

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  
January 4, 2016

Lower War Eagle  
Greenbrier Minerals, LLC  
Man, Wyoming County, WV  
ID No. 46-09319

Accident Investigators

Rodney Lusk  
Coal Mine Safety and Health Ventilation Specialist

Tracy Calloway  
Coal Mine Safety and Health Electrical Specialist

Originating Office  
Mine Safety and Health Administration  
District 12  
4499 Appalachian Highway  
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Brian Dotson, Acting District Manager

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## OVERVIEW

On January 4, 2016, at approximately 12:05 a.m., Peter D. Sprouse, a 53 year old miner received fatal injuries when he became entangled in the bottom hold-up roller and conveyor belt on the No. 1 belt head. The accident occurred because the No. 1 belt drive was not de-energized and blocked against motion while maintenance work was being performed by the victim to change out a bottom hold-up roller.

## GENERAL INFORMATION

The Lower War Eagle mine is an underground mine owned by Coronado Coal, LLC. The operator is Greenbrier Minerals LLC, located near Man, West Virginia in Wyoming County. The principal officers for the mine at the time of the accident were:

Billy McCoy.....General Manager  
Nathan Brada.....Mine Superintendent  
Jamey New.....General Mine Foreman  
Terry Abbot.....Safety Representative

Aaron Price.....Director of Safety

The mine operates in the Lower War Eagle coal seam (bituminous) with an overall average mining height of 72 inches. Laboratory analysis of air samples indicated methane liberation of 750,802 cubic feet per 24 hours. Six mechanized mining units (MMUs) use the double-split system type and one MMU uses the sweep ventilation type system.

The mine employs 203 miners. A total of 195 underground and 8 surface miners work on two production shifts, and one maintenance shift, five days per week utilizing room and pillar mining. The mine produces an average of 12,000 tons of raw material daily. Coal is extracted from the face, transported by shuttle cars, then transported on belt conveyors to the surface. The belt conveyors are supported by  $\frac{3}{8}$  inch chains hung from belt hangers in the mine roof. A battery-powered track haulage system and self-propelled rubber-tired personnel carriers are used to transport men and materials in and out of the mine.

The Mine Safety and Health Administration (MSHA) completed the last regular health and safety inspection of the mine on December 28, 2015. The Non-Fatal Days Lost (NFDL) injury incidence rate for the mine operator in 2015 was 4.22 as compared to a National NFDL rate of 3.13 for mines of this type.

### **DESCRIPTION OF ACCIDENT**

On January 3, 2016, Peter Sprouse, Mine Examiner and Supervisor, started his normal work activities performing mine examination duties at 8:00 p.m. He examined from the surface to the No. 1 and No. 2 Sections in conjunction with examiner, Nickie Browning.

Sprouse examined the stacker belt, slope belt, No. 1 belt, 1<sup>st</sup> right belt, No. 4A belt, No. 4B belt, No. 4C belt, and electrical installations along these belts for the oncoming owl (maintenance) shift. Sprouse returned to the surface after completing his examination requirements and recorded the results of his findings in the examination books. The belts were turned on at 10:33 p.m. from the master switch located in the dispatcher's office and miners assigned to perform maintenance prepared to change out 1,000 feet of belt on the No.1 section.

The employees attended a safety meeting and received their duty assignments for the work shift (owl) in the mine office at approximately 10:55 p.m. David Johnson and Browning were assigned to perform maintenance work (change skirt rubber) on the No. 2C belt tailpiece then travel to No. 1 belt drive to assist Sprouse in changing out the hold-up roller.

During his time on the surface, Sprouse asked Kevin McKendree, Electrician, for a ½ inch drive ratchet and 1 1/16 inch socket to perform work on the No. 1 belt hold-up roller. Sprouse traveled from the surface at 11:19 p.m. and traveled to the No. 1 belt drive arriving at the belt drive location at 11:24 p.m. The No. 1 belt continued to run from 10:33 p.m. January 3, 2016, until 12:09 a.m. on January 4, 2016, when all belts were turned off by the master switch located on the surface by the mine dispatcher so that the 1,000 feet of belt could be changed. No belt was restarted before the accident.

