CAI-2008-11

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
May 30, 2008

Sentinel Mine
Wolf Run Mining Company
I.D. No. 46-04168

Mine Temp, LLC
I.D. No. J375

Accident Investigators

Joseph F. Facello
Coal Mine Safety and Health Inspector

Arlie B. Massey
Electrical Engineer, MSHA Approval and Certification Center

Frank D. Thomas II
Coal Mine Safety and Health Inspector-Electrical

Jerry W. Vance
Mine Health and Safety Specialist (Training)

Originating Office
Mine Safety and Health Administration
District 3
604 Cheat Road
Morgantown, West Virginia 26508
Bob Cornett, District Manager

Table of Contents

OVERVIEW

On Friday, May 30, 2008, at approximately 2:37 p.m., Adam Lanham, an 18-year old General Inside Laborer was struck and fatally injured by a Fairchild 35C-WH scoop. Lanham, a contractor employed by Mine Temp, LLC had approximately 33 days experience in the mining industry. The victim had been assigned to assist two other miners in repairing the haul road in the No. 5 entry of the North West Mains area of the mine. The men were traveling to the No. 12 block to repair the roadway (this would be the last area to be repaired on the shift). The victim was walking in the outby direction and was being followed by the scoop which was being followed by a diesel road grader. The scoop inadvertently struck the victim at the No. 13 block intersection causing fatal injuries (see attached drawing – Appendix B).

GENERAL INFORMATION

The Sentinel Mine, I.D. No. 46-04168, is operated by Wolf Run Mining Company, a subsidiary of International Coal Group (ICG), LLC, and is located near Philippi, Barbour County, West Virginia. The mine is accessed by a slope opening and three shaft opening, into the Clarion coal seam, which averages 90 inches in height. Coal is extracted by three advancing continuous miner sections and is transported from the working faces by shuttle cars to belt conveyors for transport to the surface. The mine employs 196 persons working two production shifts, and one maintenance shift, seven days a week. The mine was placed in active status on January 11, 2007, and production averages 5,500 tons of coal per day.

A regular safety and health inspection by the Mine Safety and Health Administration (MSHA) was ongoing at the time of the accident. The previous regular safety and health inspection of the mine was completed March 31, 2008. For the previous quarter, the mine NFDL Rate was 11.86 compared to a national average of 4.15 for the same period.

The principal officers at this mine at the time of the accident:

Samuel R. Kitts……...President
Jeff Kelly……..General Manager
Barry Elliot…..…….Superintendent
John Stemple…..…….Division Safety Manager
Brandon Triplett…….Safety Manager
John Travise……..……..Mine Foreman

DESCRIPTION OF ACCIDENT

The day shift started at 6:00 a.m. Adam Lanham was assigned by John Travis, Mine Foreman, to help John Jackson, General Inside Laborer repair the haulage roads in the entry adjacent to the number 4 and 5 belts. The victim and Jackson acquired a battery scoop on the mine bottom where it was being charged. The scoop was already full of roadway gravel.

At approximately 7:30 a.m., they left the bottom and headed toward the No. 4 block in the haulage road adjacent to the No. 5 coal conveyor belt. Lanham was walking behind the scoop which was traveling bucket first. Jackson was the operator of the scoop.

At approximately 7:45 a.m., Jackson over heard Delbert Weaver, Shift Foreman, on the radio informing the dispatcher that he was going to the No. 1 working section. Jackson called Weaver and asked if he could give Lanham a ride. At approximately 8:00 a.m., Weaver met Jackson and the victim at the No. 7 block in the entry adjacent to the No. 4 conveyor belt.

Lanham boarded Weaver's battery operated personnel carrier and they proceeded ahead of Jackson. Weaver dropped off Lanham at the No. 4 block adjacent to the No. 5 conveyor belt (See Appendix C for an overview of the area). Weaver left Lanham in the company of Robert Fitchett, Grader Operator, because Lanham was a red hat/miner trainee and state regulations prohibited him being alone. Fitchett had been operating a diesel powered road grader repairing haulage roads in the area and was waiting at the No. 4 block for Jackson to deliver a load of gravel. A short time later, he arrived with the load of gravel to repair the haulage road.

