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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 February 19, 2013

Affinity Coal Company, LLC Affinity Mine Sophia, Raleigh County, WV I.D. No. 46-08878

Accident Investigators

Larry B. Hedrick Electrical Specialist/Accident Investigator

Harold Jeffery Electrical specialist/Accident Investigator

Richard A. Hayhurst Coal Mine Safety and Health Inspector/Accident Investigator

> Originating Office Mine Safety and Health Administration District 4 100 Bluestone Road Mount Hope, West Virginia, 25880 David S. Mandeville, District Manager

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OVERVIEW

On Tuesday, February 19, 2013, at approximately 7:15 p.m., John Myles, a 44year-old shuttle car operator with four years of total mining experience was fatally injured when he was pinned underneath the rear frame of a rubber-tired battery-powered section scoop. The accident occurred on the Number 3 Section, 002-0 Mechanized Mining Unit (MMU), in the connecting crosscut between the Number 5 and Number 6 entries, two crosscuts inby the section dumping point at survey station #1170, and 2 crosscuts outby the working face.

The accident occurred as the victim was shoveling loose coal and loose material near the ribs in a crosscut adjacent to an entry where a miner was operating a scoop to clean the roadway. The scoop entered the crosscut in a reverse direction and struck the victim, pinning him beneath the batteries of the machine.

GENERAL INFORMATION

The Affinity Mine is an underground coal mine operating in the Pocahontas No. 3 coal seam and is located near Sophia, Raleigh County, West Virginia. The mine is operated by Affinity Coal Company, LLC. The mine is accessed and ventilated by three vertical shafts and a slope.

Bituminous coal is produced from three mining sections using the room and pillar method of mining. Each mining section utilizes two continuous mining machines and shuttle cars to extract and haul the coal from the face areas. The coal is transported from the mining sections to the surface via a series of conveyor belts. The mine operates two production shifts, ten hours in duration, and one maintenance shift, nine hours in duration, each day. The mine operates five to six days per week. The mine employs 212 people with 196 working underground and 16 working on the surface. The employees at this operation are not represented by a labor organization. The mine produces an average of 6,737 raw tons per day.

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

Gary Patterson	President
Mike Campbell	Superintendent
Jeff Shrewsbury	
Rick Ashley	Safety Director
-	-

Prior to the accident, the Mine Safety and Health Administration (MSHA) completed the last regular safety and health inspection (E01) on December 29, 2012. The Non-Fatal Days Lost (NFDL) injury rate for this mine for calendar year 2011 was 4.21, compared to a national rate of 3.36.

DESCRIPTION OF ACCIDENT

At approximately 1:30 p.m. on Tuesday, February 19, 2013, the mine experienced a power outage due to the failure of an insulator on the high voltage power line supplying power to the mining complex. All underground miners were brought to the surface during the power outage and no work resumed until after the power was restored at approximately 4:00 p.m. The evening shift production crews, which normally start work at 3:30 p.m., waited on the surface of the mine until all of the required underground areas of the mine were examined by certified persons once the mine's power had been restored.

Joey Howlett, Section Foreman and emergency medical technician (EMT), traveled to the Number 3 Section to conduct pre-shift examinations for the evening shift production crew. He arrived on the section at 4:55 p.m., conducted the examinations and called out the pre-shift report to the mine office at 5:17 p.m. After calling out the report, Howlett stayed on the section and tightened ventilation curtains across the section while awaiting the arrival of the evening shift production crew.

When the pre-shift examinations were completed and reported for the mine, the Number 3 Section production crew entered the mine via the 19-person hoist and traveled to the end of the 3 section track on a diesel-powered man trip. At the end of the track, the section crew transferred to two rubber-tired battery man trips. One of the man trips proceeded to the section and the other man trip was delayed for approximately 10 to 15 minutes while charging batteries before proceeding on to the section.

