

UNITED STATES  
DEPARTMENT OF LABOR  
MINE SAFETY AND HEALTH ADMINISTRATION  
COAL MINE SAFETY AND HEALTH

REPORT OF INVESTIGATION

Underground Coal Mine

Fatal Powered-Haulage Accident  
July 1, 2010

Pocahontas Mine  
White Buck Coal Company  
Rupert, Greenbrier County, West Virginia  
I.D. No. 46-09154

Accident Investigators

Douglas W. Johnson  
Coal Mine Safety and Health Inspector

Robert Hatfield  
Coal Mine Safety and Health Inspector (Electrical)

Originating Office:  
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District 4  
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Robert G. Hardman, District Manager

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## OVERVIEW

At approximately 8:37 a.m., on Thursday, July 1, 2010, a 60 year old electrician was killed when he was run over by a shuttle car. Prior to the accident, the victim was observed leaving the connecting crosscut between the No. 1 and No. 2 Entries, in the second crosscut outby the No. 2 Face. The victim was walking toward the continuous mining machine operating in the No. 2 Face on the No. 2 Section, Mechanized Mining Unit (MMU) 005/006. The continuous miner operator next saw the victim beneath and being dragged by the left side, standard shuttle car as it was leaving the continuous mining machine after being loaded with coal.

The accident occurred because the left side shuttle car had an improper sideboard installed between the operator's deck and the bed of the shuttle car. The sideboard severely limited the field of vision of the shuttle car operator on the off-side of the car. Additionally, lack of communication between the victim and the shuttle car operator contributed to the accident.

## GENERAL INFORMATION

The Pocahontas Mine is an underground coal mine located near Rupert, West Virginia, in Greenbrier County, West Virginia. The mine employs 74 underground coal miners and 11 surface personnel. The mine has two active mining sections with two continuous mining machines on each section, which operate simultaneously with split ventilation. The room and pillar method of mining is utilized at this mine. The mine is operated in the Pocahontas No. 6 bituminous coal seam, accessed by five drift portals. The mining height is approximately seven feet. The mine produces approximately 3,162 raw tons per day during two production shifts, day and afternoon, with a midnight shift for maintenance.

The principal officers for the mine at the time of the accident were:

Larry Roop .....	General Manager
Steve Redden .....	Superintendent
Teddy Alderman.....	Mine Foreman
David O'Dell.....	Safety Director

Prior to the accident, the Mine Safety and Health Administration (MSHA) had completed the last regular safety and health inspection (E01) on June 17, 2010. The Non-Fatal Days (NFDL) injury incidence rate for the mine in 2009 was 7.49, compared to the National NFDL rate of 4.04.

## DESCRIPTION OF THE ACCIDENT

The No. 2 Section, MMU 005/006 crew, entered the mine at their normal starting time of 6:30 a.m., on July 1, 2010. Wilbert (Ray) Starcher (victim), operated the rail mantrip vehicle to the section, arriving about twenty minutes after entering the mine's track portal. Upon arrival on the section the crew, under the supervision of Frank McMillion, walked two breaks to the power center where McMillion briefed the crew and then conducted an on-shift examination of working faces and work areas.

Starcher had been working at this mine since May 19, 2009. Until the day of his fatal accident, Starcher had worked primarily as an outby electrical foreman, although on occasion he worked on one of the mining sections. The No. 2 Section electrician had retired the day before the accident. July 1, 2010 was Starcher's first day as electrician on the No. 2 Section .

Brian High and Eric Sorrells, Right Side Roof Bolter Operators, were assigned to install additional roof support in the No. 5 Entry, outby the last open crosscut.

Doug Bragg, Scoop Operator, began his work on the section by loading supplies and changing the set of batteries on the left side scoop.

In addition to the routine duty of servicing the continuous mining machines, Starcher was informed by McMillion there was a leak in the left side continuous mining machine water line, at a fitting located two crosscuts outby the No. 3 Face. After the continuous mining machine completed the first cut in the No. 2 Face, Starcher was instructed to shut off the water to the machine and repair the leak.

Jameson Lilly, Continuous Miner Operator, was operating the left side continuous mining machine. He observed Starcher service the machine between 7:30 and 7:45 a.m., and then Lilly began cutting coal in the No. 2 Face. Two shuttle cars were transporting coal from the continuous mining machine to the feeder and were switching out in the second crosscut outby in the No. 2 Entry. The No. 1 (left) shuttle car, operated by Justin Tinney, traveled up the No. 2 Entry to the switch out location, while the No. 2 (center) shuttle car, operated by Zachary Simmons, crossed over from the No. 3 Entry to this location.

