MAI-2004-04

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

REPORT OF INVESTIGATION

Surface Nonmetal Mine
(Limestone)

Fatal Slip or Fall of Person Accident
February 26, 2004

Martin Marietta Aggregates
North Indianapolis Quarry and Mill
Indianapolis, Hamilton County, Indiana
Mine I.D. 12-00002

Investigators

Kenneth W. Diez
Mine Safety and Health Inspector

Leland R. Payne
Mine Safety and Health Specialist

Originating Office
Mine Safety and Health Administration
North Central District
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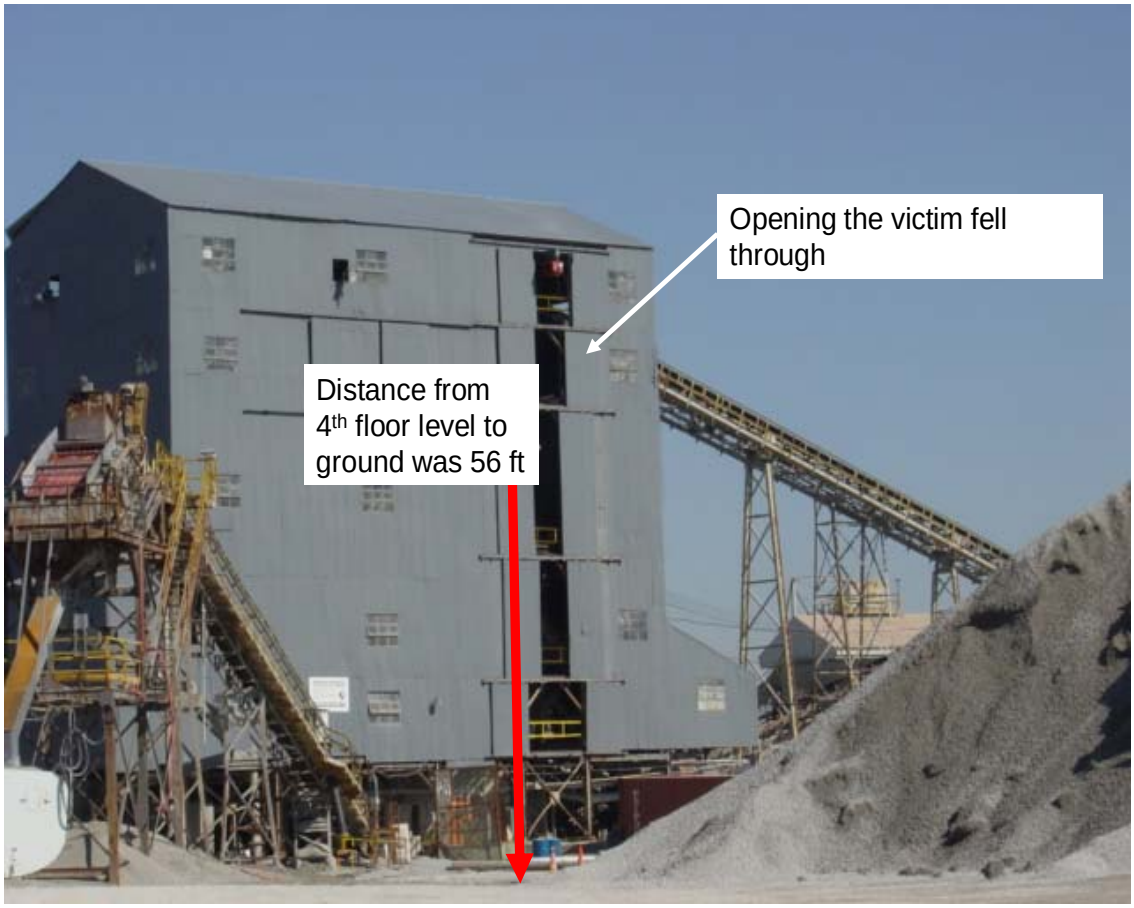
Steven M. Richetta, District Manager


Opening the victim fell through
Distance from 4th floor level to ground was 56 ft

OVERVIEW

On February 26, 2004, James R. Hudson, maintenance person, age 47, was fatally injured when he fell 56 feet. He had been throwing scrap parts to the ground from an open access doorway on the fourth floor of a mill screening tower.