At 5:42 p.m., the evening shift production crew arrived on the Number 3 Section and Richard Laramee, Assistant Mine Foreman, conducted a safety talk with the crew. After finishing the safety talk, the crew reported to their respective machines and began preparations to start mining. Laramee proceeded to examine the working faces of the Number 5 through Number 9 entries and Howlett examined the face areas of the Number 1 through Number 4 entries (see Appendix C). After completing his examination, Laramee instructed Adam Whitt and Brad Cogswell, right side roof bolting machine operators, to install additional roof bolts in the Number 6 entry. Laramee also directed Justin Ward, Scoop Operator, to clean (scoop) some areas of the section.

John Myles, Number 12 Shuttle Car Operator, could not perform his normal duties because the shuttle car was inoperative. The Number 12 shuttle car had a defective hydraulic pump motor. Since the shuttle car was inoperative, Laramee asked Myles to help Ward clean the section by shoveling loose material along the coal ribs after each area was scooped. Myles informed Ward that he was going to be helping him and retrieved a shovel from the scoop that Ward was operating. Ward operated the scoop and began cleaning the crosscut between the Number 5 and 6 entries. The scoop was used to scrape along each rib and then once down the middle of the crosscut. The material was pushed into Number 6 entry and then to the Number 6 entry face.

Laramee helped Myles move the ventilation curtain and right side continuous mining machine cable in the (Number 18) crosscut between the Number 6 and Number 7 entries. Ward then cleaned the crosscut with the scoop. Myles shoveled loose coal along the ribs, throwing it out into the middle of the roadway to be scooped again later. Laramee last saw Myles shoveling in the Number 18 crosscut between the Number 5 and 6 entries. While Ward operated the scoop and pushed loose coal into the Number 6 entry face, he observed Myles shoveling in the Number 18 crosscut between the Number 6 and 7 entries. When Ward finished cleaning the Number 6 entry, he backed the scoop into the crosscut between the Number 5 and Number 6 entries (opposite the area he had last seen Myles working in).

The Number 18 crosscut between the Number 5 and 6 entries had been previously cleaned but Ward began cleaning it a second time to make it easier for Myles to shovel. As the scoop backed into the crosscut, Ward heard a noise which caused him to stop. He twice yelled for Myles, but did not receive an answer. Ward then exited the scoop and walked along the operator's side to the rear of the machine. He observed Myles pinned underneath the batteries of the scoop. Ward immediately called out for help to Howlett, Section Foreman and Emergency Medical Technician (EMT).

William Hensley, Continuous Mining Machine Operator, was servicing the left side continuous mining machine in the Number 3 entry when he was informed of the accident. Hensley immediately went to the accident site and found Myles pinned underneath the scoop batteries. He instructed Josh Petry and Edmund Vance, left side roof bolter operators, to get first aid supplies and find Howlett. Myles was having difficulty breathing and Hensley attempted to clear his airway. Laramee and Whitt arrived at the accident scene and provided further assistance. The men noticed that the scoop batteries were not touching Myles, and Hensley instructed Whitt to move the scoop to the Number 6 entry where it would not be in the way. Howlett arrived and he and Petry began getting a backboard to place beneath Myles to help with transporting the victim.

Myles was secured to a backboard, and cardiac pulmonary resuscitation (CPR) was started by Howlett because they were having difficulty finding a pulse. A rubber-tired battery mantrip was brought to the accident site and a seat was removed to accommodate the stretcher. Larry Reedy, Fire Boss, arrived on the section to further aid the victim. Hensley, Howlett, and Reedy transported Myles to the end of the track, and then transferred him onto a rail-mounted diesel man trip. A gravel car was wrecked on the main track at the gravel hole spur track switch, but a second diesel man trip was waiting on the other side. Myles was transferred to the second ride and taken to the shaft bottom and transported out of the mine on the hoist. The ambulance service was called at 7:17 p.m. Myles arrived on the surface at approximately 7:49 p.m., where Jan Care Ambulance Service was waiting. Myles was then transported from the mine to the Raleigh General Hospital in Beckley, West Virginia, where he was pronounced dead at 10:50 p.m. on February 19, 2013.

