

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

REPORT OF INVESTIGATION

Surface Mine
(Construction Sand and Gravel)

Fatal Powered Haulage Accident
July 29, 2020

Gravel Pit
Fox Creek Aggregates
Mountain Grove, Wright County, Missouri
ID No. 23-02361

Accident Investigators

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Table of Contents

OVERVIEW	1
GENERAL INFORMATION.....	1
DESCRIPTION OF THE ACCIDENT	2
INVESTIGATION OF THE ACCIDENT	3
DISCUSSION.....	3
ACCIDENT SCENE	3
WEATHER	3
EQUIPMENT INVOLVED	3
EXAMINATIONS.....	4
TRAINING AND EXPERIENCE.....	4
ROOT CAUSE ANALYSIS.....	4
CONCLUSION.....	5
ENFORCEMENT ACTIONS	6
APPENDIX A - AERIAL VIEW OF THE MINING OPERATION.....	8
APPENDIX B - PERSONS PARTICIPATING IN THE INVESTIGATION.....	9
APPENDIX C - PHOTOGRAPHS OF THE SAND CONVEYOR.....	10



OVERVIEW

On Wednesday, July 29, 2020, at 10:10 a.m., Matt G. Blanchette, a 63-year-old Front-End Loader Operator with eight years of mining experience, became entangled in a moving belt conveyor. He was air-lifted to a trauma center where he died as a result of his injuries on August 5, 2020.

The accident occurred because the mine operator did not: 1) ensure the guarding for the belt conveyor tailpiece remained in place when the belt conveyor was operating; 2) properly maintain the belt conveyor to prevent frequent spillage of material; 3) prevent work on the belt conveyor while it was in motion; 4) conduct adequate workplace examinations; and 5) ensure proper training was provided to the miners.

GENERAL INFORMATION

Fox Creek Aggregates owned and operated the Gravel Pit mine, located in Mountain Grove, Wright County, Missouri. The mine employed two miners and operated one ten-hour shift, three to four days per week. Miners used a front-end loader to excavate raw material from a dry creek bed and load it onto trucks, which hauled and dumped it near the processing plant. Miners used a front-end loader to load material into the processing plant, which washed and screened the material. The processing plant discharged the material via belt conveyors into various stockpiles based on material size (see Appendix A).

The principal officer for the mine at the time of the accident was:

James S. Peterson.....Owner

This mine began operation on May 2, 2007. On January 5, 2012, the mine operator notified the Mine Safety and Health Administration (MSHA) that the mine had closed, and MSHA placed this mine in abandoned status. An MSHA inspector confirmed the mine was abandoned when he attempted to

perform a regular safety and health inspection on March 8, 2012. When the mine later reopened, the mine operator did not notify MSHA of commencement of mining activities as required by 30 CFR §56.1000. MSHA became aware that the mine had resumed operation when the Agency was notified of the fatal accident. Investigators determined that the mine operated intermittently from 2014 until the date of the fatal accident. On May 23, 2020, MSHA posted on its website a reminder to the metal and nonmetal mining community of the requirement to notify the Agency of commencement of mining activities. This mine did not report operating hours in 2019 and therefore did not record a non-fatal days lost (NFDL) incident rate. The national NFDL incident rate for mines of this type in 2019 was 1.10.

DESCRIPTION OF THE ACCIDENT

On July 29, 2020, at approximately 9:00 a.m., Blanchette arrived at the scale house and spoke with his coworker, Adam Besson, Plant Helper, about the day's activities. Besson drove Blanchette's truck to the creek bed to repair a front-end loader. Blanchette left the scale house and began to use another front-end loader at the processing plant to load customer trucks as they arrived.

During the interviews, MSHA determined the belt conveyor that transported sand out of the processing plant (sand conveyor) frequently deposited material onto the belt tail pulley, causing the belt to angle to one side and spill material onto the ground. In order to remove the deposited material from the tail pulley, miners had to remove the protective guard. They seldom replaced the guard due to the frequency in which they had clean the tail pulley. Miners typically used either a leaf blower or their hands to remove the deposited material. At the time of the accident, the leaf blower was not available for Blanchette to use because it was in the pickup truck that Besson had driven to the creek bed. Without a witness to the accident, the investigators were unable to determine with certainty how Blanchette became entangled in the sand conveyor.

