CAI-2012-04

UNITED STATES DEPARTMENT OF LABOR MINE SAFETY AND HEALTH ADMINISTRATION

COAL MINE SAFETY AND HEALTH

REPORT OF INVESTIGATION

Underground Coal Mine

Fatal Rib Roll Accident March 10, 2012

Kingston Mining, Inc. Kingston Number 2 Mine Scarbro, Fayette County, WV I.D. Number 46-08932

Accident Investigators

Daris L. Barker, Jr. Mining Engineer/Accident Investigator

Douglas Johnson Mining Engineer/Accident Investigator

Robert Hatfield Coal Mine Safety and Health Inspector/Electrical Specialist

> Originating Office Mine Safety and Health Administration District 4 100 Bluestone Road Mount Hope, West Virginia, 25880 Charles E. Carpenter, District Manager

OVERVIEW	1
GENERAL INFORMATION	2
DESCRIPTION OF ACCIDENT	2
INVESTIGATION OF ACCIDENT	4
DISCUSSION	5
Experience and Training	5
lime of Accident	5 F
Accident Scene	3 7
Rib Conditions and Support	 8
Previous Examination Records	8
Methane and Dust Control Portion of the Ventilation Plan	8
Previous Rib Fall Accident	8
ROOT CAUSE ANALYSIS	9
CONCLUSION	10
ENFORCEMENT ACTIONS	11
APPENDIX A – Persons Participating in this Investigation	15
APPENDIX B – Victim Information	17
APPENDIX C - Sketch of the Accident	18

TABLE OF CONTENTS



OVERVIEW

On Saturday, March 10, 2012, at approximately 6:15 pm, Jeremy Sigler, a 34-yearold section foreman with 10 years of total mining experience, was killed when a large section of rib rolled out of the right side of the number 2 entry, which was being developed on the Number 1 Section. The victim was operating the section's left side continuous mining machine at the time of the accident. The portion of the rib which struck the victim was 6 feet 7 inches long, 40 inches wide and varied in thickness from 1 to 10 inches, weighing approximately 1,800 lbs.

The accident occurred as the victim was operating the continuous mining machine, while mining an extended depth cut in the number 2 entry on the 004-0 Mechanized Mining Unit (MMU).

GENERAL INFORMATION

The Kingston Number 2 Mine is an underground coal mine operating in the Douglas coal seam, located near Mossy, in Fayette County, West Virginia. The mine is operated by Kingston Mining, Inc., a subsidiary of Alpha Natural Resources, Inc.

Bituminous coal is mined at this operation using the room and pillar method of mining, utilizing two sections. The mine operates two nine-hour production shifts and one maintenance shift, five to six days a week. The mine employs 95 people with 91 of these working underground and 4 on the surface. The employees at this operation are not represented by a labor organization. The mine produces on average 8,700 tons of raw material a day.

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

Charles I. Bearse, III	President
Joe Pugh	Vice President
Danny Helmondollar	Superintendent
Jim Catlett	Mine Foreman
Larry D. Brown	Safety Director

Prior to the accident, the Mine Safety and Health Administration (MSHA) completed the last regular safety and health inspection (E01) on December 20, 2011. The Non-Fatal Days Lost (NFDL) injury incidence rate for this mine during the period of January through December 2011 was 3.28, compared to a national rate of 3.69.

DESCRIPTION OF ACCIDENT

On Saturday, March 10, 2012, a pre-shift report for the upcoming evening shift for the Number 1 Section, reportedly conducted from 12:00 p.m. to 12:45 p.m., was called outside at 1:40 p.m. by James Law, Day Shift Section Foreman, and was received on the surface by Jeremy Sigler, Evening Shift Section Foreman. No violations or hazardous conditions were reported for the pre-shift examination of the Number 1 Section. The pre-shift examination record was signed by Sigler.

The records of the mine's communication and tracking system indicate that Sigler started underground at the Kingston Number 2 Mine at approximately 1:30 p.m. and arrived on the Number 1 Section at 2:04 p.m. Upon his arrival, Sigler proceeded across the section until 2:28 p.m., where he was picked up by the tracking receiver located in the number 4 entry. Electronic records indicate he remained on the left side of the section. Sigler was the only certified section foreman and Emergency Medical Technician (EMT) on the Number 1 Section during this shift.

Sigler operated the left side (004-0 MMU) continuous mining machine and mined the number 4 Right crosscut at the beginning of the shift. As mining continued, Sigler moved the continuous mining machine into the number 2 entry. This was the location where Sigler was stuck when the rib roll accident occurred. The continuous mining machine was found positioned in the number 2 entry on the right side of the cut at a slight angle from the right rib, with the boom of the machine near the center of entry.

On the other side of the section, the right side continuous mining machine (001-0 MMU) finished a partial cut in the number 7 entry, mined a short cut in the number 8 entry, and again alternated between the number 7 and 8 entries. At the approximate time of the accident, cutting bits were being replaced on the drum of the continuous mining machine in the number 8 entry.

