UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

MINE SAFETY AND HEALTH

REPORT OF INVESTIGATION

Surface
(Limestone)

Fatal Fall of Material Accident
June 19, 2020

Plant 2
Harshman Construction LLC
Cedar Point, Osage County, Kansas
ID No. 14-01537

Accident Investigators

Chris A. Ewing
Mine Safety and Health Inspector

Robert C. Small
Supervisory Mine Safety and Health Inspector

Originating Office
Mine Safety and Health Administration
Central Region, Madisonville District
100 YMCA Drive
Madisonville, Kentucky 42431
Robert A. Simms, District Manager

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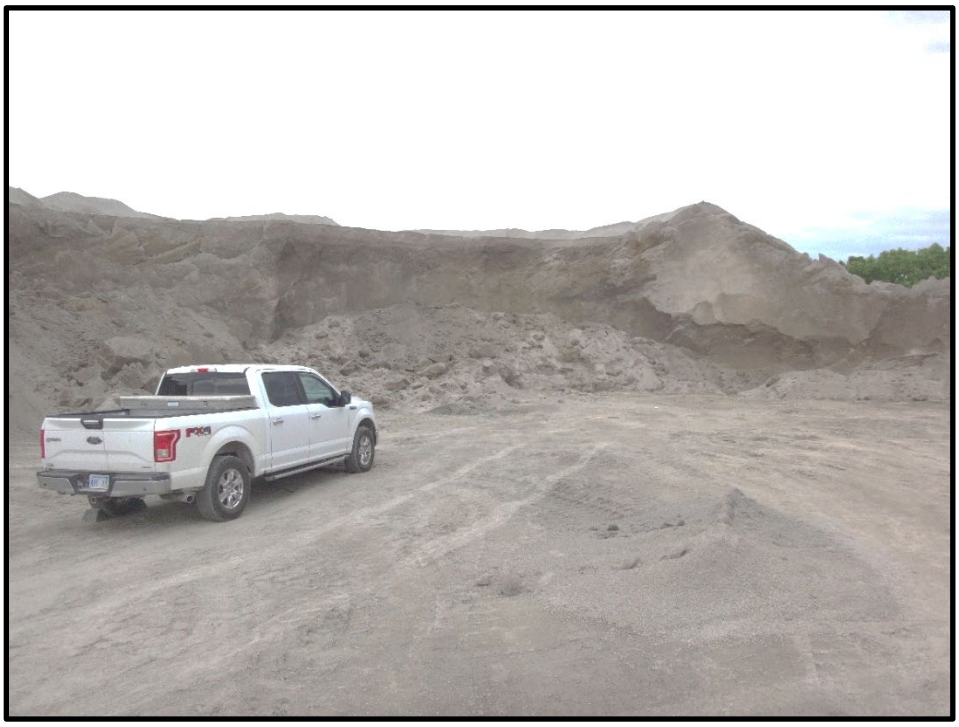


OVERVIEW

On June 19, 2020, at 3:19 p.m., Frank J. Rockers, a 68-year-old Quality Control Technician with approximately 50 years of total mining experience, died while inspecting a 7/16-inch minus stockpile for over-sized material. As the victim paused and knelt down during his inspection, the stockpile collapsed and covered him with approximately four feet of material.

The accident occurred because miners removed material from the stockpile in a manner that compromised its stability, mine management did not identify this hazard and establish safe procedures for work or travel near stockpiles, and mine management did not establish procedures for timely notification of stockpile-related hazards.

GENERAL INFORMATION

Harshman Construction LLC, which is based in Cedar Point, Kansas, owns and operates Plant 2, a portable crusher, in Melvern, Osage County, Kansas. Plant 2 operates one ten-hour shift, five days a week. Limestone is extracted with front-end loaders and then transported to a crusher. From the crusher, a conveyor transports the limestone to the primary screen, which is located next to the stockpile area. The screening process produces materials of various sizes. The most common size of material produced at this operation is 7/16-inch minus. To produce a large quantity of this sized material, miners transfer material from the initial screening to a secondary crusher where it is broken into smaller sizes and screened for a second time. Stacking conveyors place material in various piles based on size. Front-end loaders remove the material from these piles and place it either into a larger stockpile area or into customer trucks.

The principal officers for Harshman Construction LLC at the time of the accident were:

Warren W. Harshman ..... Co-Owner
Jeff Harshman ..... Co-Owner

The Mine Safety and Health Administration (MSHA) completed the last regular safety and health inspection at this mine on May 20, 2020. The 2019 non-fatal days lost (NFDL) incident rate for Plant 2 is 0, compared to the national average of 2.00 for mines of this type.

