FAI-F004746-1

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

REPORT OF INVESTIGATION

Surface of Underground
(Bituminous Coal)

Fatal Powered Haulage Accident
August 11, 2024

West Elk Mine
Mountain Coal Company, L.L.C.
Somerset, Gunnison County, Colorado
ID No. 05-03672

Accident Investigators

Lois Duwenhoegger
Supervisory Mine Safety and Health Inspector

Dean Sanchez
Mine Safety and Health Inspector

Kendell Whitman
Assistant District Manager

Originating Office
Mine Safety and Health Administration
Lakewood District
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Matthew Lemons, District Manager

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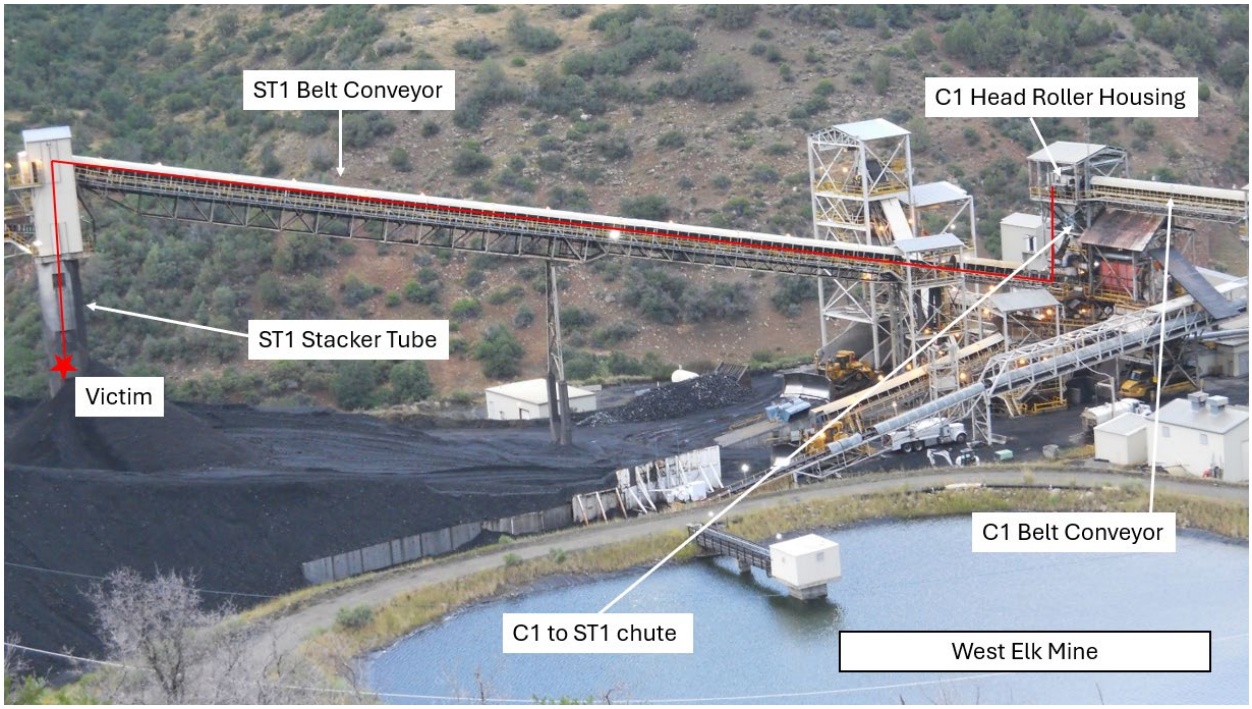


OVERVIEW

On August 11, 2024, at 12:05 a.m., Leonard Barnes, a 62 year-old surface miner with over five years of mining experience, died while shoveling rock from a belt conveyor. Barnes was on top of the belt inside the C1 Head Roller Housing (C1 Housing) when the counterweight dropped, causing the belt to move forward and Barnes to fall into the chute below.