INVESTIGATION OF ACCIDENT

The Mine Safety and Health Administration (MSHA) was notified of the accident on Tuesday, February 19, 2013, at 7:28 p.m., by Tim Falk, Dispatcher at the Affinity Mine. The MSHA call center notified District 4 personnel of the accident at 7:50 p.m. and Lincoln L. Selfe, Assistant District Manager, verbally issued a 103(j) Order at 7:53 p.m. Selfe dispatched Fred Wills, Supervisory Coal Mine Safety and Health Inspector, and Gearld Lucas, Coal Mine Safety and Health Inspector, to the mine. Upon arrival at the mine site, Lucas modified the 103(j) Order to a 103(k) Order to ensure the safety of all persons during the accident investigation and help ensure preservation of evidence.

Larry B. Hedrick, Electrical Specialist and Accident Investigator, was also dispatched to the mine. The investigation was conducted in cooperation with the West Virginia Office of Miner's Health, Safety and Training (WVOMHST), the mine operator, and employees at the mine. Statements from persons having knowledge of the facts and circumstances concerning the accident, and information from the mine's tracking and communications system was obtained. The accident scene was photographed, sketched, and surveyed. Formal interviews were conducted on February 26, 2013, with persons considered to have knowledge of the facts and circumstances concerning the accident. A list of persons who participated in the investigation is contained in Appendix A of this report.

DISCUSSION

Experience and Training

John Myles began his employment at the Affinity Mine on November 28, 2011. A review of the mine's training records indicates experienced miner training was provided on November 28, 2011, and annual refresher training on February 25, 2012, and February 13, 2013. Myles received his underground coal miner's certification from the State of West Virginia on December 23, 2008.

Myles was employed as a shuttle car operator and training records indicate he received task training as a shuttle car operator on December 4, 2011, and on June 12, 2012. Myles also received various task training on other mining equipment including continuous mining machines, fork lifts, roof bolting machines, battery powered man trips, and hoists.

Six non-contributory record keeping violations were identified during the review of Myles' training records. Five violations were for missing information on training forms which included, the type of training received was not marked, the type of operation and related industry, or the date the training requirements were completed. One violation was issued for receiving a mine tour from an unapproved instructor.

A review of the training records for Justin Ward, Scoop Operator, was also conducted. One noncontributory record keeping violation was found during the review. The training was provided by an instructor who did not appear on the list of approved instructors..

Accident Scene

John Myles normally operated the Number 12 shuttle car on the Number 3 Section. The Number 12 shuttle car was inoperative due to a broken hydraulic pump motor. Myles was directed by Laramee, Assistant Mine Foreman, to help Justin Ward perform clean-up work on the section by shoveling loose coal along the ribs in areas outby the working faces. Myles was working in the Number 18 crosscut, connecting the Number 5 and Number 6 entries, near survey station #1170, when the accident occurred.

Ward was operating the Fairchild battery-powered scoop. During his interview, Ward stated that just prior to the accident he had observed Myles shoveling the ribs in the Number 18 crosscut, connecting the Number 6 and 7 entries. At approximately 7:15 p.m., after pushing loose coal into the Number 6 entry face, Ward backed his scoop into the No.18 crosscut, connecting the Number 5 and Number 6 entries, and struck Myles with the battery end of the machine, causing Myles to suffer fatal injuries.

The mining height varied from 51 to 55 inches around the section. The Fairchild scoop being operated by Ward had a height of 39 ³/₄ inches from the mine floor to the top of the canopy and a height inside the operator deck of 34 ³/₄ inches, in which to operate the machine. When the batteries were raised, the height from the top of the batteries to the mine floor was 46 inches and there were two layers of rock dust filled bags on top of the rear section of the machine that totaled 8 inches in height.

The mining height at survey station #1170, located in the Number 18 crosscut between the Number 5 and Number 6 entries, varied from 51 to 55 inches. The coal seam in this area averages 48 inches in thickness, and an additional 3 to 6 inches of top and bottom rock were mined in this area. The width of the crosscut opening at the accident scene was measured and found to be 18 feet-2 inches wide.