DESCRIPTION OF THE ACCIDENT

On June 19, 2020, at 2:15 p.m., Rockers arrived at the mine. He met with Rick Jenkins and Rob Burright, Front-End Loader Operators. Rockers told Jenkins and Burright that he needed several samples from the stockpile that contained the 7/16-inch minus material. Rockers instructed Jenkins to remove five buckets of material from various locations across the stockpile face and place them a safe distance from traffic in the stockpile area, so he could collect his samples. Rockers instructed Burright to use his front-end loader bucket to break up larger chunks of material.

Jenkins and Burright were removing material from the stockpile when they noticed Rockers had parked his company truck facing north, approximately 80 to 90 feet from the face of the stockpile. They observed him exit the cab and walk to the toe of the stockpile, where he was looking at the material on the ground directly below a 25 to 30-foot stockpile face. Jenkins and Burright communicated with each other via radio that Rockers was too close to the stockpile and that they needed to warn him that the pile was unstable. Jenkins and Burright left their front-end loaders and headed toward the stockpile face to alert Rockers. They got within approximately 60 feet of Rockers when they got his attention. At the same time, they observed the face of the stockpile collapse as Rockers was kneeling and may have been trying to pick something up. Approximately four feet of material engulfed Rockers.

Jenkins and Burright ran to where they had last seen Rockers and started removing material with their hands. They were able to dig down to Rockers' head and shoulders where they found him face down. They noticed the stockpile was starting to collapse again. Jenkins and Burright retreated from the stockpile face, and Jenkins called 911 at 2:28 p.m. After the second collapse, Jenkins and Burright returned to the stockpile face where Rockers was located and again began removing material by hand.

At 2:38 p.m., Osage County First Responders arrived and assisted in the rescue attempt. At 2:45 p.m., first responders were able to reach Rockers and check his vital signs. They determined he was unresponsive. At 2:46 p.m., Jenkins called Brendan C. Harshman, Safety Coordinator/Director. At 2:57 p.m., Osage County Ambulance Service arrived and used an automated external defibrillator in an attempt to resuscitate Rockers, but they were unsuccessful. Dr. William Ransom, Osage County Coroner, pronounced the victim dead at 3:19 p.m.

INVESTIGATION OF THE ACCIDENT

On June 19, 2020, at 2:52 p.m., Brendan C. Harshman called the Department of Labor National Contact Center (DOLNCC) and explained a stockpile collapse engulfed a miner. At 3:25 p.m., Harshman called the DOLNCC to notify them that the coroner pronounced the victim dead.

The DOLNCC contacted Dustan Crelly, Denver District Manager, who forwarded the notification to Robert Simms, Madisonville District Manager. At 3:45 p.m., Simms contacted Robert Small, Supervisory Mine Safety and Health Inspector, and at 3:49 p.m., Small dispatched Chris Ewing, Mine Safety and Health Inspector, to the location of the accident to begin the investigation. At 6:00 p.m., Ewing and Small arrived at the mine site, issued a section 103(k) order, examined the accident scene, and interviewed witnesses. MSHA conducted the investigation in cooperation with mine management and miners. See Appendix A for a list of persons who participated in the investigation.

DISCUSSION

Location of Accident

The accident occurred at the 7/16-inch minus (screenings) stockpile (see Appendix B). The stockpile is 25 to 30 feet high and 100 feet wide. During normal working conditions, miners regularly undercut the face of the stockpile, which causes material to fall to its natural angle of repose. At the time of the accident, because the material did not fall as normal, eventually a large amount of material fell because the stockpile could not support its own weight.

Jenkins and Burright stated the stockpile regularly had been falling to its natural angle of repose as they removed material from the face. They would remove material in one area until the face of the pile started falling, and then they would move a short distance away from that area and repeat the process. Miners followed this practice since they initially began removing material from the stockpile on May 18, 2020. Investigators determined that this was a common practice at this mine. See Appendices C and D.

Weather

On the day of the accident, the weather was calm and sunny with a high temperature of 95 degrees Fahrenheit. Rainfall from the day before the accident caused the stockpile to contain a higher than normal degree of moisture, which allowed fines in the stockpile to hold together for a longer period. Dry material attains an angle of repose more quickly than damp material. Investigators determined that weather might have been a factor in the accident.

Examinations

On the day of the accident, Jenkins and Burright conducted a workplace examination of the stockpile area. Jenkins and Burright observed the condition of the stockpile throughout the shift. They recognized that the stockpile was not falling to its natural angle of repose, thereby creating a hazardous condition. Investigators determined that the unstable stockpile was a safety hazard, and the victim had not been promptly notified of the hazard.

Training and Experience

Frank J. Rockers had 50 years of mining experience and worked for Harshman Construction LLC for nearly 4 years. After reviewing the training records, investigators determined that Rockers had received all training required by 30 CFR Part 46.