At approximately 6:18 p.m., Robert Workman, Right Side Roof Bolting Machine Operator, traveled across the section to deliver continuous mining machine bits to the left side continuous mining machine. At approximately 6:20 p.m., Workman found Sigler lying on the mine floor in the number 2 entry, behind the continuous mining machine and along the right rib, between large pieces of rib rock material. Workman checked the victim, who was found to be unresponsive. Workman immediately yelled for help and Charles Dunbar and Gary Williams, Shuttle Car Operators, Sam Hayhurst and Larry W. Cox, Roof Bolting Machine Operators, and John Sweeny, Scoop Operator, arrived at the scene of the accident.

The following actions took place simultaneously: cardio-pulmonary resuscitation (CPR) was administered by Williams; Hayhurst called for help and an ambulance on the mine phone; and Cox travelled to the Mac-12 mantrip to be used for transport. The victim was placed on a back board and prepared for transport to the surface via the Mac-12 mantrip.

At 6:29 p.m., after the victim was loaded on the mantrip, Christopher Patrick, Fireboss/Maintenance Foreman, arrived on the Number 1 Section to provide additional assistance for transporting Sigler. At 6:35 p.m., Patrick and Williams left the section transporting the victim out of the mine on the Mac-12 mantrip.

At approximately 6:37 p.m., Patrick and Williams were met by Gary Lawson, Shift Foreman and EMT, near the number 7 crosscut along the 2F belt conveyor. Lawson immediately got onto the Mac-12 mantrip and continued providing CPR. A decision was made to bring the victim out of the mine on the Mac-12 mantrip, because it would be faster and provide the most room and clearance for continuation of CPR.

During this time someone contacted Daniel Bragg, Section Foreman on the Number 2 Section and EMT, informed him of the accident and directed him to travel and assist in conducting CPR. At approximately 6:48 p.m., Bragg met the group transporting the victim, near the number 4 crosscut, along the 2A belt Conveyor.

Bragg continued CPR until arrival at the surface of the mine at 6:59 p.m., where the victim then received assistance from Jan Care paramedics. The victim was transported by the Jan Care ambulance service to the Raleigh General Hospital, where he was pronounced dead.

INVESTIGATION OF ACCIDENT

At 6:30 p.m. on March 10, 2012, Nicholas Huddleston, Outside Person, notified the MSHA emergency call center of the accident. The MSHA call center then notified David Morris, District 4 Staff Assistant, who promptly issued a 103(j) Order verbally to Russ Mitchem, the mine's Outside Communication Person, at 6:58 p.m. The affected area of the order was the entire mine.

Fred Wills, the Mt. Hope Field Office Supervisor, and Doug Johnson, Accident Investigator, were immediately dispatched to the mine. Joe Mackowiak, Assistant District Manager Technical for District 4, and Daris Barker, District 4 Roof Control Specialist and Accident Investigator, were also notified and dispatched to the mine to participate in the accident investigation.

Johnson and Wills arrived at the mine and were met by Gary Frampton and Kenny Purdue, Alpha Natural Resources Corporate Safety Department, Mike Vaught, Regional Safety Manager and Danny Helmondollar, Mine Superintendent.

The 103(j) Order was modified to a 103(k) order to insure the safety of all persons during the accident investigation and to preserve all evidence at the accident scene. Barker and Mackowiak arrived at the mine and started conducting the accident investigation.

The accident scene was photographed and sketched by the accident investigators and a survey of the scene was conducted later. Preliminary written statements from persons having knowledge of the facts and circumstances concerning the accident were obtained and mine tracking information was requested. Witness interviews were conducted on Monday, March 12, 2012, with persons considered to have knowledge of the facts and circumstances concerning the accident. A list of the persons who participated in the investigation is contained in Appendix A. The victim's information is contained in Appendix B. District 4 requested the assistance of MSHA Technical Support personnel to aid in the determination of the potential geological causes of the accident.

This 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.

DISCUSSION

Experience and Training

Jeremy Sigler received his West Virginia Underground Miner's card on March 4, 2002. He began work at the Kingston Number 2 Mine on August 2, 2004, as a contract employee for Lightning Contracting (MSHA I.D. Number 8CV), and was later hired as a mine employee on August 13, 2004.

On August 2, 2004, Sigler received experienced miner and hazard training at the Kingston Number 2 Mine from Danny Helmondollar, Mine Foreman. Sigler received New Task Training from Helmondollar on January 13th and 14th, 2008. Sigler was promoted to section foreman on December 12, 2009, after receiving his West Virginia mine foreman certification. While working at the mine, Sigler had become an experienced continuous mining machine operator. On April 9, 2011, Sigler, received a mine foreman continuing education class, and on February 13, 2012, Sigler received his eight hour annual refresher training, both given by Greg Fernett, Safety Manager.

Time of Accident

Sigler was operating the left side continuous mining machine on the Number 1 Section at the time of the accident. He had completed a cut in the number 4 entry right crosscut, and was in the process of mining a deep (extended) cut in the number 2 entry when the accident occurred. There were no eyewitnesses to the accident. Sigler was found lying on the mine floor by Workman shortly after Sigler loaded a shuttle car that traveled to the section dumping point. Interviews indicated that the accident occurred at 6:15 p.m. However, based on the mine tracking system, the accident most likely occurred some time between 6:10 and 6:20 p.m.

