REPORT OF INVESTIGATION
(UNDERGROUND COAL MINE)

MULTIPLE FATAL EXPLOSIVES ACCIDENT
(CARBON MONOXIDE POISONING)

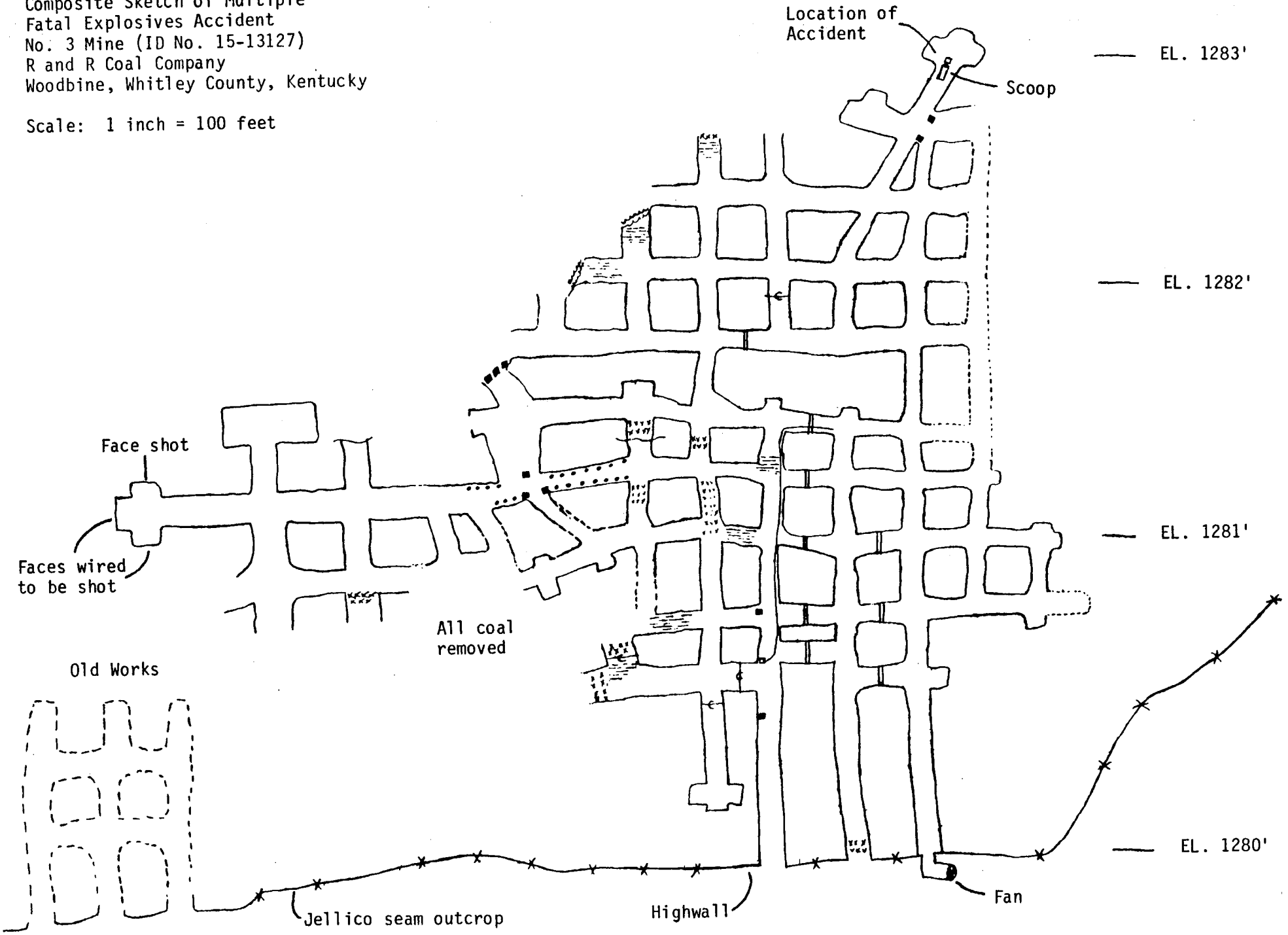
No. 3 Mine (I.D. No. 15-13127)
R and R Coal Company
Woodbine, Whitley County, Kentucky

August 15, 1985

Drawing No. 1

Composite Sketch of Multiple
Fatal Explosives Accident
No. 3 Mine (ID No. 15-13127)
R and R Coal Company
Woodbine, Whitley County, Kentucky

Scale: 1 inch = 100 feet



Abstract of Investigation

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

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.