During the repair process, Lanham's duties were to help Fitchett lay out Tiepar in the bottom irregularities they encountered. Tiepar comes in rolls and is used to prevent gravel from sinking into the mine bottom.

The process continued throughout the day. Jackson made five round trips from the work area to the slope bottom to acquire more gravel. Shortly before 2:00 p.m., Jackson informed Fitchett that he needed to change batteries on his scoop and would require Lanham's assistance. The repairs to the roadway had progressed to No. 25 block.

Jackson and Lanham traveled to the bottom, installed fresh batteries in the scoop, loaded the scoop bucket with gravel, and started back toward the No. 25 block. As they traveled along, Jackson operated the scoop with the bucket facing the direction of travel. Lanham walked behind the battery end of the scoop. They made it to the No. 14 block in the entry adjacent to the No. 4 conveyor belt where

they encountered Fitchett operating the road grader. Both men stopped their machines at that location.

The three men decided to finish their day by making a final roadway repair at No. 12 block. The victim was instructed by Jackson to place himself out of the way in a crosscut when they arrived at the No. 12 block.

Lanham started walking toward the No. 12 block. The No. 12 block was outby their location. Jackson was tramming the scoop with the battery end of the machine facing in the direction of travel. Jackson waited until the victim was ahead of the machine before starting to follow. Fitchett was following Jackson in the diesel road grader.

As Jackson started to proceed outby, he heard the road grader start up behind him and momentarily turned his attention toward the grader. When he turned back he could no longer see Lanham. He stopped the scoop and called out for the victim. When there was no response he dismounted the scoop to investigate. Meanwhile, Fitchett had called out to Jackson asking him why he had stopped. When he received no reply he dismounted his machine. Both men started looking for Lanham and found him lying on the mine bottom on the left side of the battery scoop between the front and rear wheels at the center section.

Jackson used his radio to call Weaver for assistance and began administering first aid to Lanham. A short time later Kevin Hebb, Supplyman; Allen Nester, Mechanic, and Tim McGee, Foreman, arrived on the scene. McGee and Nester started CPR, and used an Automated External Defibrillator (AED) device. The victim was loaded onto a stretcher and taken to the surface as CPR was continued.

When the victim arrived on the surface, Barbour County EMS, with the assistance of Health Net continued emergency care. Robert Jones, Paramedic, Barbour County EMS, through radio communications with Dr. Dixon of Ruby Memorial Hospital in Morgantown West Virginia, pronounced Adam Lanham dead at 3:23 p.m.

INVESTIGATION OF ACCIDENT

The MSHA call center was notified of the accident at 2:37 p.m., on the date of the accident. The call center notified Thomas G. Todd, Assistant District Manager for Inspection Programs at approximately 2:43 p.m. Todd called the mine at approximately 2:55 p.m., and issued a 103(k) Order to John Stemple, Division Safety Manager for the company, assuring the health and safety of the miners and securing the accident scene.

An investigation was initiated Frank D. Thomas, Coal Mine Safety and Health Inspector (Electrical), and Joseph F. Facello, Coal Mine Safety and Health Inspector, and Jerry W. Vance, Mine Health and Safety Specialist (Training). Todd and Kevin Honeycutt, Coal Mine Safety and Health Inspector assisted the investigators by gaining control of the accident scene and gathering preliminary data. This investigation was conducted by MSHA, in conjunction with West Virginia Office of Miners Health Safety and Training (WVOMHST), and Wolf Run Mining, Sentinel Mine representatives. Formal interviews were conducted with nine people who had knowledge of the accident at the Sentinel Mine Training Center. An inspection of the accident scene and operational checks on the Fairchild 35C-WH scoop were also conducted. Photographs, measurements, mapping, and testimony were obtained during the investigation.

