

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

COAL MINE SAFETY AND HEALTH

REPORT OF INVESTIGATION

Underground Coal Mine

Fatal Rolling Material
October 28, 2007

Mine No 23
Long Branch Energy
Wharton, Boone County, West Virginia
ID No 46-08637

Accident Investigators

Rodney G. Lusk
Coal Mine Safety and Health Inspector

Jack Hatfield
Coal Mine Safety and Health Inspector

Brian Morris
Civil Engineer

Originating Office
Mine Safety and Health Administration
District 4
100 Bluestone Road
Mount Hope, West Virginia 25880
Robert G. Hardman, District Manager

TABLE OF CONTENTS

OVERVIEW	1
GENERAL INFORMATION	1
DESCRIPTION OF ACCIDENT.....	2
INVESTIGATION OF THE ACCIDENT	4
DISCUSSION	4
Work Experience	4
Work Area	4
ROOT CAUSE ANALYSIS	5
CONCLUSION	7
ENFORCEMENT ACTIONS	8
APPENDIX A – Persons Participating in the Investigation.....	10
APPENDIX B – Victim Information	11



OVERVIEW

At approximately 7:45 p.m. on Sunday, October 28, 2007, Charles Jason Keeney, a 34-year old roof bolting machine operator was fatally injured when rocks which had previously fallen from the mine roof, toppled over causing crushing injuries. Approximately 3 weeks prior to the accident, the rocks had fallen from the mine roof and came to rest in a vertical position along the off-side walkway of the Number 4 conveyor belt. The victim was working along the off-side of the conveyor belt, rebuilding cribs and cleaning the walkway.

The accident occurred because proper clean-up and support procedures were not established and adequate supervision was not provided to miners who were assigned work duties in a location where rehabilitation work exposed them to hazards associated with fallen roof material.

GENERAL INFORMATION

The Long Branch Energy, Mine No 23 is an underground coal mine located near Wharton, in Boone County, West Virginia. The mine operates in the Campbells Creek bituminous coal seam which averages 40 to 60 inches in height. The mine employs 54 persons of which 49 are underground employees, operating one continuous mining section. The room and pillar method of mining is utilized, and the section is mining on advance.

Coal is produced on the day and evening shifts and maintenance is performed on the midnight shift. Coal is transported on the working section by shuttle car

haulage. Belt conveyors transport the coal from the working section to the surface of the mine. The mine produces approximately 226,000 tons annually. Miners employed at this mine are represented by the United Mine Workers of America (UMWA), District 17, Local 781.

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

Gregory D. Patterson.....President
Phillip R. Ball.....Superintendent & Safety Director
Gerald Doss.....Mine Foreman

A regular MSHA inspection of Mine No 23 was started on October 1, 2007, and was on-going at the time of the accident. The mine's Non Fatal Day Lost (NFDL) incidence rate in 2006 was 8.68, compared to the national average of 4.83 for mines of the same type.

DESCRIPTION OF THE ACCIDENT

On October 28, 2007 at 3 p.m., the five-person utility crew received instructions from Harold Dancy, outby foreman, to rebuild cribs and re-establish a 24-inch wide walkway along the Number 4 conveyor belt at crosscut 55 and to install a dewatering discharge line in the number seven and eight intakes. Dancy was provided a work order from Gerald Doss, mine foreman, which outlined the work. Dancy instructed the crew to split-up, sending two miners to the intake, and three miners to crosscut 55. During the discussion, Nicholas Jeffrey, utility man, asked if a sheave or hoist could be used to move the rock located at crosscut 55 to aid in establishing the walkway.

Keith Maynor, Nick Jeffrey and Charles Jason Keeney, victim, were assigned to perform the work at the Number 4 conveyor belt at crosscut 55. Maynor and Keeney traveled by mantrip (battery operated rubber tired vehicle) to the Number 4 belt, as Jeffrey brought a scoop loaded with crib blocks to crosscut 59. Dancy proceeded to the intake to replace a dewatering pump.

Crosscut 59 is a high roof area along the Number 4 belt which was easily accessible by the scoop. The cribs were transferred from the scoop onto the stopped belt conveyor. The belt conveyor was then utilized to transport the cribs to crosscut 55.

