

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION
Office of the Administrator
Coal Mine Safety and Health

REPORT OF INVESTIGATION
(UNDERGROUND COAL MINE)

MULTIPLE FATAL ROOF FALL ACCIDENT

Spartan Mine (ID No. 11-00612)
Zeigler Coal Company
Sparta, Randolph County, Illinois

September 15, 1980

by

James D. Carter
Mining Engineer

Charles E. Luxmore
Coal Mine Safety Specialist

Originating Office - Mine Safety and Health Administration
4015 Wilson Boulevard, Arlington, Virginia 22203
Joseph A. Lamonica, Acting Administrator for Coal Mine Safety and Health

REPORT OF INVESTIGATION
(UNDERGROUND COAL MINE)

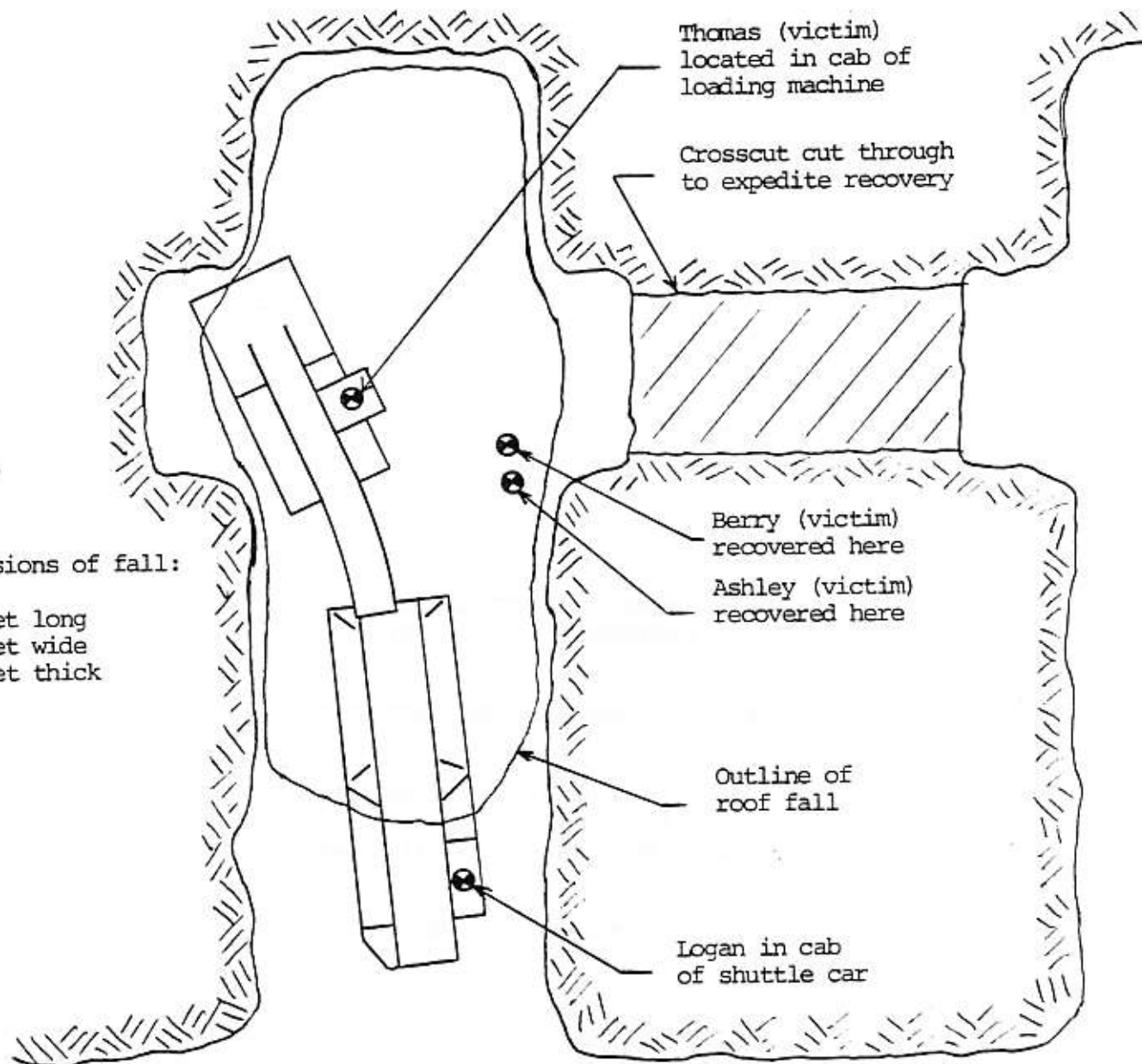
MULTIPLE FATAL ROOF FALL ACCIDENT

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Zeigler Coal Company
Sparta, Randolph County, Illinois

September 15, 1980

Dimensions of fall:

57 feet long
22 feet wide
5½ feet thick



△
629
Surveyor's
Station

No. 3 South
Entry

Not to scale

SKETCH OF
MULTIPLE FATAL ROOF FALL ACCIDENT

Spartan Mine (ID No. 11-00612)
Zeigler Coal Company
Sparta, Randolph County, Illinois

September 15, 1980

ABSTRACT OF INVESTIGATION

Title of Investigation: Multiple Fatal Roof Fall Accident	Mine Information
Report Release Date:	Daily Production... 2400 tons
Mine: Spartan	Surface Employment... 8
Mine I.D. Number: 11-00612	Underground Employment... 104
Company: Zeigler Coal Company	Name of Coalbed... Illinois No. 6
Town, County, State: Sparta, Randolph County, Illinois	Thickness of Coalbed... 8 foot average 76 inches
Author(s): James D. Carter, Charles E. Luxmore	Last Quarter Injury Incident Rate (HSAC) for: Industry... 13.92 This Operation... 2.65 Training Program Approved... 02/28/79 Mine Profile Rating... NA AS. D.
Originating Office - Mine Safety and Health Administration, Coal Mine Safety and Health, Office of the Administrator Address: 4015 Wilson Boulevard Arlington, Virginia 22203	Authority - This report is based on an investigation made pursuant to the Federal Mine Safety and Health Act of 1977 (Public Law 91-173, as amended by Public Law 95-164)