While performing maintenance work with the belt running, Sprouse became entangled with moving machinery components (belt roller and belt) causing fatal injuries (see Appendix A).

Browning and Johnson, Beltmen, arrived at the No. 2C tailpiece at approximately 11:00 pm and performed maintenance work on the belt. After, completing the maintenance work on the No. 2C belt, Browning and Johnson then proceeded to travel to the No. 1 belt drive to help Sprouse.

At 12:46 a.m. Browning and Johnson arrived at the No. 1 belt drive and traveled through the mandoor taking tools to the belt drive but he did not see Sprouse. Browning then went back and got more tools from Johnson.

When Browning traveled back to the belt drive, he found Sprouse entangled in the belt and belt components. Johnson heard Browning screaming for help and traveled to the belt drive. Browning and Johnson checked Sprouse for a pulse and did not find one. Browning contacted the dispatcher for an ambulance and additional help. Jason Acord, Shift Foreman, and Andrew Mullins, Outby Foreman, arrived at the belt head to assist at 12:53 a.m. Jeffery Gore and Kevin McKendree, who are both electricians, arrived at the belt head at 12:54 a.m. with first aid supplies.

Johnson locked out and tagged the belt drive at 1:03 a.m. Then, McKendree released the belt take-up pressure to allow slack in the belt. A chain hoist was used to raise the belt off of the hold-up roller freeing Sprouse. He was then placed on a backboard and transported to the surface on a rubber-tired personnel carrier (Mac 12). The ambulance arrived at 1:25 a.m. and was backing in the parking lot at the same time as the miners exited the mine with the victim. The victim was transported to Stafford Funeral Home in Oceana, West Virginia, and pronounced dead at 1:40 a.m. by Dr. James B. Knopp, the Regional Command Center attending physician.

## INVESTIGATION OF ACCIDENT

Dallas Parsons, dispatcher for the Lower War Eagle Mine, notified MSHA by calling the MSHA Call Center at 1:15 a.m. on January 4, 2016, to report the accident. A violation, that did not contribute to the accident, was issued because the mine operator did not notify MSHA immediately, at once, without delay and within 15 minutes.

At 1:32 a.m. the MSHA Call Center contacted Clark Blackburn, Supervisory Coal Mine Safety and Health Inspector, to convey that an accident had occurred. Blackburn notified Rodney Lusk, Coal Mine Safety and Health Ventilation Specialist/Accident Investigator of the accident.

MSHA personnel arrived at the mine at approximately 3:30 a.m. and a 103 (k) order was issued to ensure the health and safety of the persons in the affected area of the mine until the investigation could be completed. The accident investigation was conducted in cooperation with the West Virginia Office of Miners Health Safety and Training and Greenbrier Minerals personnel. The persons participating in the accident investigation are listed in Appendix B.

Preliminary statements were obtained from persons having knowledge of the facts and circumstances concerning the accident prior to traveling underground. The accident investigation team then traveled underground for the initial on-scene investigation at approximately 5:00 a.m.

Formal interviews were conducted on January 6, 2016, at the Greenbrier Minerals mine office located at 119 Rich Creek Road, Lyburn, West Virginia 25632 (see Appendix C).

## DISCUSSION

The belts utilize a Pyott Boone computer system that can be controlled by the dispatcher. The belts can also be manually controlled by employees underground. The Pyott Boone computer system records all functions of the belts, including actions taken by the dispatcher and employees underground. The system records time on, time off, slip, sequence, fire suppression, and power loss. The computer records indicated that the No.1 belt continued to run continuously from 10:33 p.m. on January 3, 2016, to 12:09 a.m. on January 4, 2016.

This mine utilizes a Matrix Tracking System and stores the locations of employees. The data stored is the start time on the surface, the time miners travel underground, the different locations miners traveled in the mine, and the time the miners return to the surface.

The mine floor in the immediate area was dry and relatively even. The belt drive and structures were dry and relatively clean. The distance from the mine floor to the mine roof in the immediate area averaged 15 feet.

Jamey New, Mine Foreman, said Sprouse had a lock and tag in his possession. During interviews, David Johnson (beltman) stated Sprouse regularly carried a lock and tag.