Accident Scene

The mining height at the scene of the accident was 68 inches, consisting of 31 inches of coal and 37 inches of top rock. Rock above the coal seam was being

mined to provide clearance for mining equipment and personnel. A drawing of the accident scene is located in Appendix C.

The victim's hard hat was located under the portion of rib rock, which likely struck him as it fell from the rib. A respirator, cap light, tape measure, mine light, radio, and safety glasses were all present at the scene, but were most likely moved when CPR was administered. Sigler's lunch box and an aluminum clip board were found later on the continuous mining machine. The aluminum clip board contained the following plans: Roof Control plan, dated February 25, 2010, Methane and Dust Control plan for MMU-001 (for right side of the Number 1 Section), dated February 28, 2012, and the current Methane and Dust Control plan for MMU-004 (for left side of the Number 1 Section), dated January 5, 2012.

The rib rock that struck Sigler measured 6 feet 7 inches long, 40 inches wide and varied in thickness from 1 to 10 inches. The entire length of the section of rib which fell was approximately 30 feet 6 inches.

The left side of the face of the number 2 entry, which was being mined when the accident occurred, was mined to a depth of 36 feet 6 inches, and the right side of the face of the number 2 entry was mined to a depth of 28 feet 2 inches, as measured from the last row of permanent roof supports. The mine's approved Methane and Dust Control plan for MMU-004 (for left side of the Number 1 Section), only allowed a maximum distance of 20 feet from the end of the line curtain to the deepest point of penetration into the coal seam. Therefore, the approved cut depth was exceeded when the accident occurred. The additional time involved with mining the deeper cut increased the victim's exposure to a hazardous rib condition in the number 2 entry, thereby contributing to the fatal accident.

The hazardous rib conditions on the Number 1 Section were obvious, extensive and had existed for the last 8 crosscuts. In the active face area, hazardous rib conditions existed inby the last open crosscut on the right side of entries Numbers 1, 2, 3, 6, and 8. No rib supports of any type were installed for these hazardous ribs. Additionally, in the last open crosscut, and for one crosscut outby, the right side ribs and the outby rib in the crosscuts contained hazardous rib conditions in all entries (Numbers 1 through 9). In most areas of the section outby the last open crosscut, timbers had been set adjacent to bad ribs, which did not control or prevent the ribs from falling.

A preshift examination of the area of the accident was conducted by James Law, Day Shift Section Foreman, from 12:00 p.m. till 12:45 p.m. on March 10, 2012, and was called out and received by Sigler. The preshift report was recorded and the conditions of roof and ribs were reported as being "OK at the time of examination." This constituted an inadequate preshift examination, due to the extensive and obvious hazardous rib conditions that existed on the Number 1 Section.

The existing hazardous conditions were also not posted with conspicuous danger signs and were not corrected before persons were exposed to these hazards. The mine tracking system indicated that Sigler went across the section at the beginning of the shift, but none of the existing hazardous conditions were posted. Sigler also certified by date, times, and initials that hazard examinations were made which he never performed. Specifically, the investigation testimonies and the mine tracking system both indicated that Sigler remained on the left side of the section after 2:24 p.m. His certification of examinations were found containing his initials for March 10, 2012, and examination date and times listed in the following entries: number 6 entry for 3:20, 5:30 and 7:35 p.m., number 7 entry for 3:50, and 5:45 p.m., number 8 entry for 3:45 and 5:50 p.m., and in the number 9 entry for 4:03 and 5:55 p.m. Entries 6, 7, 8, and 9 are on the right side of the section. The entries were numbered 1 through 9 from left to right on the section.

Geological Conditions on the Number 1 Section

On the Number 1 Section, minor rib damage in the form of sloughing of small thin slabs and blocks occurred locally under all overburden thicknesses. The rib deterioration was more pronounced at pillar corners. Where corners showed significant sloughing, typically 3 to 5 timbers were installed. In the panel being mined by the Number 1 Section, and inby crosscut 5, where the overburden exceeded 1,100 feet, failure more commonly occurred as elongated slabs 2 to 12 inches thick. In localized areas, up to 3 feet of rib loss had occurred. The fractures that bounded the slabs extended vertically from the coal to the roof line and were smooth, slightly undulating, and commonly dissipated at the roof line.

Rib damage seemed to occur preferentially on the right (north) side of entries and the outby (east) side of crosscuts. This may be due to the dip of the seam or, more likely, the cut sequence.

In areas where ribs seemed intact, sounding of the rib with a rock hammer often revealed drummy conditions, indicating that rib fracturing was common when slab failure had not occurred.

There was at least some degree of time dependency with respect to rib failure: pillars away from the face had deteriorated, requiring the installation of timbers. Linear fracturing in the ribs was parallel to the mining direction where ribs were straight, and in at least 2 instances where large radius curves were cut into pillar corners, fracturing was tangential to the curve. This, and the strong correlation between depth of cover and rib failure frequency, indicates that rib spalling resulted from pillar loading, especially where overburden exceeds 1,000 ft.