The mine floor was slightly inclined from the face area toward the Number 18 crosscut. The crosscut was developed on a 90 degree angle from the Number 6 entry. These conditions caused the scoop to have to make a sharp turn while

turning from the Number 6 entry into the crosscut. The scoop operator's compartment is located on the side of the machine, on the outside perimeter of the turn radius. This condition caused the scoop operator to look over the rear of the scoop while operating it in the reverse direction.

Equipment Information

The scoop involved in the accident was a Fairchild, model 35C-WHL battery powered scoop, serial number T339-509, Number 509. The scoop was found in the Number 6 entry where it was relocated to free the victim. An inspection of this scoop was conducted. The scoop batteries were in a fully raised position. There was 20 inches of vertical clearance between the bottom of the batteries and the mine floor. The top of the scoop's batteries measured 46 inches from the mine floor. The height of the area measured between 50 and 55 inches, which resulted in nine (9) inches of vertical clearance over the scoop (between the batteries and the mine roof). The scoop operator's visibility, while operating the scoop, was limited to the nine inches measured. During interviews, persons who moved the scoop to free the victim stated they did not raise the batteries when the scoop was relocated. Additionally, Ward stated that he did not raise or lower the batteries when he parked the scoop to investigate cause of the sound he heard while operating the scoop in the reverse direction.

Additional measurements were taken with the scoop batteries in a lowered position (approximately half way down). The clearance above the batteries increased to 19 ½ inches. Operation of the scoop with the batteries in a lower position would substantially increase the operator's visibility.

Miscellaneous supplies were stacked on the rear of the scoop. The supplies consisted of 18 bags of rock dust, buckets of continuous mining machine bits, roof bolt plates, a case of bottled water, and empty rock dust bags. This condition significantly obstructed the scoop operator's visibility when he operated in the reverse direction (battery end first) and restricted his ability to see miners working around him. The scoop was being operated in reverse when the accident occurred.

A protective canopy is required by regulation to be installed over the scoop operator's compartment. The height of the canopy was 39 ³/₄ inches above the mine floor. The canopy also limited the operator's visibility while the scoop was in operation, but not sufficient to have caused or contributed to the accident.

Due to the raised position of the batteries, the location of the scoop operator along the outside of the machine, and the materials stacked upon the scoop, the scoop operator's visibility was extremely limited. Interviews indicate that the practice of placing rock dust bags on scoops in this manner has been allowed for some time, therefore management allowed the practice to exist despite a company policy prohibiting this practice.

An inspection of the scoop was conducted to determine its mechanical and electrical condition and function. There were no deficiencies or violations identified in the inspection of the scoop that contributed to the cause of the accident. One noncontributory permissibility violation was issued for an opening in the main contactor panel.

Proximity Detection

A permissible proximity detection system, capable of detecting the presence of miners and disengaging an equipment's movement, was installed by the mine operator. The HazardAvert proximity system, developed and marketed by Strata Proximity Systems (MSHA Evaluation Number 18-PDA090003-3), was installed on a Highland Machinery Shuttle Car, serial number 1021-11-1003, and a Fairchild 35C DC powered scoop, serial number T337-224, for evaluation.

The system was demonstrated to the District 4 Manager on May 14, 2013, and to MSHA Technical Support personnel on June 5, 2013. Subsequently, Safeguard Notice 3575545 issued on February 28, 2013 was modified to allow the use of functional and effective proximity detection systems in lieu of cameras to prevent miners from being exposed to hazards related to the movement of mobile equipment. MSHA continues to allow the mine operator to utilize existing camera systems.

ROOT CAUSE ANALYSIS

A root cause analysis was conducted to identify the cause(s) of the accident that were correctable through reasonable management controls. Listed below are root causes identified during the analyses and the corresponding corrective actions implemented to prevent a recurrence of the accident.

Root Cause: The Fairchild Model 35C-WHL scoop being operated on the Number 3 Section was allowed to operate with supplies and other extraneous material positioned on top of the machine, and traveling in the reverse direction with the batteries in a full raised position which caused limited visibility of the machine operator. Interviews indicate that the practice of placing rock dust on scoops in this manner has been allowed for some time, therefore management allowed the practice to exist despite a company policy prohibiting this practice.