#### Accident Scene

The accident occurred at the No. 1 belt drive on the Mains Panel, at the No.11 crosscut. The specific location was 30 feet in by Survey Station No. 204 in the No.5 entry.

The victim was performing maintenance work on the bottom belt hold-up roller. There was no eye-witness to the accident.

The belt in this mine is supported from the mine roof to the metal belt structure with  $\frac{3}{8}$  inch chains. The bottom belt hold-up roller (6 inches diameter by 84 inches in length) located on the top of the A-frame was 120 inches from the mine floor. The hold-up roller involved in the accident was observed having a  $\frac{3}{8}$  inch chain approximately 15 feet in length wrapped around the roller and connected on each side of the belt chain hangers with a clevis pin and chain hook (see Appendix A). A ratchet and socket was found at this location that fit the bolts that secured the bearing to the belt drive frame. Two of the four bolts that secured the bearing and roller onto the frame of the belt drive on the travel side were loose indicating the victim was most likely loosening the bolts at the time of the accident (see Appendix A)

#### Equipment involved

The No.1 belt drive is a Continental Conveyor, Dual 300. The belt is 54 inches in width and is approximately 1,250 feet in length. The belt drive consists of two 300 horsepower, 995 VAC motors.

The victim used a  $\frac{1}{2}$  inch ratchet,  $1\frac{1}{16}$  inch socket, and a  $\frac{3}{8}$  inch chain approximately 15 feet in length.

#### Tests

Functional tests were performed on the No.1 belt drive on January 4 and 5, 2016. It operated properly when checked, and no safety features were found to be bypassed.

Electrical control switches were labeled and functioned properly as did the belt sequence and slip controls. The Pyott Boone system that controls all belts was checked and functioned properly.

#### Training and Experience

Training records were reviewed and no training deficiencies were found.

The victim had thirty-four years of experience as an underground coal miner which included four years and five months at this mine. During the first year at this mine, Mr. Sprouse worked as a general outby foreman and mine examiner on the owl shift. The following three years and five months he was a belt foreman and mine examiner.

Sprouse received required Part 48 annual refresher training on January 24, 2015, and task training was up to date. Sprouse also provided training on behalf of the company to inexperienced miners on the proper procedures for belt roller replacement.

During interviews, it was revealed that Sprouse had changed this type of roller at this same location in the past. Nickie Browning, Beltman and Mine Examiner, and David Johnson, Beltman, were trained by and worked with Sprouse. Browning and Johnson stated in their interviews that the proper procedures were to lock and tag the belt out and use two chain hoists (one on each end) of the hold-up roller to lower the roller to the mine floor after all bolts are removed.



## ROOT CAUSE ANALYSIS

An analysis was conducted to identify the most basic causes of the accident that were correctable through reasonable management controls. During the analysis, a root cause was identified that, if eliminated, would have prevented the accident or mitigated its consequences.

Listed below is the root cause identified during the analysis and the corrective actions implemented to prevent a recurrence.

Root Cause: The mine operator failed to ensure all workers followed the safety precautions for the job to ensure electrical power was off and the machinery blocked against motion. The victim performed repair and/or maintenance work while the No.1 belt conveyor was running.

Corrective Action: A written action plan was submitted to MSHA by Greenbrier Minerals, LLC. All employees were given the approved action plan training that consisted of the following:

1. The action plan included any areas of the belt drive, belt head or tail pulleys where a person could reach moving parts shall be guarded.
2. All employees were trained on lock and tag out procedures, guarding, and general belt safety. Qualified employees shall personally lock and tag-out using their own lock. The tag will have a date, time, and qualified person's name. Employees shall block any moving parts against motion before work can begin.
3. At no time will any person remove another person's lock and tag.

## CONCLUSION

The victim sustained fatal injuries when he was caught between the conveyor belt and hold-up roller of an underground belt conveyor. The victim was performing maintenance work with the belt conveyor running. This work should have been performed only after electrical power was removed from the belt drive unit and the belt was blocked against motion.

