

**UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION
Metal and Nonmetal Mine Safety and Health**

Report of Investigation

**Surface Metal Mine
(Gold)**

Fatal Powered Haulage Accident

June 29, 2004

**Golden Phoenix Minerals, Inc.
Golden Phoenix Mineral Ridge
Silver Peak, Esmeralda County, Nevada
Mine ID No. 26-02302**

Investigators

**Paul W. Wildrick
Mine Safety and Health Inspector**

**Robert Flowers
Mine Safety and Health Inspector**

**Eugene D. Hennen
Mechanical Engineer**

**Richard Larch
Mine Safety and Health Specialist**

**Originating Office
Mine Safety and Health Administration
Western District
2060 Peabody Road, Suite 610
Vacaville, California 95687
Lee Ratliff, District Manager**

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OVERVIEW

On June 29, 2004, David M. Miller, maintenance supervisor, age 43, was fatally injured when the truck he was operating over traveled a berm and plunged to a haul road 72 feet below.

The accident was caused by the failure to maintain all braking systems on the truck in functional condition. Equipment safety checks had not been routinely performed and the equipment had not been repaired or removed from operation.

GENERAL INFORMATION

Golden Phoenix Minerals, Inc., Golden Phoenix Mineral Ridge, a surface gold/silver operation, was located at the Mary Drinkwater historic mine site in Silver Peak, Nevada. The principal operating officials were Michael Fitzsimonds, president; Bryce Gubler, project manager; and Ben Viljoen, mine superintendent. The mine normally operated one 10-hour shift, five days per week.

The ore was drilled and blasted from multiple benches. The blasted ore was loaded into haul trucks with front end loaders and transported to a crusher. The crushed ore was placed on leach pads. Gold was recovered from the leach process, refined on site, and sold.

The last regular inspection of this operation was completed on April 14, 2004.

DESCRIPTION OF ACCIDENT

On the day of the accident, David Miller (victim) reported to work at approximately 5:00 a.m., his normal starting time. Work progressed normally throughout the morning. At approximately 11:45 a.m., Miller told Loreto Chavez, helper, that he was going to take the water truck and water the road because the vehicle needed to be emptied to perform maintenance on the water spray system. He told Chavez that he would return shortly.

After leaving the maintenance shop area, Miller entered the pit haul road. Near the top of the haul road, he had a short conversation with his wife, Kara, haul truck driver. Lee Stephens, vendor, was riding with Mrs. Miller in the haul truck. After the discussion, Mrs. Miller continued hauling her load and the victim descended the haul road to the pit.

Miller traveled down a 15 percent grade with a switch-back which possibly exhausted the brake air supply. He traveled a short, flat distance before encountering a 10 percent grade. Apparently Miller tried to use the service brakes on the 10 percent grade; however, with no air supply, the brakes would not function. To slow the truck, the victim may have backed off the accelerator. This could have reduced the steering capability because there was a direct relationship between the steering control and the speed of the engine. The truck struck the berm, traveled through it, and slid down the embankment where it came to rest.

Kara Miller and Stephens returned to the haul road after dumping a load and found the victim laying along the side of the road. Stephens provided first aid. The plant's emergency team administered cardiopulmonary resuscitation. The emergency medical technicians arrived and summoned the county sheriff/coroner, who pronounced the victim dead at the scene. The cause of death was attributed to massive trauma.

INVESTIGATION OF THE ACCIDENT

MSHA was notified at approximately 12:15 p.m., on June 29, 2004, by a telephone call from Michael Fitzsimonds, president of Golden Phoenix Minerals, Inc., to Lee Ratliff, district manager. An investigation was started the same day. An order was issued pursuant to Section 103(k) of the Mine Act to ensure the safety of the miners. An MSHA accident investigation team traveled to the mine, conducted a physical inspection of the accident site and equipment involved, interviewed employees, and reviewed training records, conditions, and work procedures relevant to the accident. MSHA conducted the investigation with the assistance of mine management, miners, and representatives of the State of Nevada Mine Inspectors.

DISCUSSION

Location of the Accident

The accident occurred in the quarry area of the Drinkwater Pit above the switchback to lay down B area. The haul road was steep with several 10 percent to 15 percent grades and sharp switchback curves. The weather was clear and hot with a slight wind.

Water Truck

The 1962 LeTourneau Tournapull water truck, purchased three months prior to the accident, had a Model 7083-7200 GM diesel engine. The truck had a manual transmission with 5 speeds forward and one speed in reverse, articulated steering, and an air brake system. The truck had both a foot operated accelerator and a hand throttle. The foot operated accelerator was used to control the speed of the truck when it was being driven. The hand throttle could be used to set the minimum engine speed needed to properly run the engine driven air compressor and hydraulic steering pump. This system supplied the air pressure needed for the brake system and the hydraulic flow needed for the steering system. The truck was inspected after it was purchased and safety defects were identified but not corrected.