The mine operator directed and allowed miners to work where there were known safety hazards, and did not follow their belt conveyor inspection, cleaning, and lockout procedures. The accident occurred because the mine operator did not: 1) ensure Barnes wore fall protection, and 2) block the belt conveyor against hazardous motion before performing maintenance.

GENERAL INFORMATION

The Mountain Coal Company, L.L.C., a subsidiary of Arch Resources Inc, owns and operates the West Elk Mine, an underground coal mine located in Somerset, Gunnison County, Colorado. The mine employs 325 miners and operates two 12-hour shifts per day, seven days per week. The mine extracts bituminous coal underground by continuous mining machines and longwall extraction. Belt conveyors transport the coal to the surface and through the surface coal handling facility, and then the coal is transported by rail to the consumer.

The principal management officials at the West Elk Mine at the time of the accident were:

Weston Norris	Mine Manager
Timothy Fraser	Safety Manager

The Mine Safety and Health Administration (MSHA) completed the last regular safety and health inspection at this mine on June 28, 2024. The 2023 non-fatal days lost incident rate for West Elk Mine was 1.20, compared to the national average of 3.25 for mines of this type.

DESCRIPTION OF THE ACCIDENT

On August 10, 2024, at 7:00 p.m., Barnes started his routine shift. According to the electronic data from the belt conveyor, at 11:34 p.m., the C1 conveyor alarm activated in the control room, which indicated that a pull cord had been tripped. According to interviews, Ed Pitt, Surface Foreman, told Joshua Murphy, Surface Miner, to go to the C1 tower and check what had tripped the pull cord. Pitt went to the portal to check the rib switch. Murphy traveled to the top of the C1 belt conveyor tower. Barnes arrived to assist. A large coal spill surrounded the C1 Housing. Murphy and Barnes opened the smaller observation door and saw that the chute was not obstructed. They opened the two large access doors on both sides of the C1 Housing and noted a build-up of coal and rock (see Appendix A). Pitt arrived and assessed the situation. Murphy and Barnes started shoveling the material, and Barnes entered the inside of the C1 Housing to move the material off the edge of the head roller. Pitt told Murphy to get on top of the belt inside the C1 Housing to shovel. Murphy entered and started pushing the material. Pitt told Murphy and Barnes to be cautious because the top belt was sagging (see Appendix B), the counterweight was up, and he did not know which way the belt might move.

Approximately 10 seconds later, Murphy heard the conveyor counterweight drop and felt the belt start to move. Murphy got out of the C1 Housing and turned to reach for Barnes' hand. Murphy attempted to hold on to Barnes, but the motion from the belt conveyor pulled Barnes over the edge into the chute. Barnes fell 37 feet down the transfer chute onto the ST1 belt conveyor, which transported him to the top of the ST1 stacker tube where he fell approximately 60 feet down the stacker tube. Pitt and Murphy ran down several flights of stairs to the ST1 conveyor and pulled the pull cord at 12:06 a.m. Pitt saw Barnes' and Murphy's headlamps on the coal stockpile. Pitt and Murphy ran to the coal stockpile, located Barnes inside the stacker tube, and pulled him out.

At 12:20 a.m., Pitt called Emergency Medical Service (EMS) for help. Barnes received first aid and was transported to the ambulance bay by several miners. The North Fork Fire Department arrived at 12:48 a.m. and assessed Barnes but found no signs of life. EMS called Dr. Jennifer Craig, MD at Delta Health Emergency Services, who pronounced Barnes deceased at 1:09 a.m.

INVESTIGATION OF THE ACCIDENT

On August 11, 2024, at 12:35 a.m., Timothy Fraser, Safety Manager, called the Department of Labor National Contact Center (DOLNCC). The DOLNCC contacted Kendell Whitman, Assistant District Manager. Whitman contacted Matthew Lemons, District Manager, and discussed the accident. Whitman sent Gary Polson, Supervisory Mine Safety and Health Inspector, to the mine. Whitman contacted Lois Duwenhoegger, Supervisory Mine Safety and Health Inspector, and assigned her as the lead accident investigator. Dean Sanchez, Mine Safety and Health Inspector, assisted in the investigation.