Approved:

  
\_\_\_\_\_  
Brian Dotson  
Acting District Manager

  
\_\_\_\_\_  
Date

## ENFORCEMENT ACTIONS

1. Section 103(k) Order No. 9062061 issued on January 4, 2016, to Greenbrier Minerals, LLC, Lower War Eagle Mine:

An accident has occurred at this operation on January 4, 2016 at approximately 12:02 a.m. This order was being issued, under Section 103(k) of the Federal Mine Safety and Health Act 1977, to prevent the destruction of any evidence. It prohibits all activity at No. 1 belt head to the #1 belt tailpiece which consists of the entire No. 1 belt line and the No. 1 belt power transformer until MSHA has determined that it is safe to resume normal mining operations in this area. This order was initially issued orally to the mine operator at 3:30 a.m. and has been reduced to writing.

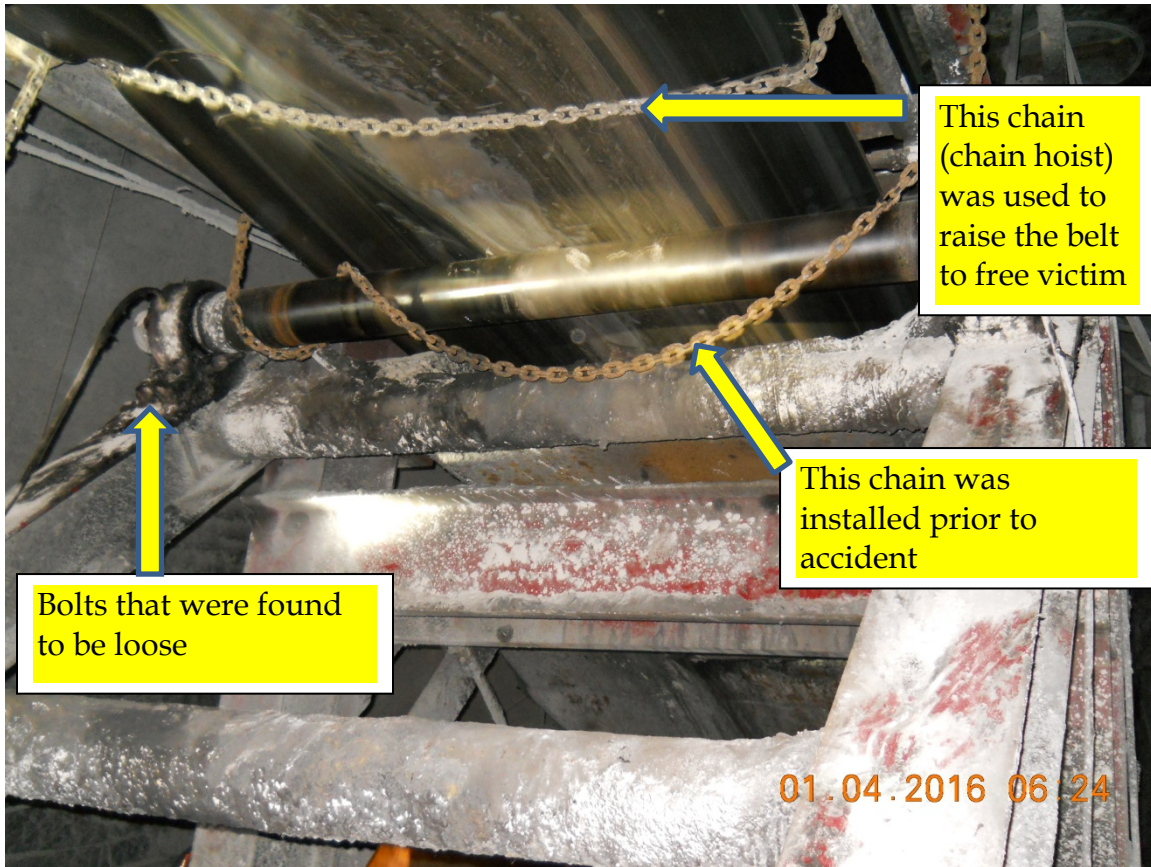
2. Section 104(d)(1) Citation No. 9062570, a violation of 30 CFR 75.1725 (c) issued on July 13, 2016, to Greenbrier Minerals, LLC, Lower War Eagle Mine:

While performing maintenance work on the No. 1 belt drive unit (changing out a tensioned bottom hold-up roller approximately 6 inches in diameter by 84 inches in length) the mine operator did not assure the electrical power was off the drive unit and the belt was blocked against motion.

