FAI-7019066-1

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

REPORT OF INVESTIGATION

Surface
(Crushed & Broken Limestone)

Powered Haulage Accident
September 12, 2023

Cape Sandy #1
Mulzer Crushed Stone Inc
Leavenworth, Crawford County, Indiana
ID No. 12-00084

Accident Investigators

Tracy Judy
Mine Safety and Health Inspector

James Butler
Mine Safety and Health Inspector

Originating Office
Mine Safety and Health Administration
Vincennes District
2300 Willow Street, Suite 200
Vincennes Indiana, IN 47591
Ronald Burns, District Manager

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OVERVIEW

On September 12, 2023, at approximately 2:00 p.m., Bruce Vernon, a 69 year-old laborer, with 23 years of experience, died when the haul truck he was operating traveled through a berm and became submerged in a pond.

The accident occurred because the mine operator did not: 1) ensure the berm at a dump site impeded the haul truck from overtravel, and 2) conduct an adequate workplace examination.

GENERAL INFORMATION

Mulzer Crushed Stone Inc owns and operates the Cape Sandy #1 mine, a surface limestone mine located in Leavenworth, Crawford County, Indiana. The Cape Sandy #1 mine employs 73 miners and operates one 11-hour shift and one 12-hour shift, five days per week. The mine drills and blasts the limestone and uses haul trucks to transport the limestone to the plant for sizing.

The principal management officials at the Cape Sandy #1 mine at the time of the accident were:

Samuel Vernon	Superintendent
Brian Peters	Environmental Health and Safety Manager

The Mine Safety and Health Administration (MSHA) completed the last regular safety and health inspection at this mine on June 9, 2023. The 2022 non-fatal days lost incident rate for the Cape Sandy #1 mine was 3.95, compared to the national average of 0.92 for mines of this type.

DESCRIPTION OF THE ACCIDENT

On September 12, 2023, at 6:00 a.m., B. Vernon arrived at Cape Sandy #1 to begin his shift. According to interviews, James Hollcroft, Production Supervisor, assigned B. Vernon and Ronnie Knieriem, Haul Truck Driver, to the task of hauling material from a previously built ramp in Pit Number 4 to the Exit Road Spoil Pile. At approximately 11:00 a.m., Wesley Harpenau and Thomas Mays, Haul Truck Drivers, joined B. Vernon and Knieriem hauling material from Pit Number 4 to the Exit Road Spoil Pile until approximately 12:00 p.m. At approximately 2:00 p.m., B. Vernon backed his haul truck up to dump at the top of the spoil, traveled through the berm and came to rest in the pond below.

According to interviews, Harpenau was on the travelway across from the Exit Road Spoil Pile and observed dust, rocks, and a green haul truck going down the spoil pile. Harpenau used the haul truck's radio to contact Cody Green, Plant Operator, and told Green what he saw. Harpenau traveled to a location where he could see the bottom of the spoil pile and saw that the haul truck had entered the water and was no longer visible as it was submerged. Knieriem heard the radio traffic, traveled to the dump site, and told Green that B. Vernon was not on the dump site and the berm was "broke." Knieriem radioed Green to notify him of B. Vernon's submerged haul truck.

Green made a general call for help on his radio asking for anyone to contact 911. Gordon Mehringer, Purchasing Agent, contacted Crawford County Dispatch at 2:03 p.m. Indiana Department of Natural Resources (IDNR) Conservation Officers began arriving on scene at 2:52 p.m. IDNR and the Indiana State Police used sonar to locate the haul truck. Emergency responders suspended recovery until the next morning due to the lack of lighting. On September 13, 2023, at 11:26 a.m., emergency responders recovered B. Vernon from the haul truck. The emergency responders stated that they had to cut the lap seat belt to remove B. Vernon from the haul truck. Investigators determined that B. Vernon was wearing his seat belt at the time of the accident.

INVESTIGATION OF THE ACCIDENT

On September 12, 2023, at 2:06 p.m., Taylor Boone, Safety Manager contacted the Department of Labor National Contact Center (DOLNCC). At 2:23 p.m., the DOLNCC contacted David Stepp, Assistant District Manager. Stepp contacted Christopher Persinger, Supervisory Mine Safety and Health Inspector. Persinger contacted James Butler, Mine Safety and Health Inspector, and Tracy Judy, Mine Safety and Health Inspector, and instructed them to travel to the

mine to begin the accident investigation. Persinger assigned Judy as the lead accident investigator.