Arlie Massey of the MSHA Approval and Certification Center (A&CC) transported the following components recovered from a Fairchild Scoop, Approval No. 2G-3599-2, Model 35C-WH, Serial No. T339-336 to Cableform Incorporated in Gordonsville, VA:

1. Control Unit BT 1212, Serial No. A4144,
2. Logic Unit, P/N-A62772-Q, Serial No. A3511,
3. Forward/Reverse Contactor Model No. A122201-1-1, Code No. 4104, and

The purpose of the investigation was to determine (a) if the components functioned as designed and (b) whether they contributed to the fatal powered haulage accident at Wolf Run Mining Company, Sentinel Mine.

Cableform Incorporated's Matt Snyder performed factory functionality tests and examinations to determine the condition of each component. During the testing two (2) deficiencies were found – (1) a 400 amp 600 volt Ferraz-Shamut A50QS400-4 fuse was being used in place of a 100 amp 250 volt Bussmann 100L14C fuse in the pump motor circuit, and (2) the adjustment of forward and reverse tram contacts exhibited about one-half inch spacing that should have been five-sixteenths inches. The deficiencies found would not adversely affect

the operation of the scoop and did not contribute to the accident. All other tests and evaluations were within factory specifications.

DISCUSSION

Mining Equipment

Fairchild 35C-WH Scoop

The machine involved in the accident was a rubber tired, battery powered, Fairchild Scoop, Model 35C-WH, Company Number 4, Serial Number T339-336, with MSHA approval Schedule 2G-3599-2. The scoop was equipped with a bucket front end attachment which could be raised and lowered by the scoop's hydraulic system. The scoop was used to bring supplies into the mine and various other tasks.

The scoop was inspected on the date of the accident during the underground portion of the investigation. Operational tests of the scoop revealed no defects or deficiencies. Specifically, the tramming, steering, braking, hydraulic system, emergency de-energization device, and lighting were checked. The operator's compartment was located near the center of the machine on the right side. The operator's view was unobstructed.

Examinations

A preshift examination of the roadway had been conducted by a certified person and no hazardous conditions were reported. Results of the examination were recorded and sufficient date/time and initials were present. Also a weekly electrical examination of the scoop was made during the week of May 25, 2008, and no deficiencies or hazardous conditions were reported.

Training

No deficiencies with training were found. Training records were reviewed by Educational Field Services. The records indicate that Mr. Lanham received a West Virginia Apprentice Miners Certificate on April 4, 2008. On April 28, 2008, he received hazard training for the Sentinel Mine and was escorted on a mine tour. The mine operator's approved training plan did not specifically address persons walking in front of mobile equipment. Also, there were no written policies or procedures which addressed this scenario.

Accident Scene

The roadway at the accident site was rolling and slightly damp with a 4.7 percent angle. The scoop was traveling up the grade. The entry height was 7.5 feet and the width was 18 feet in the accident area. There were no obstructions which would have contributed to a slip, trip or fall by the victim. The victim was found lying with his feet lying near the bucket end of the scoop and his head lying near the battery end of the scoop.

Testimony of the witnesses, one foreman and one laborer, stated his hard hat was still on his head and his cap light was turned off. Even though the victim's cap light was turned off, it most likely did not contribute to the fact he was not seen by the scoop operator. The victim was walking in the same direction the scoop was being trammed. Testimony further indicated the scoop's lights were operational. The scoop operator most likely would not have been able to see the illumination from the victim's cap light due to the illumination of the scoop lights.

Mandatory Use of Reflective Material

The mine operator requires all miners, including contractors to wear reflective clothing. The reflective clothing is issued to the miners by the operator and obtained from Cintas. Since the victim had worked at the mine only a short time, he had not yet been issued a uniform. The victim was wearing bright green reflective suspenders which were highly visible. The victim also had reflective material on his hard hat.

ROOT CAUSE ANALYSIS

A root cause analysis was conducted. The following root cause was identified:

Root Cause: No written procedures, rules, or policies were in place to ensure that workers, on foot, maintain a safe distance from mobile rubber tired equipment when such equipment is being operated throughout the mine.