The three miners rebuilt two cribs at crosscut 55. The average height in the area was approximately 13 to 14 feet due to a previous roof fall that occurred in 1998. The area had numerous fallen rocks, and a particularly large rock was positioned vertically and leaning on an installed Heintzmann jack. Due to the height, Jeffrey

climbed the large rock and other fallen material, as Maynor handed crib blocks up for installation. During this time, Keeney had partially climbed upon the cribs and was helping to install the wooden blocks. The crew completed constructing the two cribs without incident.

At approximately 5:30 p.m., before the crew began clearing the walkway, Dancy, returned to the area to check on the progress of the work. Dancy instructed the miners to be careful around the rocks near the walkway and to avoid jarring them loose. Dancy then left the area, to help the two miners assigned to install the dewatering discharge line whose mantrip vehicle had broken down.

After a break at approximately 7:00 p.m., the crew began to clear the 24-inch wide walkway along the off-side of the conveyor belt. To facilitate the clean-up, sledgehammers were used to break the larger rocks. Smaller rocks were hand loaded onto the conveyor belt and shovels were used to load loose material onto the conveyor belt. Fallen rock was present beside the belt, between the belt and against an installed Heintzmann jack.

The three miners took turns shoveling along the walkway and the clean-up of the area progressed to a large rock which had fallen from the mine roof approximately 3 weeks prior. The large rock measured 7 feet long by 9 feet wide by 15 inches thick, and was resting in a vertical position in the work area against the previously installed Heintzmann jack.

Clean-up work was nearing completion, and material was removed near the base of the large rock. During this time Keeney was positioned between the rigid conveyor belt structure and the large rock. The removal of the material at the base of the rock caused the rock to fall without warning, dislodging two Heintzmann jacks and crushing Keeney.

Jeffrey and Maynor immediately attempted to move the rock; however its weight prevented its movement without mechanical assistance. Maynor remained with the victim while Jeffrey traveled to crosscut 59 and used a mine phone to call outside. Jeffrey spoke to the outside man, and instructed him to call an ambulance.

Jeffrey then proceeded to travel by rubber tired vehicle to the seven intake area to get Dancy. Dancy, Thomas Light, and Thomas Carpenter, scoop operator, traveled to the accident scene. Jeffrey continued to the surface of the mine to get a backboard from the first aid box. Meanwhile, the rescuers used portable jacks and crib blocks to move the large rock and retrieve the victim. Vital signs were not present; however Cardio Pulmonary Resuscitation (CPR) was immediately

administered. The victim was transported to the surface of the mine in a rubber tired mantrip, and then by ambulance to Boone Memorial Hospital.

INVESTIGATION OF THE ACCIDENT

The Mine Safety and Health Administration (MSHA) was notified of the accident at 7:55 p.m. on October 28, 2007 via telephone call to the MSHA Accident Hotline. MSHA personnel from the Madison field office were immediately dispatched to the mine. A 103(k) order was issued to the mine operator to ensure safety of all persons during the accident investigation.

The investigation was conducted with the assistance of the West Virginia Office of Miners' Health, Safety and Training (WVOMHST), the mine operator, UMWA officials, and the miners.

DISCUSSION

Work Experience

Charles Jason Keeney had no known physical impairments or medical conditions that would have contributed to the accident. Mr. Keeney had 10 years mining experience and had been employed at this mine for 2 years 3 months. Keith Maynor, roof bolter operator, had 20 years total mining experience and had been employed at this mine since October 15, 2007. Nicholas Jeffrey, utility man, had 1 year 7 months total mining experience and had been employed at this mine for 1 year.

Work Area - Number 4 Conveyor Belt - Crosscut 55

In July 1998, a roof fall occurred at crosscut 55 along the Number 4 belt. The fall began at the inby edge of crosscut 55 and extended outby for a distance of approximately 75 feet. The area was cleaned, resupported, and supplemental roof support, comprised of wooden cribs and Heintzmann jacks, were installed at the entrance of both the left and right crosscuts. After the area was resupported, the Number 4 conveyor was reinstalled and resumed operation.

The immediate roof in the work area at crosscut 55 was comprised of 10 to 18 inches of gray shale. The overlying main roof consisted of sandstone with variable thickness ranging up to 20 feet.