The accident occurred because a barrier railing, across a door opening, had been removed where there was a danger of persons falling. Safety belts secured to lines were not utilized by the personnel who lowered a large pipe to the ground through the opening where the barrier railing had been installed. After the pipe had been lowered, the victim was working near the edge of the opening, lost his balance, and fell to the ground below.

Procedures were in place requiring fall protection to be worn when the barrier railing was removed; however, the victim did not take any fall protection with him to the work site.

GENERAL INFORMATION

The North Indianapolis Quarry and Mill, a surface limestone operation, owned and operated by Martin Marietta Aggregates, was located in Indianapolis, Hamilton County, Indiana. The principal operating official was Steven D. Johnson, production manager/acting mine superintendent. The mine was normally operated two, 10-hour shifts and one, 10-hour overlapping maintenance shift per day, five days per week. Total employment was 44 persons.

Limestone was mined from multiple benches and hauled by truck to a loading point. The material was transported by conveyors to the primary crusher and screening plant where it was processed and stockpiled. Finished products were sold for use in the construction industry.

The last regular inspection at this operation was completed January 27, 2004.

DESCRIPTION OF ACCIDENT

On the day of the accident, James R. Hudson (victim) reported for work at 12:00 p.m., his normal starting time. Hudson, along with David L. Davis and Alex Zubia, maintenance persons, received their work assignments from Larry Saul, maintenance supervisor, and went to the plant to perform their assigned duties.

About 6:00 p.m., the maintenance crew ate lunch. Saul told them that a crusher at the plant needed repair. After lunch, they went to the crusher to begin repairs. About 7:00 p.m., Saul visited their work site and told them to go to the screen tower to continue an ongoing cleanup project that involved removing old parts and debris. After the crusher repairs were completed, they went to the fourth floor of the screen tower to clean up.

The three man crew threw small items out of the door opening for approximately 15 minutes. They then decided to remove a 150 pound piece of pipe approximately 5 feet long and 12 inches in diameter. In preparation to lower the pipe, Hudson and Davis removed the barrier railing positioned across the doorway opening. They attached the pipe to an overhead hoist and lowered it to the ground. Davis went to the ground, detached the pipe from the hoist cable, and removed it from the area with a forklift.

After the pipe was moved, Hudson and Zubia prepared to throw more parts from the opening. Zubia had turned and was facing away from Hudson when he heard Hudson cry out. Zubia turned and saw Hudson falling through the opening. Davis, who was on the ground, saw Hudson fall as he attempted to throw something from the opening.

Davis called for emergency personnel. At approximately 8:40 p.m., local police arrived, followed by paramedics. The victim was transported to a local hospital where he was pronounced dead on arrival. Death was attributed to blunt force trauma.

INVESTIGATION OF THE ACCIDENT

MSHA was notified of the accident at 9:34 p.m., on the day of the accident, by a phone call from Jeffrey McIntosh, safety engineer for Martin Marietta Aggregates, to Steven M. Richetta, district manager. An investigation was started the next day. An order was issued pursuant to Section 103(k) of the Mine Act to ensure the safety of the miners.

MSHA's accident investigation team traveled to the mine, conducted a physical inspection of the accident scene, interviewed employees, and reviewed documents and work procedures relevant to the accident. MSHA conducted the investigation with the assistance of mine management and employees.

DISCUSSION

Location of the Accident

The accident occurred at the fourth floor access doorway of the mill screening tower, 56 feet above the ground. A sign was posted near the doorway opening instructing employees to use fall protection when the barrier railing was removed.

The screening tower had been undergoing repairs for approximately five weeks during a plant shutdown. The cleanup work was being done as time allowed. Scrap parts and other debris had been located near the door so they could be thrown out the opening or lowered to the ground using an electric hoist.