Corrective Action: Mine management modified their comprehensive mine safety program to address the safe location of persons in the vicinity of operating mobile rubber tire equipment. All underground personnel were reinstructed regarding the safe location of persons around operating mobile rubber tire equipment. Management should routinely observe work habits and monitor enforcement of the newly established policies in the comprehensive mine safety program.

Root Cause: Procedures for working around mobile equipment were not followed. The mine operator addresses working in the "red zone" of all mobile equipment during hazard training, annual refresher training and experienced miner training.

Corrective Action: All miners will be retrained in the safe procedures of walking around mobile equipment.

CONCLUSION

The accident occurred because the mine operator did not assure that persons remain clear of moving mobile rubber tired equipment. Additionally, there were no written policies, procedures, guidelines, etc. in place at this mine requiring persons to remain clear of moving mobile rubber tired equipment. The victim was in an unsafe location while walking ahead of the scoop to the work site. The operator of the scoop did not assure that the victim was positioned a safe distance from the scoop while tramming.

Bob E. Cornett

9-3-08

Bob E. Cornett
District Manager

Date

ENFORCEMENT ACTIONS

A 103(k) Order, No. 6605311, was issued to Sentinel Mine to ensure the safety of all persons until an investigation was completed and the equipment and the area deemed safe.

A 314(b) Safeguard, No. 6605313, was issued to Sentinel Mine on June 25, 2008. A fatal accident occurred at this mine on May 30, 2008 which resulted from a Fairchild Model 35C-WH battery powered scoop striking and crushing a miner who was walking in front of the scoop. The scoop was equipped with a bucket end attachment which was filled with gravel. The scoop was being trammed with the batteries in the direction of travel. A person walking and/or working in front of or along side of a scoop while it is in motion presents a hazard of persons being crushed or run over due to the limited view of the equipment operator and the potential for inadvertent movement of the controls of such equipment. This is a Notice to Provide Safeguard prohibiting any person from walking and/or working less than one connected crosscut in front of or along side of a scoop while it is being trammed. Persons may work in front of, along side of, or behind a scoop in the following situations: (1) Where it is necessary to strategically position the equipment for the installation of roof supports; (2) during the loading and unloading of supplies; and (3) other instances that would require strategic positioning of equipment or supplies using the scoop. In these instances where persons are required to aid the scoop operator, all persons shall wear a reflective vest or similar reflective material. Persons working in close proximity of the scoop shall be in direct sight of the equipment operator or a spotter shall be present and the scoop shall be operated only in the "slow tram" mode. At no time shall persons be positioned between the scoop and the object being moved, supplies being loaded, or any other stationary object where crushing injuries could be expected to occur. All miners shall be trained in the provisions of the Safeguard.

APPENDIX A

Persons Participating in the Investigation

International Coal Group, LLC

Tim A. Martin ..... Corporate Director Heath and Safety
Hank Moore .....Attorney with Jackson Kelly
Arthur Wolfson .....Attorney with Jackson Kelly

Wolf Run Mining Company

Barry Elliot .....Superintendent
Johnny Stemple .....Division Safety Manager
Brandon Triplett .....Safety Manager
Robert Fitchett .....Grader Operator
Kevin Hebb .....Supplyman
Kermit Melvin ..... Mine Engineer
Tim McGee .....Section Foreman
Delbert Weaver.....Shift Foreman
John Jackson..... Outby Foreman
Steve Hively .....Shift Foreman
John Travise .....Mine Foreman
Pete Capaldo .....Maintenance Foreman
Tim Haddix .....Maintenance Foreman

Mine Temp, LLC

Mel Triplett ..... Owner

Alpha Engineering Services, INC.