Section A—Identification Data

1. Title of investigation: Fatal Explosives Accident
2. Date MSHA investigation started: August 19, 1985
3. Report release date: FEB 21 1986
4. Mine: No. 3 Mine
5. Mine ID number: 15-13127
6. Company: R and R Coal Company
7. Town, County, State: Woodbine, Whitley County, Kentucky
8. Author(s): Clifford E. Ellis, W. Roger Schmidt, A. Keith Watson

Section B—Mine Information

9. Daily production: 50-75 tons
10. Surface employment: 2
11. Underground employment: 9
12. Name of coalbed: Jellico
13. Thickness of coalbed: 23-30 inches

Section C—Last Quarter Injury Frequency Rate (HSAC) for:

14. Industry: 8.77
15. This operation: NA
16. Training program approved: NA
17. Mine Profile Rating: NA

Section D—Originating Office

18. Mine Safety and Health Administration: Office of the Administrator, Coal Mine Safety and Health
Address: 4015 Wilson Boulevard, Arlington, Virginia 22203

Section E—Abstract

On Thursday, August 15, 1985, at approximately 4:00 p.m., a multiple fatal explosives accident (carbon monoxide poisoning) occurred in the face area of the No. 4 entry of the R and R Coal Company, No. 3 Mine. The accident resulted in the death of Reed R. McKiddy, assistant mine foreman, Robert L. Bauer, drilling machine helper, and Randy W. Powers, miner. A fourth miner, Rick Bauer, scoop operator, was hospitalized and later released. McKiddy had 3 years of mining experience, while Robert Bauer and Powers had 2 months of mining experience each. Rick Bauer had 3 years of mining experience. The Jellico coalbed was being developed by blasting the coal from the solid without an approved roof control or ventilation plan. The accident occurred when members of the mining crew reentered the mine in scoops and were overcome by carbon monoxide that was allowed to accumulate in the face areas of the No. 4 entry following blasting. The accident occurred due to mine management's failure to adequately ventilate the face areas of an active working section.

Section F—Mine Organization

Company officials:	Name	Address
19. President:	Unknown	
20. Superintendent:	Unknown	
21. Safety Director:	Unknown	
22. Principle officer—H&S:	None	
23. Labor Organization:	None	
24. Chairman—H&S Committee:	None	

Commentary

On Thursday, August 15, 1985, shortly before 7:00 a.m., the nine miners employed at the R and R Coal Company, No. 3 Mine, reported to work. Two miners, Gary Floyd, slate picker, and Rhonda Woods, outside person, were assigned to perform outside work. The remaining miners went underground to produce coal on at least two sections in the mine.

On the day of the accident, work continued until about noon. According to statements describing past mining procedures at this mine, four to seven rooms would have been drilled, wired, and subsequently shot. This procedure was apparently also followed in the active face area of the No. 4 entry where the accident reportedly occurred. According to statements, the miners had gone outside for lunch that day while the shots were fired. They waited some additional time after the blasting for the smoke and fumes to clear before some of the mining crew(s) reentered the mine. Reed McKiddy, assistant mine foreman (victim), entered the mine via one scoop. Robert Bauer, scoop operator (victim), and Randy Powers, miner (victim), reentered in another scoop, and Rick Bauer, scoop operator (injured), went into the mine in the third scoop, in order to haul the coal from the various face areas. It was stated that McKiddy had hauled two to four loads of coal and had returned underground for another load.

According to statements, one outside miner, Rhonda Woods, became concerned when neither McKiddy nor any of the other miners returned to the surface after a period of time. Therefore, she and Doug Miller, scoop operator, traveled to R and R Coal Company's No. 4 Mine (presently Corn Creek No. 1 Mine), approximately 1,200 feet from the No. 3 Mine, and summoned help from Tim Crawford, operator, and Randy Large, scoop operator. These miners reportedly took a truck to the No. 3 Mine in order to render help, while Miller trammed a scoop from the No. 4 Mine to the No. 3 Mine.