Abstract

On Monday, September 15, 1980, about 10 p.m., a roof fall occurred at the Spartan Mine, Zeigler Coal Company, Sparta, Illinois. The fall of roof occurred near the face in the No. 3 entry of the No. 3 south, main east working section. The accident resulted in the death of William D. Ashley, loading machine helper, Richard L. Berry, section foreman, and Craig M. Thomas, loading machine operator. The victims had 2, 6, and 8 years mining experience, respectively. At the time of the accident, the face of the entry and crosscuts right and left were being developed. Thomas was preparing to load coal from the left crosscut, and Berry and Ashley were standing nearby watching him. The accident occurred because subnormal roof conditions were present and additional support had not been provided as required by the roof control plan when such conditions exist.

Information for this report was compiled through a MSHA investigation that was started

Company Officials:	<u>Name</u>	<u>P.O. Box</u>	<u>Address</u>
Vice President of Operations	William J. Orlandi	100	Johnston City, Illinois 62951
Superintendent	Ray Columbo	P.O. Box 100	Johnston City, Illinois 62951
Safety Director	Julius Bione	P.O. Box 100	Johnston City, Illinois 62951
Principle Officer - MSH	Robert Hitt	P.O. Box 100	Johnston City, Illinois 62951
Labor Organization	UMWA	P.O. Box 219	Coulterville, Illinois 62237
Chairman - MSH Committee	R. Dale Knope		

Commentary

On Monday, September 15, 1980, the 3 south, main east section production crew under the supervision of Richard L. Berry, section foreman, entered the mine about 4 p.m., and traveled to the working section. Upon arriving on the working section about 4:30 p.m., Berry examined the face area and, upon completing his examination, assigned the miners various duties. The section operated one shift per day only, and the miners were familiar with the conditions on the section.