Gary Hartsog .....Contract Surveyor
Travis Hartsog .....Contract Surveyor
Brian Martin.....Contract Surveyor

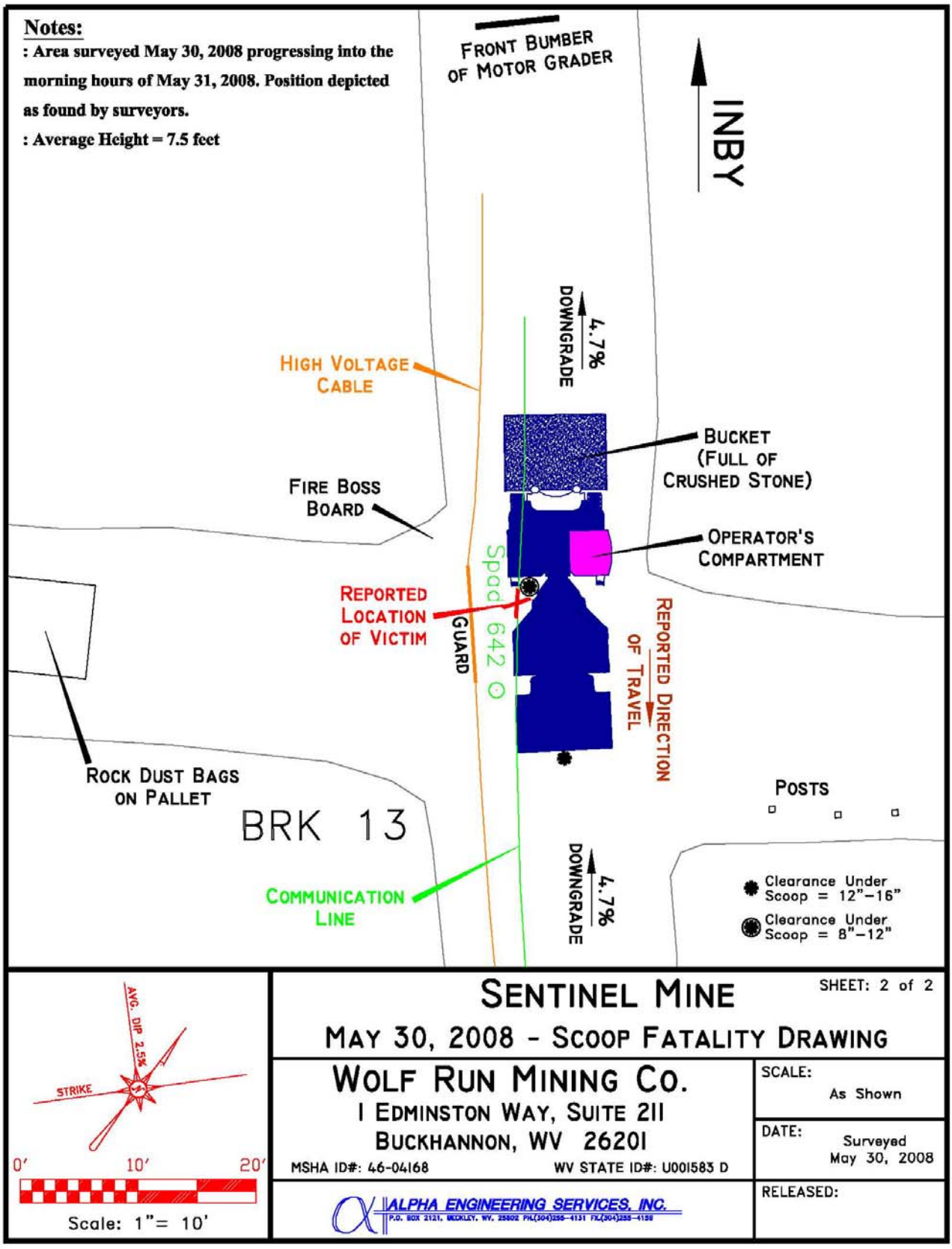
West Virginia Miners Health Safety & Training