On August 11, 2024, at 3:00 a.m., Polson arrived at the mine and issued an order under the provisions of Section 103(k) of the Mine Act to ensure the safety of the miners and the preservation of evidence. Duwenhoegger arrived at 10:55 a.m.

On August 12, 2024, at 10:55 a.m., Whitman arrived at the mine. William Schroeder, Mine Safety and Health Training Specialist, arrived at the mine to assist in the investigation at 3:00 p.m.

MSHA's accident investigation team conducted an examination of the accident scene, interviewed mine management and miners, and reviewed conditions and work procedures relevant to the accident. See Appendix C for a list of persons who participated in the investigation.

DISCUSSION

Location of the Accident

The accident occurred on the top floor of the C1 Housing, on the transfer tower platform located on the surface coal handling facility (see Appendix D).

Weather

The weather at the time of the accident was 68 degrees Fahrenheit and fair. Investigators determined that weather did not contribute to the accident.

Equipment Involved

The equipment involved in the accident was the C1 belt conveyor, the C1 transfer chute to the ST1 conveyor belt, and the ST1 stacker tube. Investigators examined the C1 belt conveyor and found no problems or functional issues.

The mine operator had written procedures in place for belt conveyor inspection, cleaning, and lockout, dated March 2004, that state:

1. "Make a visual inspection of walkways, stairs and belt system. Check for spills, accumulation of material, damaged or defective equipment and other foreign debris. Make certain walkways are well illuminated and clean. Always use hand rails when traveling on stairways. Use extreme caution during winter months. Always use safety harness (attached) when potential fall is greater than 6 feet.
2. Use extreme caution when cleaning or working by moving belt. Use extreme caution when shoveling. Do not use D-ring shovels. Shovel in the direction of the moving belt (belt running away from you). Wear snug fitting clothing. Stand clear of pinch points. Do not attempt any major changes while the belt is in operation.
3. Notify supervisor. Remove power, lockout, tag, clear and try. Remove only guarding necessary to perform work. Clean area and check equipment condition. Make certain guarded area is clear of tools and other foreign objects. Replace guarding. Ensure all personnel are in the clear before restarting."

During normal operation, the counterweight hangs down below the belt to maintain tension and prevent sagging in the top and bottom of the belt. The initial coal spill caused the C1 belt

conveyor pull cord to trip, stopping the belt, and raising the counterweight. The top of the belt sagged due to the coal spill but there was tension on the bottom of the belt. When the counterweight fell, it put tension on the top of the belt, causing it to move forward (see Appendix E). The mine operator did not block the C1 belt conveyor against motion by securing the counterweight in the raised position. Investigators determined this contributed to the accident. Additionally, the mine operator did not lock and suitably tag out the C1 belt conveyor. After the accident and without MSHA's knowledge, Robert Munz, Surface Superintendent, directed miners to lock out and tag out the C1 belt conveyor.

Pitt, a Surface Certified Foreman, instructed Murphy to climb into the C1 Housing with Barnes to shovel the belt conveyor and allowed Barnes to remain inside the C1 Housing. According to interviews, Pitt did not ensure that the counterweight was secured to block the C1 belt conveyor against motion and knew the belt conveyor could move due to the sagging belt. Pitt knew that the C1 belt conveyor was not locked, tagged, and blocked against hazardous motion. Pitt also knew Barnes and Murphy were not wearing fall protection and there was a danger of falling present. Pitt did not ensure the miners followed safe work procedures.

Fall Protection

Fall protection was in the control room and available for use. The mine operator did not ensure Barnes wore fall protection, which contributed to the accident.

Training and Experience

Barnes had over five years of mining experience, all at this mine. The mine operator trained Barnes on written procedures for belt conveyor inspection, cleaning, and lockout on March 17, 2024. The investigators reviewed the training records and found that Barnes received all training in accordance with MSHA Part 48 training regulations.