Brakes

The brake system on the water truck was examined and several defects were found. A service brake pull through test was conducted in all five of the forward gears. The truck was able to pull through first gear with the service brake fully applied. During the test, the investigators found that the air line had been disconnected to the left front brake unit. The left rear brake unit had an air leak and two of the clutch discs in the unit were broken. Both right side brake units were operable; however, when the brakes were fully applied with the truck in low gear, the brakes on the right side of the vehicle locked up causing the wheels to slide.

Since the parking brake was acting on the same brake units and with the same pressure as the service brake, it provided the same brake force as the service brake. Consequently, the parking brake system lost all brake force when the air in the brake reservoir was depleted.

Steering

The steering was examined and defects were identified but the investigators could not determine if the defects contributed to the cause of the accident or occurred as a result of the accident.

Training and Experience

Miller had a total of nine years mining experience. He had worked at this mine for five months and two weeks. He had received training in accordance with 30 CFR Part 48.

ROOT CAUSE ANALYSIS

A root cause analysis was conducted and the following causal factors were identified:

Causal Factor: Management policies, standards, and controls were inadequate and failed to implement corrective actions in a timely manner. Repairs had not been made to the recently purchased water truck even though defects with the brake system had been identified by management several weeks before the accident.

Corrective Actions: Procedures should be established that require self propelled mobile equipment with safety defects to be removed from service until repairs have been completed. Employees should be informed of the proper actions to follow when they find defective mobile equipment.

Causal Factor: The water truck was placed in service even though the service brake system would not stop or hold it on the roadway to the quarry.

Corrective Actions: Procedures should be established to ensure that all mobile equipment is inspected for defects prior to being placed into service during each shift. Mobile equipment operators should be trained and knowledgeable in identifying safety defects.

CONCLUSION

The accident occurred because the braking systems on the truck were defective. Management knew that there were defects in the truck's brake system; however, no effort was made to repair the truck or remove it from operation. The truck was available for use by miners to water the haul roads when needed.

ENFORCEMENT ACTIONS

Order No. 6286547 was issued on June 29, 2004, under the provisions of Section 103(k) of the Mine Act:

The mine has experienced a fatal haulage accident on June 29, 2004, along the haulage road to the Savage Area. This order is issued to ensure the safety of any persons and prohibits all activity at this location until MSHA has determined that it is

safe to resume normal activities in this area. The mine operator shall obtain prior approval from an authorized representative for all actions to recover and/or restore the area back into operations. Only those persons selected from company officials, state officials, and other persons deemed by MSHA to be relevant to the investigation may enter or remain in the affected area.

The order was terminated on August 10, 2004. The mine operator removed the water truck from service. It was moved to a designated area for out-of-service equipment and tagged to prevent operation.

Citation No. 6354376 was issued on August 9, 2004, under the provisions of Section 104(d)(1) of the Mine Act for violation of 30 CFR 56.14101(a)(3):

On June 29, 2004 a fatal accident occurred when a water truck left the roadway, traveled through a berm, and went over an embankment. All braking systems on the truck were not maintained in functional condition. The company was aware of the problem with the truck's braking system for several months. Failure to maintain all brake systems on the truck in functional condition constitutes more than ordinary negligence and is an unwarrantable failure to comply with a mandatory safety standard.

This citation was terminated on August 10, 2004. The mine operator removed the water truck from service. It was moved to a designated area for out of service equipment and tagged to prevent operation.

Order No. 6354398 was issued on August 9, 2004, under the provisions of Section 104(d)(1) of the Mine Act for violation of 30 CFR 56.14100(a):

On June 29, 2004, a fatal accident occurred at this mine when a water truck left the roadway, traveled through a berm, and went over an embankment. A pre-operational inspection to identify safety defects had not been conducted prior to placing the truck in operation that shift. The company was aware of problems with the truck's brake system for several months. Failure to ensure that self propelled mobile equipment was inspected by the equipment operator prior to placing it in operation constitutes more than ordinary negligence and is an unwarrantable failure to comply with a mandatory safety standard.

The citation was terminated on September 13, 2004. The company established a method of tracking pre-operation inspections for all mobile equipment for each shift and repairs will be made in a timely manner. Prior to operating the equipment, the company provided training to all employees on equipment safety defect checks.

Approved by:

Lee D. Ratliff
District Manager

Date: _____

APPENDIX A

Persons Participating in the Investigation

Golden Phoenix Minerals, Inc.

Michael R. Fitzsimonds president
Bryce Gubler project manager
Ben Viljoen mine superintendent
Nathaniel B. Viljoen laborer
Loreto Chavez mechanic helper
Richard W. Schwader equipment operator

Komatsu Equipment

Lee Stephens field representative

State of Nevada Mining

Ken Curtis state mine inspector

Mine Safety and Health Administration

Paul W. Wildrick mine safety and health inspector
Robert Flowers mine safety and health inspector
Eugene D. Hennen mechanical engineer
Richard Larch mine safety and health specialist