Ron Wooten ..... Director
Terry Farley ..... Administrator
Al Lander ..... Inspector at Large
John Meadows ..... District Inspector
Bill Tankersley ..... District Inspector
John Scott ..... Electrical Inspector
Doug Fansler ..... District Inspector
Barry Koerber ..... Attorney for State of West Virginia

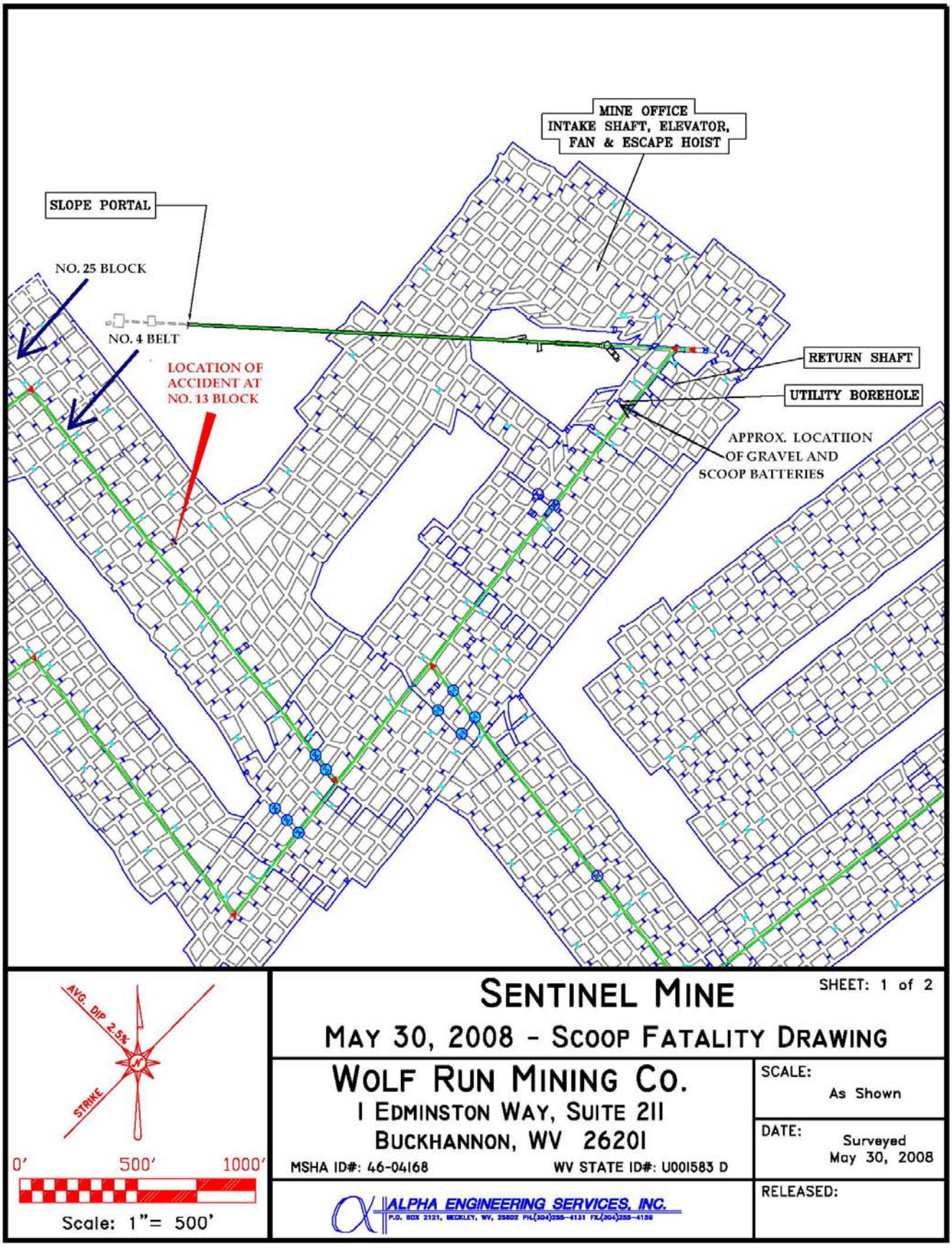
Mine Safety and Health Administration

Thomas G. Todd ..... Assistant District Manager for Inspection Programs
Joseph F. Facello ..... Coal Mine Safety and Health Inspector
Frank D. Thomas ..... Coal Mine Safety and Health Inspector, Electrical
Kevin Honeycutt ..... Coal Mine Safety and Health Inspector
Jerry W. Vance ..... Mine Health and Safety Specialist (Training)
Arlie Massey ..... Electrical Engineer, Approval and Certification Center, MSHA Technical Support

APPENDIX B
Drawing 1



APPENDIX C
Drawing 2



APPENDIX D
Victim Information, Form 7000-50b

Accident Investigation Data - Victim Information
Event Number: 4 3 5 9 9 0 9

U.S. Department of Labor
Mine Safety and Health Administration

Victim Information: 1

1. Name of Injured/Ill Employee:	2. Sex	3. Victim's Age	4. Degree of Injury:
Adam J. Lanham	*M*	*18*	*01 Fatal*

5. Date(MM/DD/YY) and Time(24 Hr.) Of Death: *a. Date: 05/30/2008 b.Time: 15:23*

6. Date and Time Started: *a. Date: 05/30/2008 b.Time: 14:37*

7. Regular Job Title:	8. Work Activity when Injured:	9. Was this work activity part of regular job?
024 Trainee - General Labor	*092 Walking/running*	Yes X No

10. Experience	Years	Weeks	Days
a. This Work Activity:	0	4	5
b. Regular Job Title:	0	4	5
c: This Mine:	0	4	5
d. Total Mining:	0	4	5

11. What Directly Inflicted Injury or Illness? *077 Underground mining machines*

12. Nature of Injury or Illness: *170 Crushing*

13. Training Deficiencies:
Hazard: | New/Newly-Employed Experienced Miner: X | Annual: | Task:

14. Company of Employment: (If different from production operator) *Mine Temp LLC*
Independent Contractor ID: (if applicable) *J375*

15. On-site Emergency Medical Treatment:
Not Applicable: | First-Aid: X | CPR: X | EMT: X | Medical Professional: | None:

16. Part 50 Document Control Number: (form 7000-1) *220081540031*
17. Union Affiliation of Victim: *9999 None (No Union Affiliation)*

Victim Information:

1. Name of Injured/Ill 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 job?
		Yes No

10. Experience:	Years	Weeks	Days
a. This Work Activity:			
b. Regular Job Title:			
c: This Mine:			
d. Total Mining:			

11. What Directly Inflicted Injury or Illness?

12. Nature of Injury or Illness:

13. Training Deficiencies:
Hazard: | New/Newly-Employed Experienced Miner: | Annual: | Task:

14. Company of Employment: (If different from production operator)
Independent Contractor ID: (if applicable)

15. On-site Emergency Medical Treatment:
Not Applicable: | First-Aid: | CPR: | EMT: | Medical Professional: | None:

16. Part 50 Document Control Number: (form 7000-1)
17. Union Affiliation of Victim:

Victim Information:

1. Name of Injured/Ill 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 job?
		Yes No

10. Experience:	Years	Weeks	Days
a. This Work Activity:			
b. Regular Job Title:			
c: This Mine:			
d. Total Mining:			

11. What Directly Inflicted Injury or Illness?

12. Nature of Injury or Illness:

13. Training Deficiencies:
Hazard: | New/Newly-Employed Experienced Miner: | Annual: | Task:

14. Company of Employment: (If different from production operator)
Independent Contractor ID: (if applicable)

15. On-site Emergency Medical Treatment:
Not Applicable: | First-Aid: | CPR: | EMT: | Medical Professional: | None:

16. Part 50 Document Control Number: (form 7000-1)
17. Union Affiliation of Victim:

MSHA Form 7000-50b, Mar 2008 Printed 07/22/2008 4:05:03 PM