According to statements, and an account given by Kenneth Crawford, Sr., at the funeral home, McKiddy's scoop had gotten stuck and he was the first miner to be overcome by carbon monoxide in the mine. Robert Bauer and Powers tried to revive him as they dragged him from his scoop. They also tried to attach a chain to the stuck scoop in order to pull it free. In doing so, Robert Bauer and Powers were also overcome. Rick Bauer got off his scoop to try to help the other miners and he too was overcome. The following scenerio apparently developed. Robert Bauer regained consciousness and dragged Rick Bauer for some distance in order to get him to fresh air; he then told him to lay there. Robert Bauer then went back after Powers. When Tim and Jeff Crawford, scoop operator, and Large found the victims, Robert Bauer was holding Powers like a baby.

Tim Crawford, Jeff Crawford, and Large entered the No. 3 Mine in a scoop, found one disabled miner, Rick Bauer, and placed him in a scoop for transporting to the outside. They then found and placed the other three miners in a second scoop and transported all four miners to the outside. It

was stated that it took approximately ten minutes for the three miners to go underground, recover the victims, and return to the surface. When the miners reached the surface, mouth-to-mouth resuscitation was given to Robert Bauer by Floyd and to the other victims by Tim and Jeff Crawford. Three of the four victims were then placed in the bed of a pickup truck, while one of the victims, Rick Bauer, was placed inside the truck cab where he was aided by Miller. Resuscitation was continued on Robert Bauer, McKiddy, and Powers by Floyd and Large, as Woods drove the truck to the Southeastern Kentucky Baptist Hospital in Corbin, Kentucky. Floyd and Large helped Rick Bauer into the emergency room and then helped place Powers on a gurney (stretcher). Robert Bauer and McKiddy were also taken into the hospital where Robert Bauer, McKiddy, and Powers were pronounced dead. Autopsies attributed the cause of death to acute carbon monoxide poisoning. Rick Bauer was later transferred to the University of Tennessee Hospital in Knoxville, Tennessee, where he received additional medical attention and was released.

Discussion and Evaluation

The investigation revealed the following factors relevant to the occurrence of the deaths of three miners at the No. 3 Mine, R and R Coal Company.

The No. 3 Mine, R and R Coal Company, is located on Bunch Mountain in the Jellico coalbed at an elevation of 1,274 feet Mean Sea Level. The coalbed dips less than one degree in a southeasterly direction and averages 23 to 30 inches in height. The immediate roof is a somewhat fractured sandstone and shale, while the main roof is shale. The drift openings of the mine are located on a previously mined strip and auger bench and are developed from auger holes in a northwesterly direction. The mine is approximately six miles from Rockholds, Whitley County, Kentucky.

Based on information obtained from sworn statements taken during the investigation, the No. 3 Mine was owned and operated by Tim and Jeff Crawford. Although Reed McKiddy's name appeared on documents as being the mine operator, the Crawford family made management decisions and issued orders relative to the mining operations. It was also found that all safety devices, gages, and mining equipment was owned by the Crawford family. Salary checks paid to the mine employees were signed by Tim Crawford using Reed McKiddy's name.

Sworn statements taken during the investigation implicated Kenneth Crawford, Sr., as being involved in the mining operation. He had been observed at the No. 3 Mine assisting in coal loading and slate picking. Trucks owned by Kenneth Crawford, Sr., were used to haul coal from the mine(s). The drivers were hired by Kenneth Crawford, Sr. The trucks were initially picked up and frequently refueled at his residence.

Gatliff Coal Company bought the coal that was mined by R and R Coal Company. Because of poor quality coal mined by R and R Coal Company, Gatliff stopped purchasing the coal. As a result, Kenneth Crawford, Sr., and Zonda Crawford contacted management at Gatliff Coal Company in order to convince Gatliff to continue buying R and R coal.

The mine had been in operation between four and five months when the fatalities occurred. Neither roof control or ventilation plans had been approved for the No. 3 Mine. In addition, the mine fan was not run at all for one week of mining because it was being used at the R and R Coal Company's No. 1 Mine.

On several occasions, various persons employed at the No. 3 Mine, including some of the victims, had to be taken to a location of fresh air, or to the surface, due to exposure to either carbon monoxide or insufficient oxygen. These incidences are indicative of the lack of proper ventilation at the mine. Very few ventilation controls were observed during the accident investigation. Rick Bauer took care of most of the curtains, when he was not driving a scoop.