At 10:08 a.m., Blanchette called 911 to report his injury. According to the 911 dispatch records for the Douglas County Sheriff's Office, the victim stated that "he had his arm caught in a gravel plant at the Peterson Gravel Plant."

At approximately 10:10 a.m., Tod Darter, Truck Driver for Tucker Sand Blasting, arrived at the mine to receive a load of sand. He stopped at the scale house and backed his truck towards the sand pile.

At 10:13 a.m., Blanchette called his significant other, Elisabeth Ann Huckabey. She missed the call but immediately called him back. Blanchette told Huckabey he had been caught in the sand conveyor and tore his thumb off. After this call, Blanchette unsuccessfully called James S. Peterson, Owner, at 10:15 a.m.

As Darter backed his truck towards the sand pile, he saw a front-end loader parked with the engine idling. As he finished backing into position to receive a load of sand, he looked in his right-side mirror and saw Blanchette lying on the grass near the sand conveyor. Darter parked his truck and ran to help him. Darter called 911 and administered first aid to Blanchette's severely damaged lower left arm. Darter applied a tourniquet to stop the flow of blood. At 10:38 a.m., Chris Hammett, Chief of the Eastern Douglas County Volunteer Fire Department, arrived on site and requested a life-flight helicopter. At 10:42 a.m., an ambulance crew arrived, placed Blanchette in the ambulance, and transported him to the helicopter landing site. At 11:12 a.m., the helicopter departed for Cox South Hospital in Springfield, Missouri. On July 31, 2020, Blanchette suffered a stroke due to blood clots

from the arm injury. On August 5, 2020, at 9:42 p.m., Joshua McElderry, MD pronounced Blanchette dead due to complications from his injuries.

INVESTIGATION OF THE ACCIDENT

On August 7, 2020, at 12:03 p.m., Huckabey called the Department of Labor National Contact Center (DOLNCC) to report that her significant other had his arm caught in a belt conveyor on July 29, 2020, and died several days later. The DOLNCC contacted David West, Assistant District Manager, who contacted Lawrence Sherrill, Supervisory Mine Safety and Health Inspector. Sherrill sent Craig Bergonzoni, Mine Safety and Health Inspector, to investigate the allegations. Bergonzoni determined the accident reported had occurred and issued a section 103(k) order to ensure the safety of the miners.

On August 10, 2020, Michael R. VanDorn, Mine Safety and Health Inspector, and Sherrill, joined Bergonzoni at the Gravel Pit mine to conduct the fatal accident investigation. The investigators conducted a physical examination of the accident scene and interviewed persons with knowledge of the accident. See Appendix B for a list of persons who participated in the investigation.

VanDorn, Bergonzoni and Sherrill initially began the investigation and inspection of the front-end loader on Peterson's farm, because Peterson said that is where the accident occurred. However, the investigators soon realized that the information Peterson provided was inaccurate, and that the accident occurred at the processing plant near the tailpiece of the sand conveyor. The investigators determined several people had told Peterson where and how the accident happened. Additionally, witnesses told investigators that Peterson was on the mine site looking at the accident scene approximately three hours after the accident occurred, and had loaded a customer's truck with sand at that time. As a result, MSHA issued a non-contributory citation under section 103(a) of the Mine Act for impeding the accident investigation. Additionally, MSHA issued a non-contributory citation for a violation of 30 CFR 50.10(b) for failure to immediately notify MSHA of the accident.

DISCUSSION

Accident Scene

The accident occurred at the tailpiece of the operating sand conveyor (see Appendix C). Shortly after the accident, Peterson instructed a miner to repair the sand conveyor belt because the sand conveyor belt had rolled into an o-shaped configuration, instead of the normal u-shaped configuration. During the nine-day period between when the accident occurred and when MSHA became aware of the accident, the mine operated the processing plant. All of these actions altered the accident site before MSHA could conduct an investigation of the accident. MSHA issued a non-contributory citation for a violation of 30 CFR 50.12 for failure to preserve the evidence of the accident.

Weather

The accident investigators determined that weather was not a factor in the accident.