The wooden cribs which were installed after the initial fall were installed at the entrance of the right crosscut. The right crosscut was not cleaned or resupported with permanent roof support. The wooden cribs were installed to provide supplemental support but to also prohibit entry into the right crosscut.

The wooden crib supports deteriorated over time. The deterioration of the wooden cribbing allowed the large rock and smaller rocks to fall from the mine roof along the entrance of the right crosscut on October 7, 2007.

As the rocks fell, they knocked over two additional wooden cribs which were installed in the area. The large rock came to rest against a previously installed Heintzmann jack which was also installed for supplemental support subsequent to the July 1998 roof fall. The rock was 7 feet long, by 9 feet wide by 15 inches thick in size. The rock fell from the mine roof in a previously bolted area and the rock had one roof bolt in it when it fell. The large rock was a concern to Danny Ferrell, utility man. He told Nathan Craddock, foreman, that something needed to be done with the rock, and suggested tying it back.

The crew constructed two wooden cribs prior to the accident. One previously installed crib remained in place. The outby crib was installed first, and the inby crib was installed next. In total, three cribs were in the area when clean-up to re-establish the 24-inch wide walkway began. The large rock was approximately 3 feet from the conveyor.

The preshift examination, conducted prior to the beginning of the shift, was performed by Christopher Cook, section foreman. During the preshift examination, the large rock appeared to be secured by the Heintzmann jack which was installed in the area, and therefore it was not considered hazardous.

In the beginning of the shift on the day of the accident, Jeffrey believed Dancy wanted the large rock moved. Jeffrey told Dancy the rock could be sheaved or secured with a steel cable to a roof bolt which was hanging down in the crosscut. Jeffrey was concerned that disturbing the rock to establish a 24-inch wide walkway could cause the rock to fall. Jeffrey wanted the rock to be pulled off and tied back instead of busting or disturbing the rock. Jeffrey did not believe that the rock would fall unless disturbed. In lieu of disturbing the rock and taking a chance that it would fall, Dancy instructed the miners to leave the rock undisturbed.

ROOT CAUSE ANALYSIS

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

Root Cause: The operator failed to establish clean-up and support procedures to be followed before rehabilitation of the Number 4 belt, Crosscut 55 area where the rock fall occurred. Miners were not given adequate instructions for clean-up

and support procedures, and therefore were unaware of the appropriate method to avoid or prevent exposure to the large hazardous rock which was leaning against the installed Heintzmann jack.

Corrective action: The approved roof control plan was modified to require additional precautions to prevent a recurrence. Specifically the plan requires:

If rehabilitation work is to be performed in the walkway or roadway next to conventional support (floor to roof support) where roof or rib failure has occurred the following safety precautions will be observed:

- (A) A certified person will examine the area to be rehabilitated.
- (B) Specific clean-up and support procedures will be developed and posted at the work site.
- (C) All persons assigned to perform the rehabilitation work will be instructed in the clean-up and support procedures.
- (D) All persons who perform the rehabilitation work will be experienced in this work or directly supervised by a person experienced in this work.

Root Cause: Adequate supervision was not provided to miners who were assigned work duties in a location where rehabilitation work exposed them to conditions which became hazardous as a result of assigned clean-up activities. The miners were working to re-establish a 24-inch wide walkway on the off-side of the Number 4 conveyor belt at Crosscut 55. During the hazardous activity, the supervisor was located in the seven intake, and therefore was unable to provide instruction on proper clean-up and support procedures.

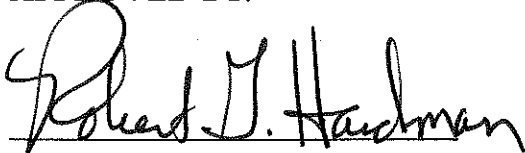
Corrective action: Management personnel were provided with additional training in the identification, and correction of roof, rib, and rehabilitation hazards.

CONCLUSION

As miners were working to re-establish a 24-inch wide walkway on the off-side of the Number 4 conveyor belt at Crosscut 55, a portion of hazardous previously fallen mine roof fell into the walkway resulting in crushing injuries to one miner.