The mine operator provided training on the mine operator's written procedures for belt conveyor inspection, cleaning, and lockout to Pitt on December 9, 2020, and to Murphy on June 29, 2023.

ROOT CAUSE ANALYSIS

The accident investigation team analyzed the accident 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 Barnes wore fall protection.

   Corrective Action: The mine operator retrained surface miners and management on the use of fall protection.

2. Root Cause: The mine operator did not block the belt conveyor against hazardous motion before performing maintenance.

   Corrective Action: The mine operator designed new guards and reduced the access to the belt conveyor doors surrounding the C1 Housing with a welded bar to reduce the opening

size. Warning signs have been posted on the C1 Housing, and on the guards, warning miners of the potential hazards associated with cleaning the belt conveyor system. Additionally, the mine operator retrained mine management and miners on their belt conveyor inspection, cleaning, and lockout procedure plan. The mine operator will conduct periodic audits and inspections to ensure compliance with their procedural plan.

CONCLUSION

On August 11, 2024, at 12:05 a.m., Leonard Barnes, a 62 year-old surface miner with over five years of mining experience, died while shoveling rock from a belt conveyor. Barnes was on top of the belt inside the C1 Head Roller Housing (C1 Housing) when the counterweight dropped, causing the belt to move forward and Barnes to fall into the chute below.

The mine operator directed and allowed miners to work where there were known safety hazards, and did not follow their belt conveyor inspection, cleaning, and lockout procedures. The accident occurred because the mine operator did not: 1) ensure Barnes wore fall protection, and 2) block the belt conveyor against hazardous motion before performing maintenance.

Approved by:

_____ _____

Matthew Lemons Date
District Manager

ENFORCEMENT ACTIONS

1. A 103(k) order was issued to Mountain Coal Company, L.L.C.

   A fatal accident occurred on August 11, 2024, at 12:05 a.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. 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 Mountain Coal Company, L.L.C. for violation of 30 CFR 77.1710(g).

   On August 11, 2024, at 12:05 a.m., a surface miner died while shoveling rock from a belt conveyor inside the C1 Head Roller Housing. The surface miner was trying to clear the stuck head roller of debris while positioned on top of the belt conveyor close to the top of the head roller. While pushing rock and coal over the edge to the chute below, the belt conveyor counterweight dropped and tightened the top of the belt conveyor. The belt suddenly moved forward, pulling him over the head roller and causing him to fall into the chute below. The mine operator did not ensure the surface miner wore a safety belt and line before performing this task.