A bearing ring weighing 52-1/2 pounds, with a 4-inch bolt protruding from it, was found near Hudson. Hudson may have been preparing to drop the bearing ring over the edge of the opening when he lost his balance and fell.

Environmental Conditions

Environmental conditions at the time of the accident were not considered a factor. Lighting in the work area was adequate. The weather conditions were clear to partly cloudy and the temperature was approximately 38 degrees Fahrenheit. The area was dry.

Training and Experience

Hudson had six years, 13 weeks of mining experience, all at this mine. He had six years, two weeks experience as a maintenance man. Hudson had received training in accordance with 30 CFR.

ROOT CAUSE ANALYSIS

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

Causal Factor - The three man crew had not taken safety belts and lines to the fourth floor work site. The crew removed the barrier railing to lower a large pipe through the fourth floor doorway opening in the screen tower. The barrier railing was not reinstalled nor were restraints utilized to protect persons from the danger of falling.

Corrective Action - Management should review requirements for utilizing safety belts and restraints to ensure that miners understand the established procedures when working at elevated positions where there is a danger of falling. Approved anchor points or cable ties should be provided.

Causal Factor - A risk assessment was not conducted with the crew prior to commencing this task.

Corrective Action - Miners should discuss a task before performing work to identify possible hazards and initiate actions to ensure they are protected from possible injury. Management should monitor safety controls for effectiveness.

CONCLUSION

The accident occurred because a barrier railing across a door opening had been removed and safety belts secured to restraints had not been utilized by the crew. After a large pipe had been lowered to the ground, the barrier railing was not replaced. The victim was positioned near the edge of the opening, lost his balance, and fell to the ground below.

The company policy required fall protection to be worn when the barrier railing was removed; however, none of the three crew members took fall protection with them to the work site.

ENFORCEMENT ACTIONS

Order No. 6156776 was issued on February 26, 2004, under the provisions of Section 103(k) of the Mine Act:

> A fatal accident occurred at this operation on February 26, 2004, when one miner fell from the fourth floor of the screen tower. This order is issued to assure the safety of all persons at this operation. It prohibits all activity at the screen tower area until MSHA has determined that it is safe to resume normal mining operations in the area. The mine operator shall obtain prior approval from an authorized representative for all actions to recover and/or restore operations to the affected area.

This order was terminated on February 28, 2004, after conditions that contributed to the accident no longer existed.

Citation No. 6162614 was issued on March 4, 2004, under Section 104(a) of the Mine Act for violation of 30 CFR 56.15005:

> A fatal accident occurred at this operation on February 26, 2004, when a miner fell 56 feet out a fourth floor open door of a screen tower. The railing provided across the opening had been removed to facilitate lowering a section of scrap metal pipe to the ground and had not been replaced. The victim was working near the open door without wearing a safety belt and line.

This citation was terminated on April 13, 2004, after mine management took the following actions to terminate the citation: 1) Placed locks which can now only be opened by a supervisor on all removable gates in the screen tower; 2) Held safety meetings with all employees and supervisors reemphasizing the topic of fall protection; 3) Obtained the services of a fall protection specialist. The specialist retrained all employees on the use, care, and maintenance of fall protection equipment. The training also included the identification of proper tie-off points.

Approved by: Date:

Steven M. Richetta
District Manager
North Central District

APPENDICES

A. Persons Participating in the Investigation

B. Persons Interviewed

APPENDIX A

Persons Participating in the Investigation

Martin Marietta Aggregates

Jeffrey McIntosh	safety engineer
Steven D. Johnson	production manager/acting mine superintendent
Michael A. Hunt	director of human resources
Lloyd Hanson	director, safety and health
Dan L. Hoskins	operation services manager

Mine Safety and Health Administration

Kenneth W. Diez	mine safety and health inspector
Stephen E. Alberti	mine safety and health inspector
Gene W. Upton	supervisory mine safety and health inspector
Leland R. Payne	mine safety and health specialist

APPENDIX B

Persons Interviewed

Martin Marietta Aggregates

Larry R. Saul	maintenance supervisor
Matt M. Kelly	mine foreman
David L. Davis	maintenance person
Alex Zubia	maintenance person