Equipment Involved

The belt conveyor involved in this accident conveys sand-sized particles from the processing plant and stacks them into a pile. The belt consists of a 3/8-inch cleated rubber-covered fabric, is 45 feet long by 30 inches wide, and is positioned on a 30-degree angle from horizontal. The tail pulley is 34 inches wide and ten inches in diameter and is located three feet above ground level. The discharge end of the belt conveyor is 15 feet above ground level. A diesel engine-powered hydraulic pump drives the belt

conveyor, and the start/stop switch is located beneath the conveyor. The belt conveyor has been in service at this mine for at least seven years. A coat of paint obscures the belt conveyor model and serial numbers.

The protective guard (see Appendix C) used to cover the tail pulley is made of two-inch mesh sizing screen. The wires of the screen guard are ¼-inch in diameter and bent at a 90-degree angle to serve as hooks to hang on the side of the tail pulley and cover the pulley. According to Besson, Hammett, and Peterson Ranch Foreman Kleveland Gastineau, the tail pulley guard was on the ground leaning against the tail pulley at the time of the accident.

Examinations

The mine operator did not comply with working place examination requirements, which require that the operator conduct examinations of working places, make records of the examinations, and maintain records of the examinations. The mine operator did not have any records of examinations for at least one year prior to the accident. Examinations of working places conducted by a competent person would have revealed numerous unsafe conditions, including removal of the protective guard and a recurring spillage problem that often required the miners to use their hands to remove material near a moving belt conveyor.

Training and Experience

Blanchette was not provided with new miner training before he began work at the mine approximately eight years ago. He had no prior mining experience. MSHA investigators determined that Blanchette last received Annual Refresher training in 2012 and issued a non-contributory citation for a violation of 30 CFR 46.8(a)(2). MSHA investigators determined that the mine operator did not have a written training plan and issued a non-contributory citation for a violation of 30 CFR 46.3(a).

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.

Root Cause: The mine operator did not ensure that guards were in place at all times when the plant was operating. The mine operator also did not prevent work on belt conveyors while in motion.

Corrective Action: The mine operator developed and implemented a written action plan to prevent similar occurrences. This plan includes: 1) a provision that all moving machine parts will be guarded; 2) training for all miners on the importance of guarding moving equipment and the hazards of working near a moving belt conveyor; 3) additional management oversight to ensure guarding is installed and maintained; and 4) a redesign of the guard involved in the accident to simplify the process of replacing it. The mine operator incorporated this action plan into the mine's training program, and trained all miners at this mine in the action plan.

Root Cause: The mine operator did not properly maintain the sand conveyor to prevent a recurring buildup of material that required removal.

Corrective Actions: The mine operator implemented an action plan to install shields, skirt boards, or other devices to help eliminate constant spillage or buildup of material in belt tailpieces of the sand

plant. The mine operator established a cleaning regimen to maintain the belts in a manner that eliminates cleaning or working on a moving conveyor belt. The mine operator incorporated this regimen into the mine's training plan.

Root Cause: The mine operator did not comply with working place examination requirements. There were no records of examinations for any period of time found on mine property.

Corrective Actions: The mine operator designated competent persons and instructed them in hazard identification and correction, and making and maintaining records of the examinations. The mine operator will provide oversight to ensure the competent persons perform and record the examinations, and maintain the records.

Root Cause: The mine operator did not have a training plan and did not provide new miner training to Blanchette when he began working at the mine.

Corrective Actions: The mine operator developed a training plan and designated an independent competent person to provide all required training for the miners.

CONCLUSION

On Wednesday, July 29, 2020, at 10:10 a.m., Matt G. Blanchette, a 63-year-old miner with eight years of mining experience, became entangled in a moving belt conveyor. He was air-lifted to a trauma center where he died as a result of his injuries on August 5, 2020.

The accident occurred because the mine operator did not: 1) ensure the guarding for the belt conveyor tailpiece remained in place when the belt conveyor was operating; 2) properly maintain the belt conveyor to prevent frequent spillage of material; 3) prevent work on the belt conveyor while it was in motion; 4) conduct adequate workplace examinations; and 5) ensure proper training was provided to the miners.

Approved By:

Robert A. Simms
District Manager

Date

ENFORCEMENT ACTIONS

1. A 103 (k) Order, No. 9457333, was issued to Fox Creek Aggregates on August 7, 2020, at 7:00 p.m., to ensure the safety of the miners:

An accident occurred at this operation on July 29, 2020, resulting in the victim's death on August 5, 2020. This order is issued to assure the safety of all persons at this operation. It prohibits activity on the Sand Plant, and the John Deere 544-B Front End Loader SN544BB216436T until MSHA feels it is safe to resume normal mining operations in this 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.

