MIA-2003-14

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

Report of Investigation

Surface Nonmetal Mine
Diatomaceous Earth

Fatal Slip or Fall of Person Accident

August 9, 2003

Colado Plant
Eagle-Picher Minerals Inc
Lovelock, Pershing County, Nevada
Mine I.D. No. 26-00680

Investigators

Rick Dance
Mine Safety and Health Inspector

Gerald Killion
Mine Safety and Health Inspector

Larry Palacios
Mine Safety and Health Specialist

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

MIA-2003-14

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

Report of Investigation

Surface Nonmetal Mine
Diatomaceous Earth

Fatal Slip or Fall of Person Accident

August 9, 2003

Colado Plant
Eagle-Picher Minerals Inc
Lovelock, Pershing County, Nevada
Mine I.D. No. 26-00680

Investigators

Rick Dance
Mine Safety and Health Inspector

Gerald Killion
Mine Safety and Health Inspector

Larry Palacios
Mine Safety and Health Specialist

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


08/10/2003

OVERVIEW

On August 9, 2003, James S. Tanner, maintenance man, age 40, was fatally injured when he walked out onto the roof of a building and fell through a fiberglass panel 29 feet to a concrete floor below. Tanner was visually examining a water supply line to an air conditioning unit that was installed along the peak of the roof when he inadvertently fell through a panel.

The accident occurred because safe procedures had not been established to protect persons working on the roof of Building #4. No barricades or warning signs were provided to warn persons of the fiberglass panels located on the roof. Procedures were not established requiring fall protection when working on this roof.

GENERAL INFORMATION

Colado Plant, a milling operation owned and operated by Eagle-Picher Industries Inc., was located six miles northeast of Lovelock, Pershing County, Nevada. Principal operating officials were Dave Keselica, president, and Joe Wujcik, plant manager. The mill and bagging facility operated two 12 hour shifts a day, seven days a week. The maintenance crew worked two 10 hour shifts, seven days a week. Total employment was 84 persons.

Diatomaceous earth was mined several miles from the plant and hauled by truck to the mill. The material was crushed, screened, dried, calcinated, and loaded into bags ranging from 60 pounds to one ton. Bagged products were stacked onto pallets, warehoused, and shipped to customers. The processed material was also stored in silos for bulk shipment by trucks or rail cars.

The last regular inspection of this operation was completed on March 26, 2003.

DESCRIPTION OF ACCIDENT

On the day of the accident, James Tanner (victim) reported to work at 6 a.m., his normal starting time. Tanner was assigned to help with cleaning and providing necessary repairs to bulk rail cars before they were loaded. Work progressed normally throughout the morning.

After lunch, at approximately 12:45 p.m., Tanner received a call on his hand held radio from Jerry Munk, mill foreman, to check out the air conditioning unit on the roof of Building # 4. Munk asked Tanner to check the water line because they had problems with it in the past. Tanner then called Steve Allen, maintenance man, to ask for assistance because he had never checked the air conditioning unit before. Allen informed Tanner that he had never checked it either but together they could repair it.

They met at Building # 4 and examined the air conditioning outlet vents located at the upper level inside the building. They discovered that the fan was working, but blowing warm air. After checking a valve to make sure the water was turned on, they climbed the stairway outside the adjacent # 3 Mill building to visually check the air conditioner water line attached to the exterior of Building # 4. However, from the stairway, the waterline could only be seen to the edge of the building's roof line.

Allen stated that Tanner climbed from the stairway to the top hand rail, climbed up on several pipes coming out of Building # 4, and accessed the roof of the building. Allen went up the stairs to the second elevated area of Mill # 3 that was adjacent to the roof line of Building # 4. When Allen came to the roof, he had a clear view but could not see Tanner. Allen noticed a hole in the fiberglass

skylight panel and called for Tanner several times on the radio. Allen called for help because he realized Tanner must have fallen through the skylight. Allen ran down the stairs and inside Building # 4 where he found Tanner laying on the concrete floor. Several employees responded and 911 was called. Emergency personnel transported Tanner to a local hospital where he was pronounced dead. The cause of death was attributed to massive trauma.

INVESTIGATION OF ACCIDENT

MSHA was notified of the accident at 4 p.m., on August 9, 2003, by a telephone call from Doug Osborne, production supervisor, to Ronald Goldade, assistant 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 miners. An MSHA accident investigation team traveled to the mine, conducted a physical inspection of the accident scene, interviewed employees, and reviewed conditions and work practices relevant to the accident. MSHA conducted the investigation with the assistance of mine management and the miners.

DISCUSSION

Accident Scene

The accident occurred on the roof of Building # 4. The majority of the roof consisted of corrugated metal panels. Several translucent fiberglass panels, measuring 3 feet by 10 feet, similar in design and color to the corrugated metal, were installed intermittently on the roof. The hole in the fiberglass panel was approximately 18 inches from the peak. The roof was constructed on a 4/12 pitch. The peak of the roof was 30 feet above the concrete floor.

The building was constructed about 29 years ago. Both the metal and fiberglass panels were installed then. The roof panels were secured by sheet metal screws to metal roof supports that were parallel to the roof peak and spaced every five feet. The weather conditions were clear and sunny with no winds.

Access

The victim accessed the roof by stepping onto a handrail, climbing on several pipes protruding from the side of the building, and stepping onto the roof. The air conditioning unit was mounted on the roof approximately 35 feet from the side of the building, 10 feet from the bottom edge of the roof, and 20 feet from the peak.