Justin Tinney was normally the right side continuous miner operator, but was filling in on the No. 1 shuttle car. Tinney had operated this shuttle car from time to time.

The left side roof bolting machine was located in the connecting crosscut between the Nos. 1 and 2 Entries, two crosscuts outby the No. 2 Face, with the front end of the machine near the No. 2 Entry. Jacob Hinkle and Jeremiah Armstead, Left Side Roof Bolter Operators, were performing required parameter checks on their roof bolting machine while they waited for the continuous mining machine to finish the cut in the No. 2 Face.

Teddy Alderman, Mine Foreman, arrived on the section at approximately 7:35 a.m., and went to the right side of the section to evaluate the work of the right side bolting crew installing supplemental supports in the intake. At approximately 8:30 a.m., near the time of the accident, he and McMillion were taking measurements in the No. 4 Entry.

At approximately 8:30 a.m., Starcher crossed the intersection in the No. 2 Entry where the shuttle cars were switching, walking from the No. 3 Entry, and stopped at the roof bolting machine. Starcher exchanged greetings with Hinkle, who was checking the vacuum pressure of the roof bolter heads. Armstead was cleaning out the rear operator's deck and did not notice that Starcher had walked into the crosscut. Starcher stood near the opening of the crosscut when the No. 1 shuttle car arrived at the intersection and stopped to wait while the No. 2 shuttle car was loaded at the continuous miner. Tinney got out of his operator's

compartment to converse briefly with Hinkle. Tinney saw Starcher standing near the roof bolting machine, close to the inby corner of the intersection and got back into the shuttle car.

Simmons, operating the No. 2 shuttle car, located behind the continuous miner, noticed Starcher cross the intersection towards the roof bolter just before Simmons trammed outby towards the section coal feeder. Starcher was standing close to the intersection. As Simmons approached the intersection, he kept an eye on Starcher, to ensure that the inby end of his shuttle car did not hit him when the shuttle car turned and cleared the intersection. At this point, Hinkle saw Starcher enter the No. 2 Entry and began walking towards the continuous miner.

After the No. 2 shuttle car passed the second outby intersection, Tinney trammed the No. 1 shuttle car toward the continuous miner. At this point, the mining cut was almost completed and the end of the continuous mining machine conveyor boom was located near midpoint of the last open crosscut intersection. The No. 1 shuttle car traveled a distance of approximately 75 feet. A set of ventilation fly pads (curtains) were installed between the two intersections, which the No. 1 shuttle car passed through. Tinney rang his sounding device as he passed through the fly pads. (See Appendix C)

Lilly was standing slightly into the connecting crosscut between the Nos. 2 and 3 Entries, facing inby towards the face. Upon arrival of the No. 1 shuttle car, the remainder of coal from the cut was loaded into it. As the No. 1 shuttle car left the continuous mining machine, Lilly turned to see a mine light shining from beneath the retreating shuttle car and he saw the car dragging someone. Lilly yelled for the car to stop, causing Tinney to stop the car about 29 feet outby the continuous mining machine. Starcher was found with about a third of his body visible from underneath the shuttle car. His left foot was caught in an opening in the underside of the shuttle car between a conveyor flight and the metal framing.

Lilly yelled for Tinney to run to the mine phone and notify the surface that a serious injury had just occurred, that "He'd just run over somebody." Hinkle heard the commotion and ran towards the continuous mining machine and shuttle car. He checked Starcher for life signs and found none. CPR was attempted, but with the victim lying face down in the mud it was necessary to first extricate him from the shuttle car. The entire section crew assisted in recovering Starcher. Alderman and McMillion were notified of the accident and went to the scene.

It was necessary to raise the shuttle car and create space to reach Starcher's foot, which was caught by the car. Tinney, after learning of the need to raise the shuttle car, retrieved a jack from the mantrip. Rescuers were unable to raise the shuttle car with this jack and it was decided to place a timber under the shuttle

car's right front hydraulic service jack. The hydraulic service jack was able to raise the shuttle car enough to access Starcher's foot. The shuttle car conveyor chain was reversed and Starcher's foot was freed with the help of Doug Bragg, who was able to cut the boot loose. According to the miners' testimonies, it took 15 to 20 minutes to free the victim.