2. A 104(d)(1) Citation was issued to Fox Creek Aggregates for a violation of 30 CFR 56.14112(b).

An accident occurred at this site on July 29, 2020. A miner got his arm caught in the sand conveyor and received serious injuries that resulted in his death. The guard had been removed from the conveyor and was sitting on the ground leaning against the tail pulley at the time of the accident. This created an entanglement hazard on the lower (tailpiece) end of the conveyor, which was approximately three feet above the ground. The conveyor was operating at the time of the accident, and the miner's injuries were the result of his contact with the moving equipment. The accident investigation revealed it was a common practice for the guard to be removed while the conveyor was running to facilitate cleaning that was required due to frequent material accumulations. Failure of the mine operator to maintain the guard securely in place while machinery is being operated constitutes more than ordinary negligence and is an unwarrantable failure to comply with a mandatory standard.

To the extent that the accident occurred while the miner was attempting to remove accumulated material that had deposited on the belt tail pulley, performing such work while the conveyor was operating violated 30 CFR §§ 56.14105 and 56.14202. Failure of the mine operator to prevent the removal of accumulated material while the conveyor was operating constitutes more than ordinary negligence and is an unwarrantable failure to comply with mandatory standards.

3. A 104(d)(1) Order was issued to Fox Creek Aggregates for a violation of 30 CFR 56.18002(a).

A miner was seriously injured when he became entangled in a moving belt conveyor on July 29, 2020. He died of those injuries on August 5, 2020. On the day of the accident, and for at least one year prior to that, the mine operator did not comply with working place examination requirements. Adequate examinations conducted at least once each shift before miners began work in that place by a competent person would have revealed numerous obvious unsafe conditions, including removal of the protective guard from the sand conveyor pulley tailpiece and a recurring material spillage that miners frequently removed with their hands in close proximity to a moving belt conveyor. No record could be found of the workplace examination for that day or for the previous 12 months. The mine operator knew of the requirement to conduct examinations of working places. Failure of the mine operator to conduct these examinations constitutes more than ordinary negligence and is an unwarrantable failure to comply with a mandatory standard.