Rib Conditions and Support

Observation of the rib conditions on the panel being mined at the time of the accident indicated that the ribs were severely deteriorated, generally in all locations that had in excess of 1,000 feet of cover. The Number 1 section had experienced this condition for the past 8 crosscuts, or for a distance of approximately 640 feet of panel development.

The only method of rib support that the operator had in place at the mine was to pull down any bad ribs that were observed and to set timbers along these bad ribs. However, timbers were not installed inby the last open crosscut at the time of the accident. The mine did not have a systematic method of placing timbers based on overburden depth, nor did they have a method in place to deal with bad ribs inby the last open crosscut or close to the face area. The timbers that were being installed were more for narrowing the entry width for roof control purposes, rather than for rib support. The timbers set were inadequate to protect miners from the type of rib falls that were occurring. The length, size, and weight of the falling rib material were sufficiently large enough to push out the set timbers when the rib broke or failed. The operator only reacted to bad rib conditions and at no time developed or implemented a method of prevention.

Previous Examination Records

Within the Pre/On Shift record reports from the time period of February 23, through March 10, 2012, bad rib conditions were reported 21 times and the ribs were reported as being "OK" 22 times.

Methane and Dust Control Plan portion of the Ventilation Plan

Sigler's copy of the January 5, 2012 approved Methane and Dust Control portion of the Ventilation plan for the left side MMU-004 section was found in his aluminum clip board on the continuous mining machine in the Number 2 Entry. The plan contains base requirements for the methane and dust control for this MMU. On page 3 of this plan, the ventilation line curtain maximum distance from the deepest point of the working face was 20 feet. This would effectively limit the maximum depth of cut from the last row of permanent roof support to the mined face to 20 feet also.

Previous Rib Fall Accident

On January 6, 2012 a rib fall accident occurred on the Number 1 Section, when a piece of rib rolled out, striking the continuous mining machine operator on the foot. The continuous mining machine operator received a fracture to the

metatarsal bone in his foot. The mine operator did not revise the roof control plan as a result of that accident.

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 analysis and the corresponding corrective actions implemented to prevent a recurrence of the accident.

Root Cause: The mine operator failed to develop and implement a method of rib support for mining under deep cover. A method of rib support was needed in order to mitigate the hazardous condition of rib rolls present at the mine.

Corrective Action: The operator has now developed a mining plan that includes rib bolting when mining under covers in excess of 1,000 feet. This plan includes changes to the roof control plan and the purchase of roof bolting machines that have the ability to install horizontal rib bolts. The plan also requires systematic actions to be taken to control the pillar corners when mining under cover depths between 700 and 1,000 feet.

Root Cause: The mine operator failed to insure that adequate preshift examinations were being conducted and that all obvious hazardous conditions present were being reported.

Corrective Action: Written policy regarding preshift examinations and training of all examiners in the recognition of mine hazards has been conducted. A record of the training for the examiners was provided to MSHA.

CONCLUSION

The mine operator failed to develop and implement a method of rib support for mining under deep cover which prevented hazardous rib rolls. The obvious hazardous conditions due to falling rib material were extensive during the development of the Number 1 Section, for a distance of 640 feet. Mine management took insufficient actions to prevent the existence of hazardous rib conditions and allowed miners to be exposed to the hazardous conditions for an extensive period of time on the Number 1 Section. Mine management performed inadequate examinations and failed to recognize the seriousness of the hazards present on the section.

Approved By:

Charles E. Carpenter District Manager Coal Mine Safety and Health, District 4

10-22-12

Date

ENFORCEMENT ACTIONS

1. <u>Order Number 8120865</u>, was issued over the phone verbally at approximately 6:56 p.m. on March 10, 2012, under the provisions of section 103(j) of the Mine Act:

A fatal accident occurred at this operation on March 10, 2012, when a section foreman was crushed by a rib fall while operating the left side continuous mining machine. This order was issued 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, Number 8120865, was modified on March 10, 2012 to a 103(k) order and was reduced to writing at 21:30 p.m.

This order was subsequently terminated on May 7, 2012. The operator obtained an approved roof control plan revision that included a systematic method of supporting the coal mine ribs while mining in areas that have a cover of greater than 1,000 feet.

2. <u>Citation Number 7257552</u>, was issued under the provisions of Section 104(d) of the Mine Act, for a violation of 30 CFR 75.202(a):

The operator failed to protect persons from hazards related to falls of ribs where persons were required to work and travel. The ribs on the Number 1 Section where a rib fall fatality occurred were not supported or otherwise adequately controlled. Hazardous rib conditions existed inby the last open crosscut on the right side of entries 1, 2, 3, 6, and 8. No rib supports of any type were installed for these hazardous ribs. Outby the last open crosscut for a distance of one crosscut, the right side ribs and the outby rib in the crosscuts contained hazardous rib conditions in all entries (1 through 9). This condition was obvious and extensive across the section for the last 550 feet, from survey station 16078 to survey station 16174 in the last open crosscut. In most of the outby places the ribs were inadequately supported with timbers, which did not control or prevent the ribs from falling. This violation is an unwarrantable failure to comply with a mandatory standard.