The roof in the No. 3 entry (accident site) had been supported on September 12, 1980, with standard roof bolts 4, 5, and 6 feet in length. The immediate roof at the accident site consisted of an undetermined thickness of laminated shale and limestone. Ordinarily, the bolts installed on the section anchored in fossiliferous limestone that averaged about 3 feet in thickness.

Normal production work continued until about 6:30 p.m. when the roof-bolting machine broke down and a determination was made that it would be inoperable for the remainder of the shift. About 7:30 p.m., Berry informed Bill Wade, shift mine manager, of the breakdown. It was decided that part of the crew would be moved to another section, and 6 miners and the section foreman would remain and continue production on the 3 south section.

While Stanley Mathis, shooter, was preparing the three places for loading by breaking the coal, he heard a roof bolt ping and saw roof material fall near the outby corner of the crosscut left. He informed Berry of these occurrences and Berry told him that he would check the place.

The only eyewitness to the accident was Clarence Logan, shuttle car operator. At about 10 p.m., he had trammed the shuttle car to or near the loading machine that had been positioned in the crosscut left by Craig M. Thomas, loading machine operator, when he observed portions of the roof begin to fall near the outby corner of the crosscut left. Logan simultaneously signaled the victims by "flagging" his cap lamp and reversed the shuttle car, tramping about 6 feet when the roof fall occurred. The fall of roof caught the three victims and completely covered the loading machine (provided with a canopy) and about three fourths of the shuttle car. Logan and the other miners on the section attempted to make voice contact with the victims but were unsuccessful. Bill Wade was contacted by mine phone, and he immediately traveled to the section and began preparations for recovering the victims.

Additional mining machinery was brought from another section and utilized to remove the fallen roof. After a determination was made that the miners had not survived the accident, part of the rock was sheared by a cutting machine until reduced to a size that could be removed. This procedure was continued until the bodies of William D. Ashley, loading machine helper, and Berry were located at 10:30 a.m., on September 16, 1980, on the right side and across the entry from where the loading machine was positioned. Because of the position of the shuttle car, the persons in charge of the recovery decided to complete the crosscut right from the No. 2 entry. This procedure would permit the roof to be adequately supported to the location where Thomas was last seen. Shortly before 8 p.m., on September 16, 1980, the body of Thomas was found at the operator's position of the loading machine. The canopy had collapsed due to the excessive weight of the fall.

Discussion and Evaluation

The investigation revealed the following factors relevant to the occurrence of the accident:

1. While roof bolting the No. 3 entry on September 12, 1980, Rufus King, roof bolt machine operator, said that he detected softer drilling than ordinarily encountered; however, when the roof bolt was installed and tested, the torque test of the bolt indicated 170-175 foot-pounds. King discussed this condition with the section foreman.
2. Stanley Mathis, shooter, stated, while preparing the three places for loading, he observed pieces of roof fall near the outby corner of the crosscut left and heard a roof bolt ping near the face.
3. The immediate roof overlying the coalbed was laminated dark shale and limestone.
4. The roof that fell pulled the expander nuts out of the roof bolt shells leaving the shells in the hole, except for those holes where the thickness of the fall was at or above the anchorage zone.
5. A fracture in the roof was present in the No. 3 entry from the outby end of the fall to and including the second open crosscut from the face. This condition had evidently existed for some time because there was rock dust present in the opening created by the fracture. The rock dust had to be either thrown by hand or blown by a rock dusting machine into the opening.
6. Clifford W. Harrell, Jr., preshift examiner, had made a preshift examination in the No. 3 entry about 9:45 p.m., 15 minutes prior to the accident. His report did not indicate that there were any hazardous conditions present.
7. The investigation revealed that some roof bolts installed without header boards in the center of the travelway from the fall in the No. 3 entry to the second open crosscut outby indicated a torque from 0 to about 70 foot-pounds.
8. The 3 south section entries had been developed in excess of the maximum width stipulated in the approved roof control plan at several locations.