Sworn statements also indicated that it was a common practice at the No. 3 Mine to reverse the fan following blasting or to direct air to various areas of the mine, depending upon where work was being done. These fan reversals were made on several occasions while miners were underground.

It was stated to MSHA inspectors in July that the only work being performed in the mine was for rehabilitation and clean-up. Observations during the investigation clearly indicated that very little rehabilitation or clean-up work was done. Excessive quantities of loose coal and coal dust and unsupported areas existed throughout the mine.

According to sworn statements, the miners were told by mine management to timber off the active working areas when an inspector was at the mine site. Also, one of the shot firers was told not to shoot any coal while inspectors were at the mine.

Production that occurred on a daily basis included pulling pillars to the left and right of the No. 4 left heading where most of the blasting was done in old pillars. During this time, the mine operator also cut into other works and auger holes which were flooded and which subsequently inundated the section. These occurrences were not reported to the proper authorities.

Members of the crew had voiced their concern about hazardous roof in the No. 4 left heading. In spite of additional roof support which was subsequently installed, a roof fall occurred, covering a scoop which carried detonators and six cases of explosives. This occurrence was not reported to the proper authorities.

The No. 3 Mine was previously operated by the A and T Coal Corporation as their No. 1 Mine. The A and T mine map, dated March 22, 1984, showed considerable old workings inby the No. 5 crosscut. However, the R and R No. 3 Mine map, dated May 21, 1985, did not show these old workings at all. Both mine maps were certified by a registered engineer employed by Appalachian Engineering, Inc., of Barbourville, Kentucky.

During the accident investigation, a controversy arose as to whether or not the mine where the accident occurred was actually R and R Coal Company's No. 3 Mine. Following an evaluation of three mine maps that had been filed with the Commonwealth of Kentucky, it was determined that all three maps did in fact depict the same coal mine at different stages of development. Also, the longitude and latitude references submitted for these three mine maps had

slight variations. Therefore, MSHA contracted a local engineering firm to run a closed-loop survey to the No. 3 Mine. The results of this survey indicated that each of the three submitted mine locations varied from the MSHA survey results. One mine location was off by approximately 80 feet, the second by approximately 160 feet, and the third by over 2400 feet. All three were submitted with supposedly accurate locations of the same coal mine.

Findings of Fact

1. An imminent danger existed due to the quantity and quality of air reaching the last open crosscut in the No. 4 entry. There was no perceptible movement of air and only 18 volume per centum of oxygen, a violation of 30 CFR 75.301.

2. Line brattice or any other approved device was not provided to adequately ventilate the working faces, a violation of 30 CFR 75.302.

3. Preshift examinations of the mine by a certified person had not been conducted or recorded in the preshift book since July 1985, a violation of 30 CFR 75.303.

4. On-shift examinations for hazardous conditions by certified persons were not made or recorded in the book located on the surface, a violation of 30 CFR 75.304.

5. Weekly examinations for hazardous conditions were not made by certified persons or recorded in a record book, a violation of 30 CFR 75.305.

6. Weekly ventilation examinations were not being conducted by a qualified person or recorded in a record book, a violation of 30 CFR 75.306.

7. Three of the victims had not received the required annual refresher training, a violation of 30 CFR 48.8.

8. Self-rescue and self-contained self-rescue devices were not provided for the miners at the mine, a violation of 30 CFR 75.1714.

9. An imminent danger existed in that loose, unsupported roof was found at several locations, timbers and cribs were knocked out, timbers were decayed, loose coal accumulations existed along the haulage road, and rock dust had not been applied to any area of the mine, violations of 30 CFR 75.200, 75.202, 75.400, and 75.402.

10. A list of all certified and qualified persons was not provided, a violation of 30 CFR 75.159.

11. Methane examinations were not made, a violation of 30 CFR 75.307.

12. A methane monitor was not provided for the scoop used to load coal, a violation of 30 CFR 75.313.

13. An approved ventilation system and methane and dust control plan did not exist, a violation of 30 CFR 75.316.

14. Examinations for methane immediately before shots were fired and after blasting were not made by a qualified person nor was a device available to make an examination, a violation of 30 CFR 75.320.

15. The daily reports of the preshift and on-shift examinations and the weekly examinations for hazardous conditions were not countersigned by the mine foreman, a violation of 30 CFR 75.323.

