Roof support	Split set bolts with eight foot mats are used on an as needed basis. No timber supports are used at this mine except for air door construction.
Ventilation	The mine has a non-reversible 480 volt three phase Joy 150 horse power fan installed and controlled at the surface of number one shaft. The ventilation goes down shaft one and sweeps all three levels and then exhaust up shaft 2 on all three levels. Each level has a load out pocket at shaft one and the ventilation is secured by an air door on the mined level.
Water	The mine is producing 1000 gallons per minute muddy water. The water is collected underground and is pumped up shaft two where it's used in the mill.
Electricity	Surface power is generated and delivered to the mine in shaft Two. An underground transformer splits power to 480/240 /120 volts used throughout the mine. The power is used to run an electric powered Alpine continuous miner, sump pumps, and general electric power where needed. All power is suspended on rib and or back.
Equipment	There is one electric powered Alpine mucker. One diesel powered rubber tired dump truck to transport muck to the loading pocket at Shaft One. Rock bolting is done using pneumatic jack/legs. Air lines are run from the surface down shaft two from the surface compressor.
Magazines	Day Powder and caps magazines are stored underground in cut outs.
Phones	The Company was cited for not having underground phones in the work areas and the phones have been ordered and not yet installed. There are phones located at both shaft one and shaft two landings on all three levels.

Mine Map	The map is two months old and not up to date.
Materials	All materials needed to work the problem are located at the mine and identified by placards. Hand held fire extinguishers are stationed underground where needed.
Miscellaneous	This is a very old mine being rehabilitated; the last MSHA inspection cited several unsafe conditions throughout the mine. The operator is less than cooperative with authority and has a history of repeated violations for ground control issues. New Mexico requires all mines have one hour self-contained self-rescuers (SCSR) for all miners in addition to W-65 self-rescuers. Six SCSR's are located underground.
Guards/security	A guard has been posted at the collar of Number one shaft to guard the main fan and power center. A place has been designated for family, friends and media. Security is being maintained by the local sheriff's department.
Back up teams.	A second mine rescue team has just arrived from the Sweat Water Mine and they are getting their equipment ready. They are fully trained but very inexperienced team and ready to serve.



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Managers Statement

Thank you for responding to our emergency at the Happy Jack Mine. This is what we know so far. The day time crew arrived on time around 6AM and four of the six man crew went underground leaving the hoistman and top lander on the surface. Mechanic Dale Jones and Electrician Carl Smith went to work on the Alpine mucker which broke down on night shift. Its location is not known at this time. Dale has brought his brother-in-law to work in the past to help with electrical problems and we don't know if he did today. No visitors are tagged in, but were just not sure who all went underground today.

Miner Will Dickerson was traveling up shaft two around 10 AM when he felt the air pressure in the shaft change and felt like his ears popped from the pressure and experienced a severe headache. He made it out safe but after questioning him he didn't know where Dale and Carl were at and didn't know if Dale brought his brother in law. He said night shift left them with the ore pass full of muck but the Alpine miner went down and that's where Dale and Carl were supposed to be working. We sent him to the hospital because of the pressure he experienced in the shaft may have ruptured one or both of his ear drums.

Will had just left the underground shop where Lead Man Scott Atwood was last seen and we have not heard from Scott at all. Scott had sent Will to the surface to get a second sump pump to help with some dewatering because the mine was making more than usual amounts of water.

Around 10AM when Will was traveling in the number two Shaft, Cory Waco our Top Lander said he felt what seemed like an earth quake. He

heard the main fan at shaft one change in the way it sounded and thought it was stalling. He thought he was doing the right thing and turned the fan off. We have left it off and locked it out to keep anyone else from messing with it. He said when Will made it to the surface he was holding his ears and complaining about a real bad headache.

Chuck Powers, hoistman said he felt the earth shake and thought it was something happening underground at this mine. He said he saw a bunch of dust come out of Shaft Two. He is still here and available to run both hoists.

The missing miners are all fully trained and experienced miners and understand our escape and evacuation procedures. Shaft one is the primary escape route and shaft two would be the secondary means to escape. You are the first team to enter the mine. You have one back up team from our neighboring mine here and standing by.

**This is the problem if you chose to help us;**

We need your help to explore all accessible areas of the mine, locate all missing miners and bring all survivors to the surface.