Starcher was removed and placed on a back board. His mouth was cleaned and further resuscitation measures were attempted. At no time did Starcher exhibit life signs. Hinkle and McMillion, EMT's, along with others at the scene, attempted to revive the victim throughout the recovery efforts.

Starcher was carried on the backboard approximately 300 feet to the mantrip and transported to the surface. The victim was transported by the Quinwood Ambulance Service to Greenbrier Valley Hospital in Lewisburg, West Virginia, where he was pronounced dead.

## **INVESTIGATION OF THE ACCIDENT**

Steve Redden, superintendent of the Pocahontas Mine, notified the Mine Safety and Health Administration (MSHA) Call Center on July 1, 2010, at 8:40 a.m., that a serious injury had occurred at the mine at 8:37 a.m. MSHA District 4 was notified by the Call Center at 8:50 a.m. MSHA personnel from the Summersville Field Office were dispatched to the mine. A 103(j) Order was issued by phone at 8:59 a.m., to protect miners from hazardous conditions. At 11:25 a.m. the order was reduced to writing and modified to a 103(k) Order .

An investigation was conducted in cooperation with the West Virginia Office of Miners' Health, Safety and Training (WVOMHS&T), the mine operator, and employees. An investigation of the physical conditions was conducted where photographs, measurements, and sketches were taken or created. Interviews were conducted on July 2, 2010, with persons considered to have knowledge of the facts concerning the accident. The on-site portion of the investigation was completed on July 8, 2010, and the 103(k) Order was terminated on July 29, 2010.

A list of persons who participated in the investigation is contained in Appendix A.

## DISCUSSION

### Accident Scene

The No. 2 Section, MMU-005/006, was a split-air section with seven entries. Intake air was supplied via the Nos. 5 and 6 Entries, with a left and right return in the Nos. 1 and 7 Entries respectively. The conveyor belt was located in the No. 4 Entry. The typical mining height ranged from six to seven feet across the section. The tailpiece with a triple-dump feeder was located two crosscuts outby the last open crosscut.

The accident occurred between the first and second crosscuts outby the face in the No. 2 Entry. The No. 2 Entry height measured between 74 inches, to 83 inches. The coal pillar on the right between these two crosscuts measured 44 feet long. The entry width varied from 18 to 20 feet. Looking outby, an eighteen inch offset was present in the right rib line, located 25 feet and 3 inches from the inby corner of the right pillar (about 7 feet outby the set of fly pads), which narrowed the entry to 18 feet. This would have forced the shuttle cars to bear left while tramming towards the continuous miner.

The mine floor in the area of the accident was relatively flat with some standing water three inches deep. The water hole ended in the approximate location of the rib offset (mentioned above) with a small, three-inch ledge created in the mine floor. From that point to the center of the last open crosscut intersection, the mine floor elevation rose several feet, and then dropped quickly.

A set of translucent fly pads was installed 18 feet from the inby rib corner, or 26 feet from the outby corner in the pillars immediately outby the last open crosscut. Placement of the fly pads near the inby end of the pillar created further visibility issues for the shuttle car operator. If the victim was inby the fly pads with his back to the approaching shuttle car, he would not be visible to the shuttle car operator.

### Human Factors and Training

The training records for Starcher were examined and no deficiencies were found. He began employment at this mine on May 19, 2009, and received Experienced Miner Training on that date. He received Annual Refresher Training on May 22, 2010. Starcher's underground and surface electrical certifications were up-to-date.



## Equipment

The shuttle car involved in the accident was a model 10SC32-64AA/SHE3, serial number ET16916 and labeled with MSHA Approval 2G-3619A-00. This shuttle car only operated on the left side of the section.

This shuttle car is 27 ½ feet long, with a body width of ten feet. Adding additional width for the protruding operator's deck and the cable take-up reel housing on the off-side, the total width is 11 feet and 8 inches. The operator's deck is positioned at about the midpoint of the shuttle car.

The height of the shuttle car canopy measured 50 ½ inches from the mine floor. The space inside the operator's deck between the body side canopy posts was 54 inches wide. The shuttle car had a solid metal sideboard installed between the operator's deck and the shuttle car bed to prevent coal from spilling into the operator's deck. The sideboard had a narrow slit cut out between the sideboard and the bottom of the canopy. The slit measured ¾ inches on the outby or dump end, and 1 inch on the inby or load end. A window 10 ¾ inches wide, by 3 inch high, had been cut into the sideboard below the canopy, four inches back from the inby canopy post. The sideboard created a visibility hazard because a person walking or positioned in the left side of the entry would not be visible to the shuttle car operator.