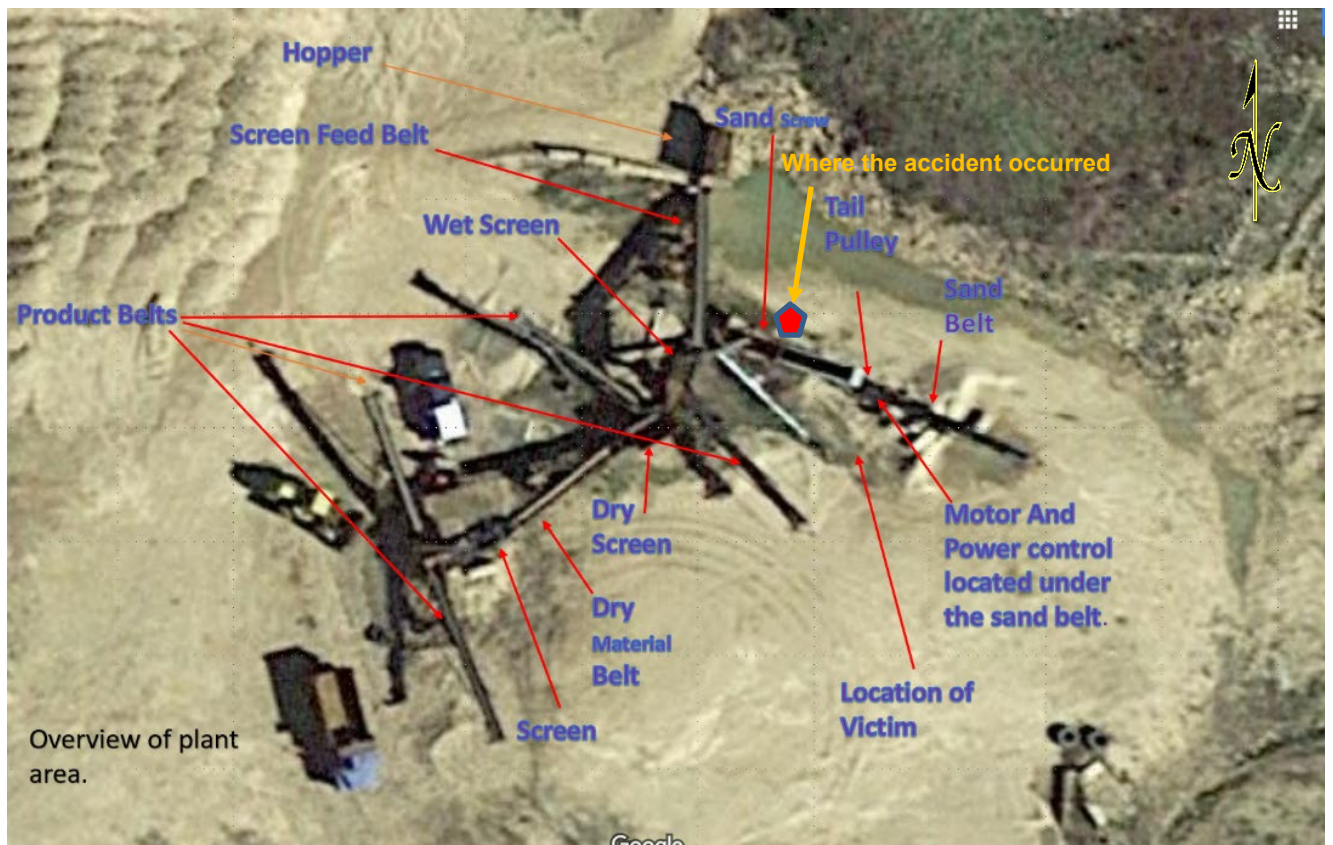
4. A 104(d)(1) Order was issued to Fox Creek Aggregates for a violation of 30 CFR 46.5(a).

A miner was seriously injured when he became entangled while working on or near a moving belt conveyor while the guard was removed on July 29, 2020. He died of those injuries on August 5, 2020. There is no record of this miner receiving new miner training when he began working at this mine approximately eight years prior to the accident. New miner training would have provided this miner with instruction on the recognition and avoidance of hazards, as well as instruction on the health and safety aspects of the tasks to be assigned, including the safe work procedures for such tasks. Failure of the mine operator to train the miner constituted more than ordinary negligence and is an unwarrantable failure to comply with a mandatory standard.

5. A 104(d)(1) Order was issued to Fox Creek Aggregates for a violation of 30 CFR 56.1000.

This mine began operations on May 2, 2007. On January 5, 2012, the mine operator notified MSHA that the mine had closed. When the mine later reopened, the mine operator did not notify MSHA of the commencement of mining operations. MSHA became aware that the mine had resumed operation when the Agency was notified of the fatal accident that occurred on July 29, 2020. The mine operated intermittently from 2014 until the date of the fatal accident. On May 23, 2020, MSHA posted on its website a reminder to the metal and nonmetal mining community of the requirement to notify the Agency of commencement of mining activities. MSHA did not have the opportunity to inspect the mine for compliance and hazardous conditions prior to this accident. This violation by the mine operator constitutes more than ordinary negligence and is an unwarrantable failure to comply with a mandatory standard.

APPENDIX A
Aerial View of the Mining Operation



APPENDIX B
Persons Participating in the Investigation

Fox Creek Aggregates

James S. Peterson..... Owner

Adam Besson..... Plant Helper

Peterson Ranch

Kleveland Gastineau..... Foreman

Eastern Douglas County Volunteer Fire Department

Chris Hammett..... Chief

Tucker Sand Blasting

Tod Darter..... Truck Driver

Other

Elisabeth Ann Huckabey Significant Other

Mine Safety and Health Administration

Michael R. VanDorn..... Mine Safety and Health Inspector

Lawrence Sherrill..... Supervisory Mine Safety and Health Inspector

Craig Bergonzoni..... Mine Safety and Health Inspector

APPENDIX C
Photographs of the Sand Conveyor



The guard that was removed from the tailpiece at the time of the accident.



The opposite side of the tailpiece.



The hydraulic and diesel components of the sand conveyor.