To prepare this roller to be replaced, a  $\frac{3}{8}$  inch chain was installed and two permanently installed bolts securing the hold-up roller to the drive A-Frame were loosened. While performing this maintenance procedure with the belt running, the miner became entangled with the moving machinery components (belt roller and belt) causing fatal injuries. The victim was an agent of the operator (belt foreman) and changed this type of roller at this location previously.

Appendix A

Pictures at Accident Scene



Appendix B

Persons Participating in the Investigation

Greenbrier Minerals, LLC

Nathan Brada.....Mine Superintendent  
Jamey New.....General Mine Foreman  
Aaron Price.....Director of Safety  
J.D. Morris.....Safety Supervisor  
Jason Acord.....Shift Foreman  
Max L. Corley III.....Attorney - Dishmore & Shohl

State Agency

Steven G. Stanley - Electrical Inspector.....WVOMHS&T  
Michael E. Green - District Inspector.....WVOMHS&T  
John O'Brian - Acting Inspector at Large.....WVOMHS&T  
Greg Norman - Acting Deputy Director.....WVOMHS&T  
Doug Depta - Assistant Inspector at Large.....WVOMHS&T

Mine Safety & Health Administration

Lawrence Mendez.....Field Office Supervisor  
Larry E. Bailey.....Assistant District Manager Enforcement  
Rodney G. Lusk.....Accident Investigator  
Tracy Calloway.....Electrical Specialist  
Philip L. Meade..... Electrical Specialist  
Paul Akers..... Educational Field and Small Mine Services

Appendix C

Persons Interviewed

Nickie Browning.....Mine Examiner  
David Johnson.....Beltman  
Jason Acord .....Shift Foreman  
Kevin McKendree.....Electrician

## Appendix D Victim Information

Accident Investigation Data - Victim Information										U.S. Department of Labor						
Event Number: 6 3 0 6 8 7 9										Mine Safety and Health Administration						
Victim Information: 1																
1. Name of Injured/Ill Employee: <i>Peter D. Sprouse</i>			2. Sex: <i>M</i>	3. Victim's Age: <i>53</i>		4. Degree of Injury: <i>01 Fatal</i>										
5. Date(MM/DD/YY) and Time(24 Hr.) Of Death: <i>a. Date: 01/04/2016 b. Time: 0:56</i>						6. Date and Time Started: <i>a. Date: 01/03/2016 b. Time: 20:00</i>										
7. Regular Job Title: <i>049 General work underground</i>				8. Work Activity when Injured: <i>039 Changing tensioned roller on belt drive.</i>				9. Was this work activity part of regular job? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>								
10. Experience		Years	Weeks	Days	b. Regular	Years	Weeks	Days	c. This	Years	Weeks	Days	d. Total	Years	Weeks	Days
a. This					Job Title:				Mine:				Mining:			
Work Activity:		<i>4</i>	<i>22</i>	<i>0</i>		<i>4</i>	<i>22</i>	<i>0</i>		<i>4</i>	<i>22</i>	<i>0</i>		<i>34</i>	<i>8</i>	<i>2</i>
11. What Directly Inflicted Injury or Illness? <i>035 Belt drive components</i>						12. Nature of Injury or Illness: <i>400 Unclassified</i>										
13. Training Deficiencies:																
Hazard:		New/Newly-Employed		Experienced Miner:		Annual:		Task:								
14. Company of Employment: (If different from production operator) <i>Operator</i>										Independent Contractor ID: (if applicable)						
15. On-site Emergency Medical Treatment:																
Not Applicable:		First-Aid:		CPR:		EMT:		Medical Professional:		None:						
						<input checked="" type="checkbox"/>										
16. Part 50 Document Control Number: (form 7000-1)						17. Union Affiliation of Victim: <i>9999 None (No Union Affiliation)</i>										