Butler arrived at the mine at 2:54 p.m. and issued an order under the provisions of Section 103(k) of the Mine Act to ensure the safety of the miners and preservation of evidence. At 3:15 p.m., Judy arrived at the mine and modified the order to allow recovery operations in conjunction with local and state agencies and mine employees. At 4:50 p.m., Stepp, Dustin Galloway, Staff Assistant, and Persinger, arrived on scene to assist in the accident investigation. The accident investigation team conducted an examination of the accident scene, interviewed miners and mine management, and reviewed conditions and work practices relevant to the accident. See Appendix A for a list of persons who participated in the investigation.

DISCUSSION

Location of the Accident

The accident occurred at the Exit Road Spoil Pile, located South of the Cape Sandy #1 mine entrance and North of the Primary Crusher (see Appendix B). The mine operator used the dump site for refuse or waste material, and a large pond was located at the bottom of the dump site.

The haul truck operators were dumping material over the edge of the Exit Road Spoil Pile at the time of the accident. The haul truck had a mid-axle height of 52 inches. Measurements of the berm taken after the accident on the Exit Road Dump Site revealed heights ranging from 21 inches to 38 inches (see Appendix C). Investigators determined that the berms were unsubstantial. The mine operator built the berms with unconsolidated material (dirt and rock) that came to a narrow, tapered point at the top. At the time of the investigation, the dump site was relatively dry.

Tire tracks on the berm revealed that haul truck operators were backing up to and contacting the berm when dumping. Interviews indicated this was a common practice. Information gathered from the mine operator's survey shows that from the dump point to the water was approximately 250 feet vertically. The haul truck flipped down the 71 percent slope of unconsolidated material, coming to rest in the water approximately 350 feet East of the dump site. Investigators determined that the mine operator did not ensure the berm at a dump site impeded the haul truck from overtravel, which contributed to the accident.

Weather

The weather at the time of the accident was 76 degrees Fahrenheit with cloudy skies, no wind, and no recent rain. Investigators determined that weather did not contribute to the accident.

Equipment Involved

The haul truck involved in the accident was a 2004 Hitachi EH1700 100-ton haul truck. A review of maintenance and service records and pre-operational inspection records reveal no defects documented that would affect the safety of the haul truck. The mine operator decided not to recover the haul truck due to unstable ground conditions. Therefore, investigators were unable to examine the haul truck. Interviews with other miners who had recently operated this haul truck reported no defects affecting safety.

Workplace Examinations

No member of management had been on the Exit Road Spoil Pile dump site on the day of the accident. Multiple miners interviewed stated that the first person in the work area is responsible for conducting the workplace examination. On the morning of the accident, Knieriem conducted the workplace examination for the Exit Road Spoil Pile dump site from the cab of his haul truck. Knieriem stated that the condition of the berms did not change during the shift. According to interviews, conducting workplace examinations from the cab of equipment was a common practice at Cape Sandy #1. The mine operator was unable to provide any workplace examination records of the accident site. Investigators determined that the mine operator did not conduct an adequate workplace examination, which contributed to the accident.

Training and Experience

B. Vernon had 23 years of mining experience, all at Cape Sandy # 1. He had 12 years and nine months of experience as a laborer and stockpile haul truck driver. Knieriem stated that he provided B. Vernon with the task training on the Hitachi EH1700 100-ton haul truck. The mine operator was unable to provide a record of this task training at the time of the accident. Investigators determined B. Vernon received all training in accordance with MSHA Part 46 training regulations.

The mine operator provided a list of dates on which they provided training specific to workplace examinations. The last date provided was in February 2020, which is prior to Knieriem's hire date. Knieriem stated that the mine operator never told him to document his workplace examinations or trained him on how to identify properly built berms or adequate dump site restraints.

ROOT CAUSE ANALYSIS

The accident investigation team conducted an analysis to identify the underlying causes of the accident. The team identified the following root causes, and the mine operator implemented the corresponding corrective actions to prevent a recurrence.

1. Root Cause: The mine operator did not ensure the berm at a dump site impeded the haul truck from overtravel.

   Corrective Action: The mine operator retrained all miners on berm construction for dumping locations to impede overtravel.