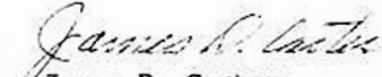
Findings of Fact

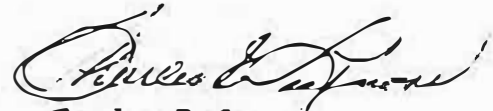
1. Subnormal roof conditions were encountered and supplemental roof supports were not installed in the area where such conditions existed, a violation of Section 75.200, Title 30, Code of Federal Regulations.
2. The maximum entry widths stipulated in the roof control plan had been exceeded at several locations in the 3 south section, a violation of Section 75.200, Title 30, Code of Federal Regulations.

Conclusion

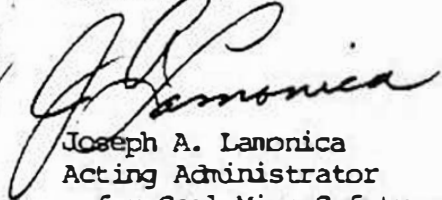
The accident and resultant fatalities occurred because of management's failure to provide supplemental roof support in an area where subnormal roof conditions were encountered as required by the approved roof control plan.

Respectfully submitted,


James D. Carter
Mining Engineer


Charles E. Luxmore
Coal Mine Safety Specialist

Approved by:


Joseph A. Lanonica
Acting Administrator
for Coal Mine Safety and Health

APPENDIX

List of persons furnishing information and/or present during investigation.

Zeigler Coal Company Officials

William J. Orlandi	Vice President of Operations
Julius Bione	Director of Health and Safety
Ray Colombo	Mine Superintendent
Frank Chamness	Mine Manager (first shift)
Bill Wade	Mine Manager (second shift)
Bill Gray	Industrial Relations Supervisor
Robert Hitt	Manager of Safety

Zeigler Coal Company Employees

Clifford W. Harrell, Jr.	Mine Examiner
Randall A. Caby	Electrician
Stanley D. Mathis	Shooter
Leo R. Gimber	Coal Driller
Robert J. Biemann	Coal Driller
Calvin Stoffel	Loader Helper
Frank Thomas	Cutting Machine Helper
Steve Emiling	Underground Laborer
Gary Chamness	Loading Machine Helper
Raymond Clutts	Shuttle Car Operator
Ralph Purlon	Shuttle Car Operator
Rufus King	Roof Bolt Machine Operator
Paul W. Davis	Roof Bolt Machine Operator
Rick Mathis	Loading Machine Operator
Gene Barton	Underground Laborer
Clarence Logan	Shuttle Car Operator

Representatives of Miners

Tony Kujawa	International Executive Board Member
Lewis E. Chaney	Safety Inspector
Herschel G. Knight	Safety Inspector
R. Dale Knope	Safety Committee Chairman
Thomas Gaston	Local Union President
Darrel R. Wolfe	Safety Committeeman
Glenn R. Gerlach	Safety Committeeman

State of Illinois Department of Mines and Minerals

G. B. Wiley	Member of State Mining Board
Russell Spitzner	Assistant Director, Department of Mines and Minerals
Joe Williams	Mine Inspector
Mary Bauer	Secretary

Old Republic Insurance Company

Ray Bartley

Loss Control Representative

Mine Safety and Health Administration

Maurice S. Childers

District Manager

Carl E. Adams

Subdistrict Manager

Marcel Channess

Coal Mine Inspection Supervisor

Maurice R. Messersmith

Coal Mine Technical Specialist (Roof Control)