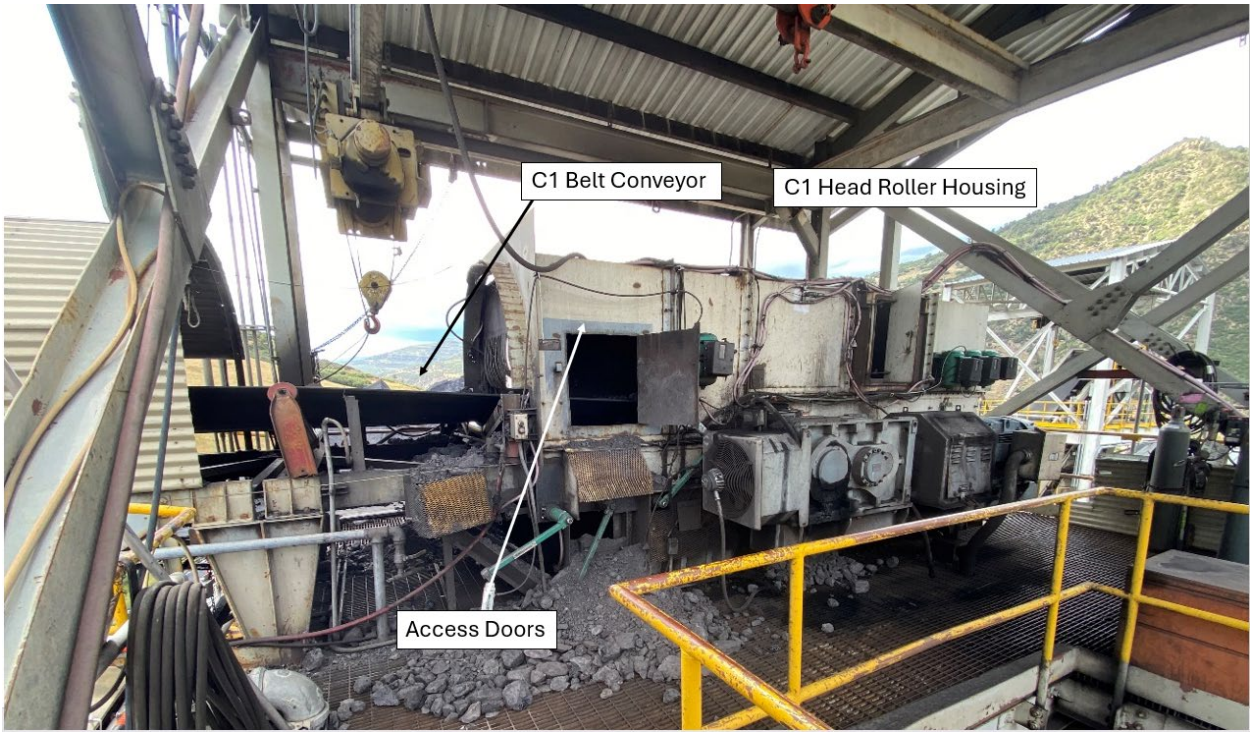
   The mine operator engaged in aggravated conduct constituting more than ordinary negligence because a certified agent of the operator (foreman) ignored the safety protocols and recklessly disregarded the safety of two miners. This violation is an unwarrantable failure to comply with a mandatory standard.

3. 104(d)(1) order was issued to Mountain Coal Company, L.L.C. for violation of 30 CFR 77.404(c).

   On August 11, 2024, at 12:05 a.m., a surface miner died while shoveling rock from a belt conveyor inside the C1 Head Roller Housing. The surface miner was trying to clear the stuck head roller of debris while positioned on top of the belt conveyor close to the top of the head roller. While pushing rock and coal over the edge to the chute below, the belt conveyor counterweight dropped and tightened the top of the belt conveyor. The belt suddenly moved forward, pulling him over the head roller and causing him to fall into the chute below. The mine operator did not de-energize and block the belt conveyor against hazardous motion before performing maintenance.

   This mine operator engaged in aggravated conduct constituting more than ordinary negligence because a certified agent of the operator (foreman) ignored the safety protocols and recklessly disregarded the safety of two miners. This violation is an unwarrantable failure to comply with a mandatory standard.

APPENDIX A – C1 Head Roller Housing Tower



APPENDIX B – C1 Belt Conveyor Sagging Before Accident

APPENDIX C – Persons Participating in the Investigation

Mountain Coal Company, L.L.C.

Weston Norris	Mine Manager
Robert Munz	Surface Superintendent
Timothy Fraser	Safety Manager
Vince Cowen	Safety Professional
Sean Timbreza	Surface Maintenance Planner
Robert Turner	Maintenance Electrical Superintendent
Scott Keating	Surface Operator
Ed Pitt	Surface Foreman
Joshua Murphy	Surface Miner
Brian Peterson	Underground Miner/EMT

Mine Safety and Health Administration

Kendell Whitman	Assistant District Manager
Lois Duwenhoegger	Supervisory Mine Safety and Health Inspector
Gary Polson	Supervisory Mine Safety and Health Inspector
William Schroeder	Supervisory Mine Safety and Health Training Specialist
Gerald Bouwens	Mine Safety and Health Inspector
Dean Sanchez	Mine Safety and Health Inspector

APPENDIX D – Inside C1 Head Roller Housing

APPENDIX E – C1 Belt Conveyor Counterweight