## **ROOT CAUSE ANALYSIS**

An analysis was conducted to identify the most basic causes of the accident that were correctable through reasonable management controls. Listed below are root causes identified during the analysis and their corresponding corrective actions implemented to prevent a recurrence of the accident.

*Root Cause:* A safety hazard involving visibility existed on the No. 1 shuttle car. The metal sideboard between the operator's deck and the bed had only a narrow slit between the sideboard and the canopy. The shuttle car operator's field of vision was blocked by this metal, preventing the operator from seeing the victim as he walked toward the continuous mining machine.

*Corrective Actions:* The solid metal sideboard was replaced with an the original Joy Manufacture shuttle car sideboard, which allows the operator to see above the frame of the shuttle car.

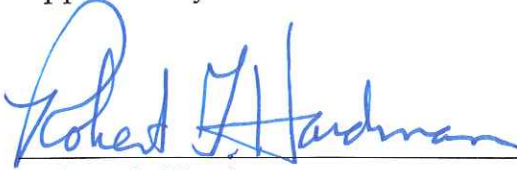
*Root Cause:* The mine operator failed to train the miners to communicate with shuttle car or equipment operators prior to walking or positioning themselves in the haulage road.

*Corrective Actions:* Miners were provided training which requires that persons on foot notify the shuttle car or equipment operators to assure their location is known before traveling into the haulage road. The training was documented on MSHA 5000-23 Training Forms.

CONCLUSION

The accident occurred because the shuttle car had a sideboard that blocked visibility to the offside of the machine. Also, there was a lack of communication between the victim and the shuttle car operator.

Approved By:



Robert G. Hardman  
District Manager  
Coal Mine Safety and Health, District 4



Date

## ENFORCEMENT ACTIONS

1. A 103(j) Order No. 8089517, was issued to White Buck Coal Company to ensure the safety of all persons in the area of the section dumping point to the faces of MMU-003/004 and MMU-005/006, and to protect the area of the accident from disturbances. It was subsequently modified to a 103(k) Order.
2. A 314(b) Safeguard, No. 8120762, was issued to White Buck Coal Company, under 30 CFR § 75.1403. The solid metal sideboard between the operator's deck and the bed of the No. 1 Shuttle Car, s/n ET16916, created a hazard for miners walking or positioned in the shuttle car haulageway. This safeguard requires that for safety of the miners on foot, the mine operator will assure visibility is maintained above the off-side sideboards for the all shuttle car operators.

**APPENDIX A**  
**Persons Participating in the Investigation**

**White Buck Coal Company**

Larry Roop ..... General Manager, Green Valley Coal Co.  
Steve Redden ..... Superintendent  
Teddy Alderman..... Mine Foreman  
Elizabeth Chamberlin..... Massey Energy, Vice President of Safety  
Gary Frampton..... Massey Coal Services, Compliance Officer  
David O’Dell..... Green Valley Coal Co., Safety Director  
Justin Tinney..... Shuttle Car Operator  
Zachary Simmons ..... Shuttle Car Operator  
Jeremiah Armstead ..... Roof Bolter Operator  
Jacob Hinkle..... Roof Bolter Operator  
Jameson Lilly ..... Continuous Miner Operator  
Frank McMillion..... Section Foreman  
Brian High..... Roof Bolter Operator  
Eric Sorrells ..... Roof Bolter Operator  
Douglas Bragg ..... Scoop Operator  
Todd Schartiger ..... Surveyor  
Danny Crisp..... Surveyor

**West Virginia Office of Miner’s Health, Safety & Training**

Steve Snyder ..... Inspector-at-Large  
C.A. Phillips ..... Deputy Director  
Eddie Blake ..... Electrical Inspector  
Byron Tucker, Jr. .... District Inspector  
Randy D. Smith ..... Assistant Inspector-at-Large  
Barry Koerber ..... Assistant Attorney General  
Gene Stewart..... Underground Inspector

**Mine Safety and Health Administration**

Douglas W. Johnson ..... CMS&H Inspector/ Accident Investigator  
Robert Hatfield..... CMS&H Inspector/Electrical  
Harold Hayhurst..... CMS&H Inspector  
Rick Hayhurst..... CMS&H Inspector  
Kenneth E. Darby ..... Electrical Engineer/ Technical Support  
Dustin W. Hinchman..... Electrical Engineer/ Technical Support



APPENDIX C  
Sketch of the Accident