Paul L. Tisdale

Coal Mine Inspector

James A. Rennie

Coal Mine Inspector

Edward B. Ritchie

Coal Mine Inspector

James D. Carter

Mining Engineer

Charles E. Lumore

Coal Mine Safety Specialist

Data Sheet



SECTION A—VICTIM DATA

1. Name: Richard L. Berry 2. Sex: M ☒ 30 F ☐ 3. SSN: 339-30-6843
4. Age: 42 5. Job classification: Section Foreman
6. Experience at this classification: 3 years 7. Total mining experience: 6 years
8. What activity was being performed at time of accident? watching the loading process
9. Victim's experience at this activity: 3 years as foreman
10. Was victim trained in this task? yes
11. Health and Safety courses/Training received (related to accident) April 18, 1980 Date received
Certified Person Underground April 18, 1980
Hazard Training Underground March 28, 1980 (included roof control)
OJT Formal March 28, 1980
Annual Refresher April 18, 1980

SECTION B—SUPERVISOR DATA (supervisor of victim)

12. Name: _____ 13. Certified: Yes ☐ No ☐
14. Experience as supervisor: _____ 15. Total mining experience: _____
16. Health and Safety courses/Training received (related to accident) _____ Date received

17. When was the supervisor last present at accident scene prior to the accident? _____
18. What did he do when he was there? _____

19. When was he last in contact with the victim? _____
20. Did he issue instructions relative to the accident? _____
21. Was he aware of or did he express an awareness of any unsafe practice or condition? _____

Data Sheet



SECTION A—VICTIM DATA

1. Name: Craig M. Thomas 2. Sex: M ☒ F ☐ 3. SSN: 347-44-7990
4. Age: 30 5. Job classification: Loading Machine Operator
6. Experience at this classification: 5½ years 7. Total mining experience: 8-1/2 years
8. What activity was being performed at time of accident? operating loading machine
9. Victim's experience at this activity: 5½ years
10. Was victim trained in this task? Yes
11. Health and Safety courses/Training received (related to accident) August 25, 1980 Date received
Hazard Task Training (included at least 1 hour of roof and rib
control)

SECTION B—SUPERVISOR DATA (supervisor of victim)

12. Name: Richard L. Berry 13. Certified: Yes ☒ No ☐
14. Experience as supervisor: 3 years 15. Total mining experience: 6 years
16. Health and Safety courses/Training received (related to accident) April 18, 1980 Date received
Hazard Task Training (included at least 1 hour of roof and rib
control)
17. When was the supervisor last present at accident scene prior to the accident? present at the time of
the occurrence
18. What did he do when he was there? observed the loading process
19. When was he last in contact with the victim? he was present when fall occurred
20. Did he issue instructions relative to the accident? unknown
21. Was he aware of or did he express an awareness of any unsafe practice or condition? reportedly he was informed
by the shooters that the roof was unstable

Data Sheet



SECTION A—VICTIM DATA

1. Name: William D. Ashley 2. Sex: M ☒ F ☐ 3. SSN: 353-24-2781
4. Age: 47 5. Job classification: General Inside Laborer
6. Experience at this classification: 1 year 7. Total mining experience: 2 years
8. What activity was being performed at time of accident? loading machine helper
9. Victim's experience at this activity: 1 month
10. Was victim trained in this task? _____
11. Health and Safety courses/Training received (related to accident): September 15, 1980 Date received:
Hazard Task Training (included at least 1 hour of roof and rib
control)

SECTION B—SUPERVISOR DATA (supervisor of victim)

12. Name: Richard L. Barry 13. Certified: Yes ☒ No ☐
14. Experience as supervisor: 3 years 15. Total mining experience: 6 years
16. Health and Safety courses/Training received (related to accident): April 18, 1980 Date received:
Hazard Task Training (included at least 1 hour of roof and rib
control)
17. When was the supervisor last present at accident scene prior to the accident? present at the time of
the occurrence
18. What did he do when he was there? observed the loading process
19. When was he last in contact with the victim? he was present when fall occurred
20. Did he issue instructions relative to the accident? unknown
21. Was he aware of or did he express an awareness of any unsafe practice or condition? reportedly he was
informed by the shooters that the roof was unstable