Standard 75.202(a) was cited 21 times in two years at mine 4608932 (23 to the operator, 0 to a contractor).

3. <u>Order Number 7257553</u>, was issued under the provisions of Section 104(d)(1) of the Mine Act, for a violation of 30 CFR 75.370(a)(1):

The operator failed to follow the approved ventilation plan which was approved by MSHA on January 5, 2012, for MMU-004, the left side of No. 1 Section. Jeremy Sigler, Section Foreman, was fatally injured by a rib roll on March 10, 2012 while operating the continuous mining machine in the number 2 entry. The MMU-004 plan only approved a 20 foot maximum distance from the end of the line curtain to the deepest point of penetration in a working face. A cut deeper than 20 feet was taken in the No. 2 Entry measuring 36 feet-6 inches on the left side of the entry and 28 feet-2 inches on the right side of the entry, as measured from the last row of bolts. This violation increased the time that Sigler was exposed to the bad rib conditions in the No. 2 entry contributing to the cause of the accident. A copy of the approved ventilation plan was found in the clipboard belonging to Sigler and was found on the continuous mining machine after the accident. This violation is an unwarrantable failure to comply with a mandatory standard.

Standard 75.370(a)(1) was cited 21 times in two years at mine 4608932 (21 to the operator, 0 to a contractor).

4. <u>Order Number 7257554</u>, was issued under the provisions of Section 104(d)(1) of the Mine Act, for a violation of 30 CFR 75.363(a):

Existing hazardous conditions were not posted with conspicuous danger signs or corrected before persons were exposed to these hazards. The ribs on the No. 1 Section were not supported or otherwise adequately controlled. Hazardous rib conditions existed inby the last open crosscut on the right side of entries 1, 2, 3, 6, and 8. No rib supports of any type were installed for these hazardous ribs. Outby the last open crosscut for a distance of one crosscut, the right side ribs and the outby rib in the crosscuts contained hazardous rib conditions in all entries (1 through 9). This condition was obvious and extensive across the section for the last 550 feet, from survey station 16078 to survey station 16174 in the last open crosscut. In most of the outby places the ribs were inadequately supported with timbers, which did not control or prevent the ribs from falling.

Jeremy Sigler, Section Foreman for the No. 1 Section noted with date, time and initials that an examination was made that had not occurred. Sigler was fatally injured on March 10, 2012 at approximately 6:15 p.m. in the No. 2 Entry where he was operating the continuous mining machine. Based on testimonies and a review of the mine tracking system he remained on the left side of the section after 2:24 p.m. His dates, times and initials for certification of examinations were found for 3/10/12 and the times listed in the following entries: No. 6 entry for 3:20, 5:30 and 7:35 p.m., No. 7 entry for 3:50 and 5:45 p.m., No. 8 entry for 4:45 and 5:50 p.m., and in the No. 9 entry for 4:03 and 5:55 p.m. Failure to properly perform examinations constitutes a reckless disregard to health and safety. This violation is an unwarrantable failure to comply with a mandatory standard.

5. <u>Order Number 7257555</u>, was issued under the provisions of Section 104(d) of the Mine Act, for a violation of 30 CFR 75.223(a)(1):

The operator is required to propose changes to the roof control plan when conditions indicate that the current plan is not suitable for controlling the roof, face and ribs of the mine. Revisions to the roof control plan were not proposed by the operator when conditions indicated that the roof control plan did not control the ribs as required. The Kingston 2 Mine began experiencing hazardous rib conditions on the No. 1 Section which have been present for the last 8 crosscuts. These hazardous rib conditions were reported 21 times, in the preshift and on-shift reports and 5 times in the production reports for this mine from February 14, 2012, to March 9, 2012. This condition was obvious and known at this operation. The Mine Foreman normally signs the reports and was on the No. 1 Section on March 7, 2012. The Mine Superintendent had not been on the section for to investigate the hazardous conditions that were reported for the past 2 weeks. Therefore, the failure to revise and provide adequate rib protection constitutes more than ordinary negligence. This is a violation of an unwarrantable failure to comply with a mandatory standard, because the operator failed to exercise a high standard of care.

6. <u>Order Number 7257556</u>, was issued under the provisions of Section 104(d)(1) of the Mine Act, for a violation of 30 CFR 75.360(b)(3):

An inadequate preshift examination was conducted for the evening shift on the No. 1 Section in the Kingston Number 2 Mine. A preshift examination was conducted by James Law, Day Shift Foreman, from 12:00 p.m. till 12:45 p.m. on March 10, 2012. The results of the examination was called out and received by Jeremy Sigler, Evening Shift Foreman. The preshift report was recorded and the conditions of roof and ribs were listed as being "OK at the time of examination". Sigler was fatally injured by a rib roll at approximately 6:15 p.m., while operating the continuous mining machine in the number 2 entry on the 004-0 MMU side of the No. 1 Section. Hazardous rib conditions existed inby the last open crosscut on the right side of entries 1, 2, 3, 6, and 8. No rib supports of any type were installed for these hazardous ribs. Outby the last open crosscut for a distance of one crosscut, the right side ribs and the outby rib in the crosscut contained hazardous rib conditions in all entries (1 through 9). This condition was obvious and extensive across the section for the last 550 feet, from survey station 16078 to survey station 16174 in the last open crosscut. In most of these outby places the ribs were inadequately supported with timbers, which did not control or prevent the ribs from falling. Failure to properly perform examinations for hazardous conditions constitutes a reckless disregard to the health and safety of miners.