16. The three scoops at the mine were not examined, tested, and properly maintained by a qualified person to assure safe operating conditions nor was a record of such examinations available, a violation of 30 CFR 75.512.

17. The power cable to an AC sump pump was not installed on well-insulated insulators, a violation of 30 CFR 75.516.

18. A frame ground was not provided for the fan motor, a violation of 30 CFR 77.701.

19. No suitable firefighting equipment was provided, a violation of 30 CFR 75.1100.

20. A program for the instruction of all miners in the location and use of firefighting equipment, location of escapeways, exits, and routes of travel to the surface and proper evacuation procedures to be followed in the event of an emergency was not submitted for approval to the District Manager, a violation of 30 CFR 75.1101-23.

21. A copy of the certified mine map of No. 3 Mine was not furnished to the Secretary or his authorized representatives pursuant to a written request dated August 22, 1985, a violation of 30 CFR 75.1203.

22. An accurate and up-to-date map of the mine was not provided, a violation of 30 CFR 75.1201.

23. An examination for fires after blasting was not conducted, a violation of 30 CFR 75.1308.

24. Telephone service or equivalent two-way communication facilities was not provided, a violation of 30 CFR 75.1600.

25. The intake and return entries used as an escapeway were not being maintained in a safe condition and properly marked, a violation of 30 CFR 75.1704.

26. A wooden structure on the surface within 60 feet of a mine opening was not of fireproof construction, a violation of 30 CFR 75.1708.

27. Emergency communications, emergency medical assistance, and transportation arrangements did not exist and first-aid equipment was not available, a violation of 30 CFR 75.1713.

28. The coalbed was being developed without preliminary plans being approved, a violation of 30 CFR 75.1721.

29. Mining was being conducted without an approved roof control plan, a violation of 30 CFR 75.200.

Conclusion

The accident occurred due to management's failure to provide adequate ventilation to carry away and render harmless the noxious gases and explosives fumes.

The noxious gases and fumes were a result of simultaneously blasting the coal from the solid faces of at least one three-way intersection.

Management's failure to provide the miners with self-rescue devices and the lack of training and experience of the assistant mine foreman and the miners contributed to the severity of the accident.

Respectfully submitted,

Clifford E. Ellis
Mine Safety and Health Specialist

W. Roger Schmidt
Hydrologist

A. Keith Watson
Civil Engineer

Approved by:

Joseph A. Lamonica
Administrator
for Coal Mine Safety and Health

Appendix A

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

R and R Coal Company Employees

Tim Crawford	Operator
Gary Floyd	Slate Picker
Randy Large	Scoop Operator
Bill Widner	Slate Picker (R and R No. 4 Mine)

Other Persons Providing Information

Maurice Creech	Gatliff Coal Company
Vincent Lawson	Former Employee and Partner
Glennous Morris	Former Employee and Partner
Marvin Partin	Partner
Robert Philpot	Former Employee

Kentucky Department of Mines and Minerals

Willard Stanley	Commissioner
Leroy Gross	District Supervisor
Dill Finley	State Inspector
Jerry Holland	State Inspector
Jessie Hubbard	State Inspector
Cecil Smith	State Inspector

Department of Labor

Office of the Solicitor

Edward H. Fitch IV	Trial Attorney

Mine Safety and Health Administration

Carl Boone II	Subdistrict Manager
Charles Stanley	Supervisory Coal Mine Safety and Health Specialist
Foster Brock	Safety and Health Specialist, Electrical
Ron Brock	Special Investigator
Roger Dingess	Safety and Health Specialist, Roof Control
Clifford Ellis	Mine Safety and Health Specialist
Berto Gilliam	Safety and Health Specialist, Ventilation
Billy Joe Grubbs	Coal Mine Safety and Health Inspector

Albert McFarland	Safety and Health Specialist, Ventilation
Edward Morgan	Special Investigator
Bill Payne	Coal Mine Safety and Health Inspector
Roger Schmidt	Hydrologist
Keith Watson	Civil Engineer

Appendix B

Victim Data Sheet

Name	Age	Occupation	Job Experience
Robert L. Bauer	21	Drilling Machine Helper	2 months
Reed McKiddy	21	Assistant Mine Foreman	3 years
Randy W. Powers	18	Miner	2 months