Corrective Action: This scoop and all other mobile rubber tired equipment operating at this mine will be maintained such that supplies or other extraneous material be positioned or located on the machines in the bucket in a manner that does not obstruct the operator's visibility from the machine operator's compartment while operating the machine. The mine operator was issued a notice to provide safeguards to eliminate this hazard. The operator trained the miners in the provisions of the safeguard notice.

Root Cause: The mining height limited the canopy height of the scoop which contributed to reduced visibility for the operators of mobile equipment in certain areas of the section. These factors made it difficult to see miners that were either working or traveling on-foot in areas of the section where mobile equipment was being operated.

Corrective Actions: MSHA issued notices to provide safeguards requiring the following hazards be eliminated: Physical barriers or warning devices were required to be installed at all approaches to areas where persons are performing work. MSHA is allowing the mine operator to install proximity detection systems or utilize existing camera systems. Intrinsically safe or permissible strobe lights are to be worn by all persons while working or traveling inby the section loading points. The operator trained the miners in the provisions of the safeguard notices.

MSHA issues safeguards to minimize hazards with respect to transportation of men and materials in accordance with 314(b) of the Mine Safety and Health Act of 1977 and 30 CFR Section 75.1403. Safeguards are issued mine specific and civil penalties are not assessed when first issued. However future noncompliance with established safeguards allows MSHA to issue a violation and assess a civil penalty.

CONCLUSION

The accident occurred because the operator of the scoop on the Number 3 Section did not have the ability to clearly see and react to persons working in close proximity to the machine while it was in motion. The operator's visibility was reduced because the machine was being operated in the reverse direction while the batteries were in an elevated position, and while extraneous supplies were located on top of the machine in the operator's field of view in an area of limited seam height. The canopy of the scoop was adjusted due to the seam height to allow the machine to travel to any area of the section, which further limited the viewing area from the operator's deck of the scoop.

Approved By:

David S. Mandeville District Manager Coal Mine Safety and Health, District 4

29/13 Date

ENFORCEMENT ACTIONS

- 1. A 103(j) Order, No. 3575541, was issued verbally at 7:57 p.m. on February 19, 2013, to protect miners and to prevent the destruction of any evidence which would assist in the investigation of the cause or causes of the accident. The 103(j) Order was modified on February 20, 2013 to a 103(k) Order at 2:30 a.m.
- 2. A 314(b) Safeguard Notice, No. 3575542, was issued on February 28, 2013 at 1:25 p.m., requiring that this scoop and all other mobile rubber tired equipment operating at this mine be maintained such that supplies or other extraneous material be positioned or located on the machine in the bucket in a manner that does not obstruct the operators visibility from the operators compartment while operating the machine.
- 3. A 314(b) Safeguard Notice, No. 3575543, was issued on February 28, 2013 at 1:50 p.m., requiring that a physical barrier or warning device be installed at all approaches to areas where persons are performing work. The warning device shall identify areas where persons are working by flashing light or other visual means. The warning device shall be visible through any ventilation controls. This safeguard does not apply inby the last open crosscut to work while changing bits or water sprays on a continuous mining machine.
- 4. A 314(b) Safeguard Notice, No. 3575544, was issued on February 28, 2013 at 2:20 p.m., requiring that an intrinsically safe or permissible electric strobe light be worn by all persons while working or traveling inby the section loading point. The strobe light must be visible from all directions of approach. This safeguard includes continuous mining machine operators. Additionally, strobe lights must be maintained with adequate batteries to ensure proper illumination to the surrounding area.
- 5. A 314(b) Safeguard Notice, No. 3575545, was issued on February 28, 2013 at 3:15 p.m., requiring that this scoop and all scoops and shuttle cars operating on working sections at this mine are equipped with an approved camera system installed and maintained to allow the operator of the equipment to see in both directions of travel.