This violation is an unwarrantable failure to comply with a mandatory standard.

APPENDIX A Persons participating in the investigation

Kingston Mining Inc.

Charlie Bearse, III	President
Daniel E. Helmondollar	Superintendent
Jim Cattlet	Day Shift Mine Foreman
Gary Lawson	Evening Shift Mine Foreman
Ken PurdueDirector of C	Dperations and Safety for Alpha Natural Resources
Gary Frampton	Safety Director for Alpha Natural Resources
Mike Vaught	Regional Safety Director
Larry Brown	Kingston Safety Manager
Mark Morris	Chief Engineer
Brerry Hudson	Manager of Technical Services
Scott Peterson	Senior Director of Geology
Peter Zhang	Geo-Technical Engineer
Scott Wade	Mine Geologist
Daniel Bragg	Number 2 Section Evening Section Foreman
Christopher A. Patrick	Fire Boss/Maintenance Foreman
Robert Workman	Right Side Roof Bolter Operator
Charles Dunbar	Left Side Shuttle Car Operator
David Hayhurst	Right Side Continuous mining machine Operator
Johnny Sweeney	Scoop/Continuous mining machine Operator
Larry W. Cox	Left Side Roof Bolter Operator
Fred Ford	Right Side Shuttle Car Operator
Larry E. Cox	Right Side Shuttle Car Operator
Sam Hayhurst	Left Side Roof Bolter Operator
Arthur Wolfson	Attorney with Jackson Kelly, PLLC
Donnie Kelly	Attorney with Dinsmore & Shohl, LLP
Mark E. Heath	Attorney with Spillman, Thomas & Battle, PLLC

West Virginia Office of Miner's	<u>s Health, Safety and Training</u>
C. A. Phillips	Director
Eugene White	Deputy Director
Bill Tucker	Assistant to Director
McKennis Browning	Inspector at Large
Steve Lafferty	Assistant Inspector at Large
Monte Hieb	Chief Engineer
Clarence Dishmon	District Inspector
Robert Hall	District Inspector
Gene Stewart	District Inspector
	-

Mine Safety and Health Administration

Joseph C. Mackowiak, PE	Assistant District Manager/Technical Programs
David Morris, PE	
Fred Wills	Mount Hope Field Office Supervisor
Daris Lee Barker, Jr, PE	Mining Engineer/Accident Investigator
Douglas Johnson.	Mining Engineer/Accident Investigator
Robert Hatfield	Electrical Supervisor
Paul Tyrna	Technical Support Geologist