The accident was caused by the failure to establish clean-up and support procedures prior to commencement of rehabilitation work and adequate supervision was not provided to miners who were exposed to hazards associated with the previously fallen roof material.

APPROVED BY:



Robert G. Hardman
District Manager

04/18/2008

Date

ENFORCEMENT ACTIONS

1. A 103(K) Order was issued to Long Branch Energy to ensure the safety of persons at the mine until an investigation of the accident could be completed.
2. A 104(d)(1) Citation, No. 7264551 was issued citing 30 CFR, section 75.212(a)(1), and stating in part that the mine operator failed to establish a clean-up and support plan of procedures to be followed on the # 4 belt conveyor at # 55 crosscut. A portion of the mine roof (7 feet by 9 feet by 15 inches) fell on 10/07/2007, pulling out one permanently installed roof bolt, dislodging 2 of the 3 previously installed cribs and causing rock accumulations in the 24 inch offside walkway of the belt at this location. When this roof rock fell it remained in a vertical position, on end, on other rock fragments along the mine floor. Work began on the evening shift on 10/28/2007 without a plan for procedures to be followed. As rehabilitation work progressed, cleaning of the walkway, the large rock fell over, pinning the miner between the rock and the adjacent belt conveyor structure.

This condition is a contributing factor to a fatal accident which occurred on October 28, 2007.

3. A 104(a) Citation, No. 7264552 was issued citing 30 CFR, section 75.360 (a)(1), and stating in part that multiple preshift examinations conducted for the # 4 belt conveyor work area, identified as crosscut # 55, failed to identify a hazardous condition of fallen roof rock and an area of unsupported roof. A portion of mine roof (7 feet long by 9 feet wide by 15 inches thick) fell on October 7, 2007, pulled out one permanently installed roof bolt and dislodged two previously installed cribs. The cribs were initially installed to provide roof support for a fall which occurred in July 1998. The portion of mine roof which fell remained in place until rehabilitation work was scheduled for the evening shift of October 28, 2007. The rehabilitation work was conducted without following as established clean-up and support procedure. The failure to identify, report and correct the hazardous fallen rock condition, allowed a large portion of mine roof, approximately 7 feet long by 9 feet wide by 15 inches thick to remain positioned vertically, on end, on other fallen and broken rock fragments along the mine floor. As rehabilitation work progressed, the large piece of roof rock fell, pinning a miner between the rock and the adjacent belt conveyor structure, resulting in fatal injuries. A list of exams that were inadequate are as follows: (1) The pre & on shift examinations

conducted from 10/07/2007 til 10/28/2007 of # 4 belt conveyor should have identified, reported and corrected the hazardous conditions. (2) Prior to the accident on 10/28/2007, and according to the interview of the preshift examiner, only the work area of # 4 belt conveyor was examined from # 50 to # 60 crosscut. The # 4 belt conveyor was started and stopped several times to transport cribs from # 59 crosscut to # 55 crosscut and allow room for depositing rock onto the belt due to cleaning of the walkway. The belt should have been examined in its entirety.

This condition is a contributing factor to a fatal accident which occurred on October 28, 2007.

APPENDIX A
Persons Participating in the Investigation

Long Branch Energy

Greg Patterson	President
Phillip Ball	Mine Superintendent
Gerald Doss	Mine Foreman
Harold Dancy	Outby Foreman
Keith Maynor	Roof Bolt Operator
Nicholas Jeffrey	Utility Person
Thomas Carpenter	Scoop Operator
Christopher Cook	Foreman

United Mine Workers of America

Gary Trout	District Representative
Danny Breedlove	President – Local #781
Reggie Wade	Safety Committeeman
Ray Bennett	Safety Committeeman
Roger Green	Safety Committeeman

Jackson Kelly - Attorneys at Law

Julia Shreve	Attorney
Mike Cimino	Attorney

West Virginia Office of Miner’s Health, Safety and Training

Terry Farley	Health and Safety Administrator
Eugene White	Inspector-at-Large
Tim Duffy	District Inspector
Steve Cox	Assistant Inspector at Large