Safeguard 3575545 was subsequently modified to allow the mine operator to install functional proximity detection systems capable of stopping mobile equipment in lieu of approved camera systems. This modification was issued after the mine operator researched new technology and demonstrated its applicability and effectiveness to MSHA on May 14, 2013 and on June 5, 2013.

APPENDIX A Persons Participating in the Investigation

Affinity Mining LLC

Gary Patterson	President
Rick Waddell	Vice President of Safety
Mike Campbell	Superintendent
Rick Ashley	Safety Department
Jeff Birchfield	Shift Foreman
Eric Clendenin	Safety Department
Charlie Angle	Shift Foreman
Joey Howlett	Section Foreman
Richard Laramee	Assistant Foreman
Justin Ward	Scoop Operator
William Hensley	Continuous Miner Operator
Adam Whitt	Roof Bolter
Daniel Porterfield	Electrician
Eddie Pritt	Scoop Operator
Josh Petry	Roof Bolter
Tim Falk	Dispatcher
Larry Reedy	Fire Boss
Robert Beatty	Dinsmore & Shohl, Attorney
Carol Ann Marunich	Dinsmore & Shohl, Attorney

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

Eugene White	Director
William Tucker	Administrator
McKinnis Browning	Inspector-at-Large
Steve Lafferty	Assistant Inspector-at-Large
Gene Stewart	Distract inspector
Gary Hall	Electrical Inspector
Jack Rife	Assistant Attorney General

Mine Safety and Health Administration

Fred Wills	Mount Hope Field Office Supervisor
Richard Hayhurst	Accident Investigator
Harold Jeffery	Accident Investigator
Gearld Lucas	CMS&H Inspector
Larry Hedrick	Accident Investigator