APPENDIX B Victim Information

												mourau		
Victim Information: 1														
Name of Injured/III Employee:	2. \$ex	3. Victim's	Age .	4. Degree	of Injury:									
Jeremy C. Sigler	М	34		01 Fa	tal									
5. Date(MM/DD/YY) and Time(24 Hr.) (Of Death:				6. Date	e and Tim	e Started:							
a. Date: 03/10/2012 b.Time:	18:20					a. Date:	03/10/201	2 b.Time	13:30)				
7. Regular Job Title:			8. Work A	ctivity when	Injured:				9	. Was th	is work ac	tivity part of	of regular j	ob?
049 Section Foreman			049 Op	erate Contin	uous Mir	ner					Yes	No	x	
					Dava		Venin	Maska				Veare	Meeks	Da
a This	Days	b. Regular	rears	vveeks	Days	c; This	160/5	AAGGU2		ayə	d. Total	rearb	110010	
Work Activity: 7 30	0	Job Title:	3	12	4	Mine:	7	31	5		Mining:	10	0	6
11. What Directly Inflicted Injury or Illnes	s?					12. Natur	e of Injury o	or Illness			44			
122 Fall of Rib						170	Crushing i	njury						
13. Training Deficiencies:		anti- 01												
Hazard: New/Ne	wiy-Employ	ed Experien	ced Miner:				Annual:			Task:				
14 Company of Employment: (If differen	t from prod	uction opera	tor)		-									
Operator	n nom prou						In	ndepende	ent Cont	tractor ID:	: (if applica	able)		
15. On-site Emergency Medical Treatme	ent													and the designment
Not Applicable: Eiret A	Nd: X		PR: X	EMT	.	Med	ical Profess	sional:	11	None:				
18 Part 50 Decument Control Mumber	/form 7000	1)		Cart	17. Unio	n Affiliatio	n of Victim	0000		None	No Union	Affiliation	-	
to, Part of Document Control Number.	0001117000	- U			TT: UNIC					none (
Victim Information:														
 Name of Injured/III Employee: 	2. Sex	3. Victim's	s Age	4. Degree	of Injury									
5. Date(MM/DD/YY) and Time(24 Hr.)	Of Death:				6. Da	ate and Ti	me Started	:						
7 Regular Job Title:			8. Work A	Activity when	Injured:					9, Was t	his work a	ctivity part	of regular	r job?
r. Regular 500 Tibe.											Yee	No		
											160	110	I	
10. Experience: Years Weeks	Days	h Dogul	Years	Weeks	Days	c: 154	Years	We	eek	Days	d. Total	Years	Weeks	Days
a. Inis Made Activity		Job Title				Mine	-				Mining:			
Work Activity:	-	300 Hue				minna.							1.00	~
What Directly Inflicted injury or lines	ee /					12. Natu	e of Injury	or liness						
	991					12. Natu	e of Injury	or liiness	5					
						12. Natu	e of Injury	or Illness	к.					10 M 10 1
13. Training Deficiencies:						12. Natu	e of Injury	or Illness	ĸ	Tabla			144	14 18 19 19 19 19 19 19 19 19 19 19 19 19 19
13. Training Deficiencies: Hazard: New/No	ewly-Emplo	yed Experie	nced Miner	r.		12. Natu	Annual:	or Illness		Task:				5.000
13. Training Deficiencies: Hazard: New/No 14. Company of Employment: (If differen	ewly-Emplo	yed Experie	nced Miner ator)	r.		12. Natu	Annual:	or Illness); D: /// ar	Task:				5 8 W
13. Training Deficiencies: Hazard: New/Net 14. Company of Employment: (if differen	ewly-Emplo	yed Experie	nced Miner ator)	<u>.</u>		12. Natu	Annual:	or Illness	s: ID: (if ap	Task: oplicable)		-		
13. Training Deficiencies: Hazard: New/Nr 14. Company of Employment: (if different 15. On-site Emergency Medical Treatment	ewly-Employ nt from proc	yed Experie duction oper	nced Miner ator)	<u>.</u>		12. Natu	Annual:	or Illness	s: ID: (if ap	Task: oplicable)				
13. Training Deficiencies: Hazard: New/Nv Hazard: New/Nv Company of Employment: (If different 15. On-site Emergency Medical Treatment Not Applicable: First-4	ewly-Emplo nt from proc ent: Ald:	yed Experie duction oper	nced Miner ator) R:	:		12. Natur	Annual: bendent Co	or Illness	s: ID: (if ap	Task: oplicable) None:				
13. Training Deficiencies: Hazard: New/Nr 14. Company of Employment: (If different is a structure of the	ewly-Employ nt from proc ent: Ald:	yed Experie duction oper CP -1)	nced Miner ator) R:	EMT	17. Uni	12. Natur	Annual: Annual: bendent Co lical Profess	or Illness	s: ID: (if ap	Task: oplicable) None:				
13. Training Deficiencies: New/Nr Hazard: New/Nr 14. Company of Employment: (If different is the service of the servi	ewly-Employ nt from proc ent: Ald:	yed Experie duction oper CP -1)	nced Miner ator) R:	<u>.</u> . . ЕМТ	: 17. Uni	12. Natur Indeg Mec	Annual: Annual: bendent Co lical Profession of Victim	or lilness Intractor I Isional: n:	5; ID: (if ap	Task: oplicable) None:				
13. Training Deficiencies: Hazard: New/Net 14. Company of Employment: (If different 15. On-site Emergency Medical Treatment Not Applicable: First-A 16. Part 50 Document Control Number: Victim Information: Name of Information:	ewly-Emplo nt from proc ent: Aid:	yed Experie duction oper CP -1)	nced Miner ator) R:	EMT	17. Uni	12. Natur Indeg Mec on Affiliati	Annual: Dendent Co lical Profession of Victim	or lilness Intractor Isional: n:	s: ID: (if ap	Task: oplicable) None:				