ROOT CAUSE ANALYSIS

The accident investigation team conducted a root cause analysis to identify the underlying causes of the accident. The team identified the following root causes, and Harshman Construction LLC implemented the corresponding corrective actions to prevent a recurrence.

1. Root Cause: Harshman Construction LLC did not construct or maintain the stockpile in a manner that would prevent dangerous ground conditions as they removed material.

   Corrective Action: Harshman Construction LLC developed and implemented procedures to prevent similar occurrences. These procedures include controls to ensure:

   1. The operator will construct stockpiles in a manner to eliminate vertical heights that require undercutting, which can cause a sudden rush of material into areas where foot traffic or mobile equipment are present;

   2. The operator will barricade areas identified as hazardous to prevent entry until corrective measures are taken.
      A. Operator will immediately remove all personnel exposed to the hazard.
      B. Operator will promptly correct all unsafe conditions from a safe location (if possible)

   3. The operator will provide specific training on examinations and will emphasize aspects of stockpile safety including hazard recognition and safe work practices around stockpiles to all employees.

   Harshman Construction LLC incorporated the procedures into the training and ground control plans for this mine and trained all miners in these new company procedures.

2. Root Cause: Harshman Construction LLC did not promptly notify miners that the stockpile area could adversely affect safety or health.

   Corrective Action: Harshman Construction LLC retrained supervisors and examiners on promptly notifying miners in any affected areas of any conditions that may adversely affect safety or health.

CONCLUSION

On June 19, 2020, at 3:19 p.m., Frank J. Rockers, a 68-year-old Quality Control Technician with approximately 50 years of total mining experience, died while inspecting a 7/16-inch minus stockpile for over-sized material. As the victim paused and knelt during his inspection, the stockpile collapsed and covered him with approximately four feet of material.

The accident occurred because miners removed material from the stockpile in a manner that compromised its stability, mine management did not identify this hazard and establish safe procedures for work or travel near stockpiles, and mine management did not establish procedures for timely notification of stockpile-related hazards.

Approved By:

_____ _____

Robert A. Simms Date
District Manager

ENFORCEMENT ACTIONS

1. Order No. 9262471 – Issued on June 19, 2020, at 6:08 p.m., under section 103(k) of the Federal Mine Safety and Health Act of 1977 (Mine Act):

   A fatal accident occurred at this mine on 06/19/2020 when a miner was visually scanning the face of the 7/16-inch minus (Screenings) pile for oversized rock, the miner was walking parallel with the pile within approximately one foot of the toe when the pile collapsed off engulfing the miner. The order is issued to protect miners and preserve the accident scene to allow an investigation into the cause or causes that contributed to the fatal injury. This order is issued to ensure the safety of all persons at this operation. It prohibits all activity and vehicle traffic at the primary crusher plant and the truck, end-dump trailer and accident site. This order will remain in place until MSHA has determined it is safe to resume normal operations in this area. The mine operator shall obtain prior approval from an MSHA Authorized Representative to recover and restore operations to affected area.

2. Citation No. 9262472– Issued to Harshman Construction LLC (14-01537), under section 104(a) of the Mine Act for a violation of 30 CFR § 56.9314.

   The operator did not maintain the 7/16-inch minus (screenings) stockpile in a safe manner. The face of the stockpile was 25 to 30 feet high and 100 feet wide. Miners regularly undercut the face of the stockpile causing the stockpile to become unstable and preventing support otherwise associated with material in its natural angle of repose. A miner was fatally injured when a portion of the stockpile collapsed while he was kneeling at the toe of the stockpile and visually scanning the face of the stockpile for oversized material. The stockpile regularly had been falling to the angle of repose as the two front-end loaders removed material from the face. On the day of the accident, the face did not fall to the angle of repose and miners did not trim the face to prevent a hazard to persons. The two front-end loader operators were aware of the hazardous condition of the stockpile. This condition exposed miners to injury and material engulfment.

3. Citation No. 9262473 – Issued to Harshman Construction LLC (14-01537), under the provision of 104(a) of the Mine Act for a violation of 30 CFR § 56.18002(a)(1).

   The operator failed to notify miners promptly of hazardous conditions found during an examination that may adversely affect their safety. After competent persons examined the aggregate stockpile on June 19, 2020, and found it to be unstable and periodically sloughing off, they failed to notify promptly miners of the hazard. A miner, who had not been notified, was kneeling at the foot of the stockpile when a portion of the stockpile face collapsed, fatally engulfing him in approximately four feet of material.