Appendix B Victim Information

Accident Investigation Data - Victim Information	U.S. Department of Labor
Victim Information: 1	
1. Name of Injured/III Employee: 2. Sex 3. Victim's Age 4. Degree of Injury:	
John Myles M 44 01 Fatal	
5. Date(MM/DD/YY) and Time(24 Hr.) Of Death: 6. Date and T	ime Started:
2 Date: 02/19/2013 h Time: 20:50	te: 02/10/2012 b Time: 15:20
	0. Was this wark adivity part of source inh?
7. Regular Job Talle: 8. Work Activity when injured:	s. was this work activity part of regular job?
050 shuttle car operator	Yes No X
10. Experience Years Weeks Days A Years Weeks Days a. This c: Thi	Years Weeks Days d. Total Sears Weeks Days s
Work Activity: 4 0 0 Job Title: 0 26 0 Mine:	1 8 0 Mining: 4 0 0
11. What Directly Inflicted Injury or Illness? 12. Nat	ture of Injury or Illness:
077 Scoop 170	crushing injuries of thorax and abdomen
13. Training Deficiencies:	
Hazard: New/Newly-Employed Experienced Miner:	Annual: Task:
14. Company of Employment: (If different from production operator) Operator	Independent Contractor ID: (if applicable)
15. On-site Emergency Medical Treatment:	
Not Applicable: First-Aid: X CPR: X EMT: X M	edical Professional: None:
16. Part 50 Document Control Number: (form 7000-1) 17 Union Affilia	tion of Victim: 9999 None (No Linion Affiliation)
	None (NO Union Aumation)
Victim Information:	
1. Name of injureonin comployee: 2. Sex 3. Victim's Age 4. Degree of injury.	
5. Date(MM/DD/YY) and Time(24 Hr.) Of Death: 6. Date and 7	Time Started:
7. Regular Job Title: 8. Work Activity when Injured:	9. Was this work activity part of regular job?
10 Experience:	
a. This Years Weeks Days Vegular Years Weeks Days c: T	Years Weeks Days his d. Total
Work Activity: Job Title: Min	e: Mining:
11. What Directly Inflicted Injury or Illness? 12. Nati	ure of Injury or Illness:
13. Training Deficiencies:	
Hazard: New/Newly-Employed Experienced Miner:	Annual: Task:
14. Company of Employment: (If different from production operator) Inde	ependent Contractor ID: (if applicable)
15. On-site Emergency Medical Treatment:	
Not Applicable: First-Aid: CPR: EMT: Me	dical Professional: None:
16. Part 50 Document Control Number: (form 7000-1) 17. Union Affilia	lion of Victim:
Matim information	
I. Name of Injured/III Employee: 2. Sex 3. Victim's Age 4. Degree of Injury:	
5. Date(MM/DD/YY) and Time(24 Hr.) Of Death: 6. Date and	Time Started:
7 Regular Job Title: 8 Work Activity when Injured:	9 Was this work activity part of regular inb2
	Yes No
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10. Experience: Years Weeks Days Years Weeks Days a. This b. Regular c: T Work Activity: Job Title: Min 11. What Directly Inflicted Injury or Illness? 12. Na	Yes No Years Weeks Days Jears This Years Mining: Mining:
10. Experience: Years Weeks Days Years Weeks Days a. This b. Regular c: T Work Activity: Job Title: Min 11. What Directly Inflicted Injury or Illness? 12. Na	Yes No Years Weeks Days Jears This Years Ne: Mining:
10. Experience: Years Weeks Days Years Weeks Days a. This b. Regular c: T Work Activity: Job Title: Min 11. What Directly Inflicted Injury or Illness? 12. Na 13. Training Deficiencies: Native to Ford 12. Na	Yes No Years Weeks Days Jears This Years Ne: Mining:
10. Experience: Years Weeks Days Years Weeks Days a. This b. Regular c: T Work Activity: Job Title: Mir 11. What Directly Inflicted Injury or Illness? 12. Na 13. Training Deficiencies: New/Newly-Employed Experienced Miner:	Yes No Years Weeks Days d. Total re: Mining: ture of Injury or Illness:
10. Experience: Years Weeks Days C: T a. This b. Regular C: T Mir Work Activity: Job Title: Mir 11. What Directly Inflicted Injury or Illness? 12. Na 13. Training Deficiencies: Hazard: New/Newly-Employed Experienced Miner: 1 14. Company of Employment: (If different from production operator) Index	Yes No Years Weeks Days d. Total he: Mining: ture of Injury or Illness: Annual: Task: pendent Contractor ID: (if applicable)
10. Experience: Years Weeks Days Years Weeks Days c: T a. This b. Regular b. Regular C: T Mir Work Activity: Job Title: Mir Mir 11. What Directly Inflicted Injury or Illness? 12. Na 13. Training Deficiencies: Hazard: New/Newly-Employed Experienced Miner: 14. Company of Employment: (If different from production operator) 14. Company of Employment: Independent Independent 15. On-site Emergency Medical Treatment: Independent	Yes No Years Weeks Days d. Total ne: Mining: ture of Injury or Illness: Annual: Task: pendent Contractor ID: (if applicable)
10. Experience: Years Weeks Days Years Weeks Days a. This b. Regular b. Regular C: T Work Activity: Job Title: Mir 11. What Directly Inflicted Injury or Illness? 12. Na 13. Training Deficiencies: Hazard: New/Newly-Employed Experienced Miner: 1 14. Company of Employment: If different from production operator) Indep 15. On-site Emergency Medical Treatment: Not Applicable: First-Aid: CPR: EMT: M	Years Weeks Days Years Weeks Days This d. Total Years Weeks Days te: Mining: Mining: ture of Injury or Illness:
10. Experience: Years Weeks Days Years Weeks Days a. This b. Regular b. Regular C: T Work Activity: Job Title: Mir 11. What Directly Inflicted Injury or Illness? 12. Na 13. Training Deficiencies: Hazard: New/Newly-Employed Experienced Miner: 1 14. Company of Employment: (If different from production operator) Indep 15. On-site Emergency Medical Treatment: Not Applicable: First-Aid: CPR: EMT: M 16. Part 50 Document Control Number: (form 7000-1) 17. Union Affi	Years Weeks Days inis Years Years iture of Injury or Illness: Mining: Annual: Task: Image: Mining: Index: Image: Initiation of Victim:

MSHA Form 7000-50b, Mar 2008

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Appendix C Sketch of Accident Scene