Training and Experience

Tanner had a total of 5 months mining experience, all at this mine. He had not received training in accordance with 30 CFR, Part 48. Violations were issued for failure to provide training as required. However, these violations did not contribute to the accident and are not included with this report. Neither Tanner nor Allen had performed the task of checking the air conditioning unit prior to the accident.

ROOT CAUSE ANALYSIS

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

Causal Factor: A task analysis had not been completed to identify possible hazards and establish safe procedures associated with maintaining the air conditioning unit located on the roof.

Corrective Action: Procedures should be established to ensure a pre-job risk analysis is completed before maintenance or repair is begun. This procedure should identify all hazards associated with the task before jobs are started and establish requirements to ensure safe completion of the job.

Causal Factor: The victim accessed the elevated roof without wearing fall protection to examine a water supply line to an air conditioning unit. No policy had been in place requiring the need for fall protection when accessing the elevated roof.

Corrective Action: Develop and implement a written plan that ensures fall protection will be worn by maintenance personnel in all areas where there is a danger of falling. Approved anchor points or cable ties should be provided. Employees should be trained in the safe work procedures before accessing the roof.

Causal Factor: No barriers or warning signs were provided at access points to the roof to warn employees of possible hazards such as the fiberglass roof panels that were similar in shape and color to the metal roof panels.

Corrective Action: Procedures should be established that require barriers or warning signs in areas where hazards exist that are not obvious to the employees.

CONCLUSION

The accident occurred because safe procedures had not been established relative to performing work on the roof area of Building # 4. No barricades or warning signs were provided to warn employees of the fiberglass roof panels or other possible hazards that were not immediately obvious. No procedures were in place to ensure that fall protection was worn by persons accessing the roof of Building # 4.

ENFORCEMENT ACTIONS

Order No. 6280966 was issued on August 9, 2003, under the provisions of Section 103(k) of the Mine Act:

> A fatal accident occurred at this operation on August 9, 2003, when a maintenance mechanic fell through a skylight onto a cement floor at the Mill #3 packaging area. This order is issued to assure the safety of persons at this operation and prohibits any work in the affected area until MSHA determines that it is safe to resume normal operations as determined by an Authorized Representative of the Secretary of Labor. The mine operator shall obtain approval from an authorized representative for all actions to recover and or restore operations in the affected area.

The order was terminated on August 13, 2003. The conditions that contributed to the accident have been corrected and normal mining operations can resume.

Citation No. 6350828 was issued on August 10, 2003, under the provisions of Section 104(d) (1) of the Mine Act for violation 30 CFR 56.15005:

> A fatal accident occurred at this operation on August 9, 2003, when a maintenance man accessed the elevated roof to examine and repair an air conditioning unit. He was walking near the peak of the roof without fall protection when he fell through a skylight 29 feet to the concrete floor below. Failure to ensure that the worker utilized a safety belt and line to protect him when there was a danger of falling constitutes more than ordinary negligence and is unwarrantable failure to comply with a mandatory standard.

This citation was terminated on October 27, 2003. The company has implemented a comprehensive plan which applies to any access to any roof structure at the Lovelock operation. The plan requires all miners accessing roof structures to work in teams of at least two miners, equipped with approved fall protection and lanyards attached to approved anchor points or cable tie. Task analysis will be performed prior to access of any roof to define hazards associated with the work to be performed and corrective action to minimize or eliminate the hazards.

Order No. 6350829 was issued on August 10, 2003, under the provisions of Section 104(d) (2) of the Mine Act for violation of 30 CFR 56.20011:

> A fatal accident occurred at this operation on August 8, 2003, when a maintenance man accessed an elevated roof to examine and repair an air conditioning unit. He was walking near the peak of the roof when he fell through a skylight 29 feet to the concrete floor below. The skylight material was similar in color and appearance to the roof material. The roof areas where the fiberglass skylight panels were installed were not barricaded or posted with signs to warn of the safety hazard that was not immediately obvious to the employee. Failure to post or barricade all approaches to the roof skylight panels constitutes more than ordinary negligence and is unwarrantable failure to comply with a mandatory standard.

This citation was terminated on October 27, 2003. Warning signs have been installed and posted at all roof access points of the #4 building. The signs warn of the hazards associated in access to the roof. The company has implemented a comprehensive plan which applies to any access to any roof structure at the Lovelock operation.

Approved by:_____ Date:_____

Lee D. Ratliff, District Manager

APPENDICES

A. Persons Participating in the Investigation

B. Persons Interviewed

C. Pictures of Accident Scene

APPENDIX A

Persons Participating in the Investigation

Colado Plant

Grady D. Gillis	safety manager
Joe Wujcik	plant manager
Keith Montes	plant superintendent
Richard Price	miners representative
Nickolas Castillo	Teamsters Union Local 533 representative
Shawn Elicegui	attorney
Paul Harper	risk management

Mine Safety & Health Administration

Rick Dance	mine safety and health inspector
Jerry Killion	mine safety and health inspector
Larry Palacious	mine safety and health specialist

Nevada Mine Safety

Bill Collins	Nevada state mine inspector
Randy Harris	Nevada state mine inspector

Pershing County Sheriff's Department

Ron Skinner	sheriff
Mike Stevens	sergeant

APPENDIX B

Persons Interviewed

Colado Plant

Keith Montes	plant superintendent
Doug Osborne	production supervisor
Jason Sutherland	shift supervisor
Jerry Munk	mill foreman
Steve Allen	maintenance man
Lance Lucas	maintenance man
Richard Lizer	maintenance man
Jose Garcia	electrician
Levi Gordon	packer