APPENDIX A
Persons Participating in the Investigation

Harshman Construction LLC

Warren W. Harshman	Co-Owner
Jeff Harshman	Co-Owner
Brendan C. Harshman	Safety Coordinator/Director
Rick Jenkins	Front-End Loader Operator
Rob Burright	Front-End Loader Operator

Osage Sheriff's Department

John Knapp	Deputy
Scott Farmer	Deputy

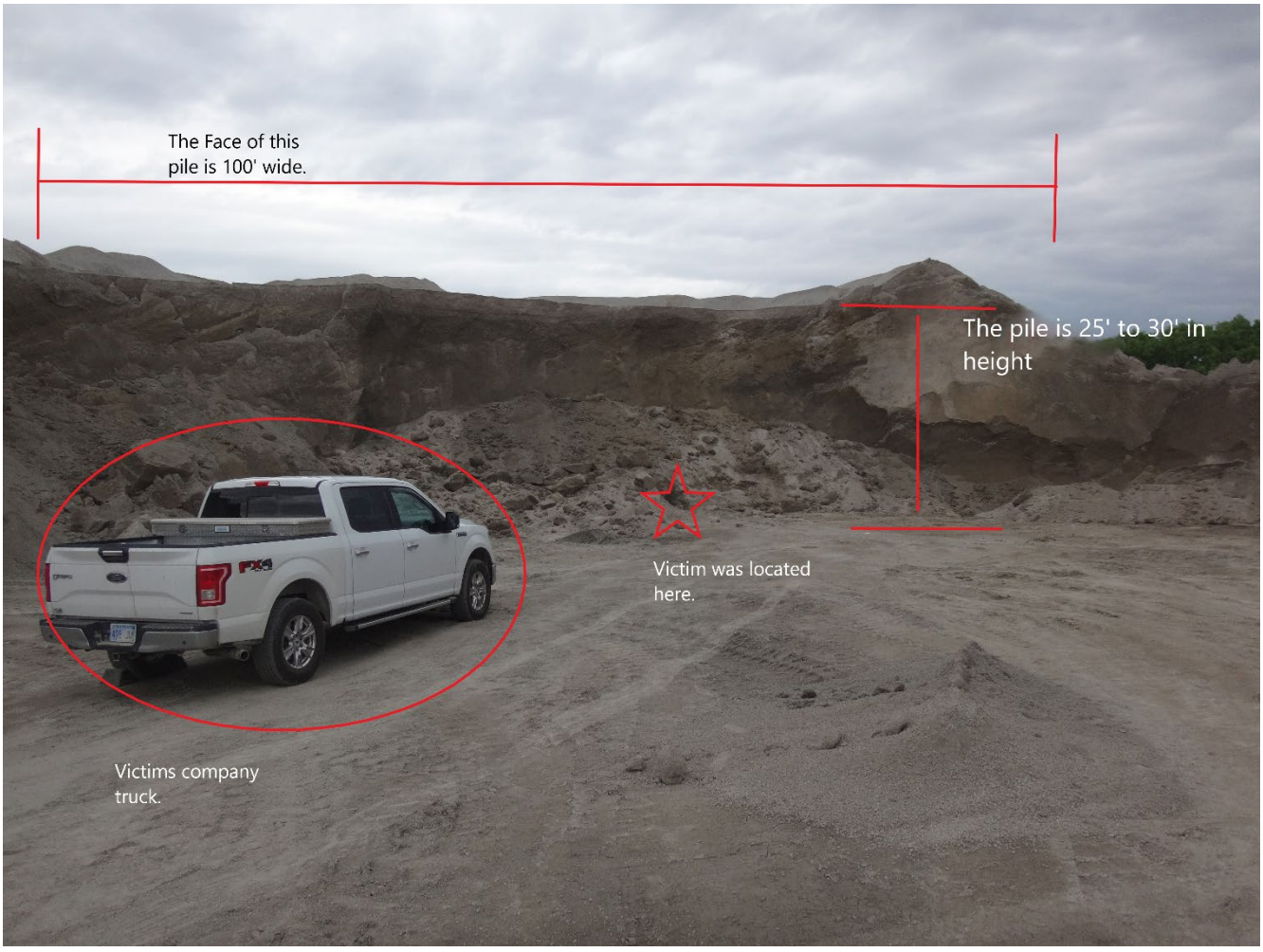
Mine Safety and Health Administration

Chris Ewing	Mine Safety and Health Inspector
Robert Small	Supervisory Mine Safety and Health Inspector
Leon Mueller	EFSMS Training Specialist, EPD

APPENDIX B
Aerial Photograph

Overhead photo of the 7/16-inch minus stockpile. May 2020.

APPENDIX C
Accident Scene Photograph
June 19, 2020



APPENDIX D
Equipment Location Photograph