2. Root Cause: The mine operator did not conduct an adequate workplace examination.

   Corrective Action: The mine operator trained all miners on their revised workplace examination procedures. The revised workplace examination procedures state the following: Prior to work beginning in the dumping area, a competent person or supervisor shall perform a workplace area exam and document such exam. Documents shall be kept and maintained in compliance with MSHA regulations. The area shall be examined with sufficient lighting, whether natural or artificial, and performed from a viewpoint that allows

for adequate inspection, and any deficiencies or unsafe conditions will be noted and remedied. All berms shall be constructed of substantial and primarily non-dirt material, at a minimum mid-axle height of the largest vehicle traveling in the area and shall be maintained to prevent overtravel of berms.

CONCLUSION

On September 12, 2023, at approximately 2:00 p.m., Bruce Vernon, a 69 year-old laborer, with 23 years of experience, died when the haul truck he was operating traveled through a berm and became submerged in a pond.

The accident occurred because the mine operator did not: 1) ensure the berm at a dump site impeded the haul truck from overtravel, and 2) conduct an adequate workplace examination.

Approved By:

_____ _____

Ronald Burns Date
District Manager

ENFORCEMENT ACTIONS

1. A 103(k) order was issued to Mulzer Crushed Stone Inc.

   A fatal accident occurred on September 12, 2023, at approximately 2:00 p.m. This order is being issued under the authority of the Federal Mine Safety and Health Act of 1977, under Section 103(k) to insure the safety of all persons at the mine, and requires the operator to obtain the approval of an authorized representative of MSHA of any plan to recover any person in the mine or to recover the mine or affected area. This order prohibits any activity in the affected area except for recovery efforts of the accident victim. The operator is reminded of the obligation to preserve all evidence that would aid in investigating the cause or causes of the accident in accordance with 30 CFR 50.12.

2. A 104(d)(1) citation was issued to Mulzer Crushed Stone Inc for a violation of 30 CFR 56.9301.

   On September 12, 2023, a fatal accident occurred at this mine when a laborer operating a haul truck traveled through a berm on the Exit Road Spoil Pile dump site and came to rest submerged in a pond. The mine operator did not ensure that the berm was substantial enough to impede overtravel. The berm was narrow at the top and ranged in height from 21 inches to 38 inches while the haul truck involved in the accident had a mid-axle height of 52 inches. The mine operator engaged in aggravated conduct constituting more than ordinary negligence by not constructing berms sufficient to act as dump site restraints. This violation is an unwarrantable failure to comply with a mandatory standard.

3. A 104(d)(1) order was issued to Mulzer Crushed Stone Inc for a violation 30 CFR 56.18002(a).

   On September 12, 2023, a fatal accident occurred at this mine when a laborer operating a haul truck traveled through a berm on the Exit Road Spoil Pile dump site and came to rest submerged in a pond. The mine operator did not conduct an adequate workplace examination. The examiner did not recognize that the berms were insufficient to act as dump site restraints. The mine operator engaged in aggravated conduct constituting more than ordinary negligence. This violation is an unwarrantable failure to comply with a mandatory standard.

APPENDIX A – Persons Participating in the Investigation

Mulzer Crushed Stone Inc

Brian Peters	Environmental Health and Safety Manager
Taylor Boone	Safety Manager
James Hollcroft	Production Supervisor
Abigail Styer	Pit Foreman
Cody Green	Plant Operator
Grant James	Bulldozer Operator
Wesley Harpenau	Haul Truck Driver
Rodney King	Haul Truck Driver
Ronnie Knieriem	Haul Truck Driver
Thomas Mays	Haul Truck Driver
Gordon Mehringer	Purchasing Agent
Christopher Rose	Fuel Truck Operator

Mine Safety and Health Administration

David Stepp	Assistant District Manager
Dustin Galloway	Staff Assistant
Christopher Persinger	Supervisory Mine Safety and Health Inspector
James Butler	Mine Safety and Health Inspector
Tracy Judy	Mine Safety and Health Inspector
Bubby Whitfield	Mine Safety and Health Specialist

APPENDIX B – Aerial View of Cape Sandy #1

APPENDIX C – Broken Berm Post Accident