Mine Safety and Health Administration

Robert G. Hardman	District Manager
Richard J. Kline	ADM Technical Division
Donald Winston	Roof Control Supervisor
Rodney G. Lusk	Accident Investigator/Inspector
Jack Hatfield	Coal Mine Inspector
Brian Morris	Civil Engineer

APPENDIX B

Victim Information

Accident Investigation Data - Victim Information

U.S. Department of Labor



Event Number: 4 1 1 8 1 2 1

Mine Safety and Health Administration

Victim Information: 1

1. Name of Injured/Ill Employee: <i>Charles J. Keeney</i>		2. Sex: <i>M</i>	3. Victim's Age: <i>34</i>	4. Last Four Digits of SSN: <i>6886</i>	5. Degree of Injury: <i>01 Fatal</i>
6. Date(MM/DD/YY) and Time(24 Hr.) Of Death: <i>a. Date: 10/28/2007 b. Time: 19:45</i>			7. Date and Time Started: <i>a. Date: 10/28/2007 b. Time: 15:00</i>		
8. Regular Job Title: <i>014 Roofbolter Operator</i>		9. Work Activity when Injured: <i>025 Cleaning Belt Walkway</i>		10. Was this work activity part of regular job? <div style="display: flex; justify-content: space-between;">YesNoX</div>	
11. Experience a. This Work Activity: <i>2 0 0</i>		b. Regular Job Title: <i>2 14 5</i>		c. This Mine: <i>2 14 5</i>	
12. What Directly Inflicted Injury or Illness? <i>089 Crushing</i>		13. Nature of Injury or Illness: <i>170 Roof Rock</i>			
14. Training Deficiencies: Hazard: <i>New/Newly-Employed Experienced Miner:</i> Annual: Task:					
15. Company of Employment: (If different from production operator) <i>Operator</i> Independent Contractor ID: (if applicable)					
16. On-site Emergency Medical Treatment: Not Applicable: <i>X</i> First-Aid: CPR: EMT: <i>X</i> Medical Professional: None:					
17. Part 50 Document Control Number: (form 7000-1)			18. Union Affiliation of Victim: <i>2555 United Mine Workers of Amer.</i>		

Victim Information:

1. Name of Injured/Ill Employee:		2. Sex:	3. Victim's Age:	4. Last Four Digits of SSN:	5. Degree of Injury:
6. Date(MM/DD/YY) and Time(24 Hr.) Of Death:			7. Date and Time Started:		
8. Regular Job Title:		9. Work Activity when Injured:		10. Was this work activity part of regular job? <div style="display: flex; justify-content: space-between;">YesNo</div>	
11. Experience: a. This Work Activity:		b. Regular Job Title:		c. This Mine:	
12. What Directly Inflicted Injury or Illness?		13. Nature of Injury or Illness:			
14. Training Deficiencies: Hazard: <i>New/Newly-Employed Experienced Miner:</i> Annual: Task:					
15. Company of Employment: (If different from production operator) Independent Contractor ID: (if applicable)					
16. On-site Emergency Medical Treatment: Not Applicable: First-Aid: CPR: EMT: Medical Professional: None:					
17. Part 50 Document Control Number: (form 7000-1)			18. Union Affiliation of Victim:		

Victim Information:

1. Name of Injured/Ill Employee:		2. Sex:	3. Victim's Age:	4. Last Four Digits of SSN:	5. Degree of Injury:
6. Date(MM/DD/YY) and Time(24 Hr.) Of Death:			7. Date and Time Started:		
8. Regular Job Title:		9. Work Activity when Injured:		10. Was this work activity part of regular job? <div style="display: flex; justify-content: space-between;">YesNo</div>	
11. Experience: a. This Work Activity:		b. Regular Job Title:		c. This Mine:	
12. What Directly Inflicted Injury or Illness?		13. Nature of Injury or Illness:			
14. Training Deficiencies: Hazard: <i>New/Newly-Employed Experienced Miner:</i> Annual: Task:					
15. Company of Employment: (If different from production operator) Independent Contractor ID: (if applicable)					
16. On-site Emergency Medical Treatment: Not Applicable: First-Aid: CPR: EMT: Medical Professional: None:					
17. Part 50 Document Control Number: (form 7000-1)			18. Union Affiliation of Victim:		