13. Training Deficiencies: New/Nr Hazard: New/Nr 14. Company of Employment: (if different in the second	ewly-Emplo nt from proc ent: Ald: (form 7000 2. Sex	yed Experie duction oper CP -1) 3. Victim	nced Miner ator) R:	EMT	17. Uni	12. Natur Indeg Mec on Atfiliati	Annual: bendent Co lical Profes	or lilness	s; ID: (if ap	Task: oplicable) None:				
13. Training Deficiencies: Hazard: New/Nr 14. Company of Employment: (If different 15. On-site Emergency Medical Treatm Not Applicable: First-7 16. Part 50 Document Control Number: Victim Information: 1. Name of Injured/III Employee:	ewly-Emplo nt from proc ent: Ald: (form 7000	yed Experies duction oper CP 1-1) 3. Victim	nced Miner ator) R:	EMT	: 17. Uni a of Injury	12. Natu Indeg Mec on Affiliati	Annual: Annual: bendent Co lical Profes on of Victim	or lilness intractor sional: n:	s; ID: (if ap	Task: oplicable) None:				
13. Training Deficiencies: Hazard: New/Nr 14. Company of Employment: (If different 15. On-site Emergency Medical Treatment 15. On-site Emergency Medical Treatment 16. Part 50 Document Control Number: Victim Information: 1. Name of Injured/III Employee: 5. Date(MM/DD/YY) and Time(24 Hr.)	ewly-Emplo nt from proc ent: Ald: (form 7000 2. Sex Of Death:	yed Experie Juction oper CP -1) 3. Victim	nced Miner ator) R:	EMT	: 17. Uni e of Injury 6. D	12. Natur Indeg Mec on Affiliati y: Date and T	Annual: Annual: bendent Co lical Profes on of Victim	d:	s: ID: (if ap	Task: oplicable) None:				
13. Training Deficiencies: Hazard: New/Net 14. Company of Employment: (If different 15. On-site Emergency Medical Treatment Not Applicable: First-A 16. Part 50 Document Control Number: Victim Information: 1. Name of Injured/III Employee: 5. Date(MM/DD/YY) and Time(24 Hr.)	ewly-Emploint from proceed of the second sec	yed Experied duction oper- CF h-1) 3. Victim	nced Miner ator) R:	EMT	17. Uni a of Injury 6. D	12. Natur Indeg Mec on Affiliati y: Date and T	Annual: Annual: bendent Co lical Profes on of Victim	d:	s: ID: (if ap	Task: oplicable) None:				
13. Training Deficiencies: Hazard: New/Nr 14. Company of Employment: (if different 15. On-site Emergency Medical Treatm Not Applicable: First-7 16. Part 50 Document Control Number: Victim Information: 1. Name of Injured/III Employee: 5. Date(MM/DD/YY) and Time(24 Hr.) 7. Regular Job Title:	ewly-Emplo nt from proc ent: Ald: (form 7000 2. Sex Of Death:	yed Experied duction oper- CP -1) 3. Victim	nced Miner ator) R: s Age 8. Work	EMT	17. Uni e of Injun 6. C en Injure	12. Natur Inde; Mec on Affiliati y: Date and T d:	Annual: Annual: bendent Co lical Profes on of Victim	d:	s: ID: (if ap	Task: pplicable) None: 9. Was	this work	activity par	t of regula	ar job?
13. Training Deficiencies: Hazard: New/Nr 14. Company of Employment: (if different 15. On-site Emergency Medical Treatm Not Applicable: First- 16. Part 50 Document Control Number: Victim Information: 1. Name of Injured/III Employee: 5. Date(MM/DD/YY) and Time(24 Hr.) 7. Regular Job Title:	ewly-Emplo nt from proc ent: Ald: (form 7000 2. Sex Of Death:	yed Experies Juction open CP -1) 3. Victim	nced Miner ator) R: 's Age 8. Work	4. Degree	17. Uni e of Injun 6. D en Injure	12. Natur Inde; Mecon Affiliati y: Date and T d:	Annual: bendent Co lical Profes on of Victim	d:	s: ID: (if ap	Pask: pplicable) None: 9. Was	this work	activity participation in the second se	t of regula	ar job?
13. Training Deficiencies: Hazard: New/Nr 14. Company of Employment: (If different 15. On-site Emergency Medical Treatment Not Applicable: First-4 16. Part 50 Document Control Number: Victim Information: 1. Name of Injured/III Employee: 5. Date(MM/DD/YY) and Time(24 Hr.) 7. Regular Job Title:	ewly-Emplo nt from proc ent: Ald: (form 7000 2. Sex Of Death:	yed Experie duction oper CP -1) 3. Victim	nced Miner ator) R: 's Age 8. Work	4. Degree	2 17. Uni e of Injun 6. E en Injure	12. Natur Indeg Mecon Affiliati y: Date and T d:	e of Injury of Annual: bendent Co lical Profess on of Victim	d:	s: ID: (if ap	Task: oplicable) None: 9. Was	this work Yes	activity participation in the second se	t of regula	ar job?
13. Training Deficiencies: Hazard: New/Net 14. Company of Employment: (If different 15. On-site Emergency Medical Treatment Not Applicable: First-7 16. Part 50 Document Control Number: Victim Information: 1. Name of Injured/III Employee: 5. Date(MM/DD/YY) and Time(24 Hr.) 7. Regular Job Title: 10. Experience: Years Week	ewly-Employ nt from proc ent: Ald: (form 7000 2. Sex Of Death: s Day	yed Experies Juction oper- CP -1) 3. Victim	nced Miner ator) R: s Age 8. Work	EMT	17. Uni e of Injun 6. D en Injure Days	12. Natur Indeg Mecon Affiliati y: Date and T d: e: Ti	Annual: Dendent Co lical Profess on of Victin Time Starter	d:	: ID: (if ap	Task: oplicable) None: 9. Was Days	this work Yes d. Tota	activity participation in the second	rt of regula o	ar job? s Day
13. Training Deficiencies: Hazard: New/Nr 14. Company of Employment: (if different 15. On-site Emergency Medical Treatment Not Applicable: First-A 16. Part 50 Document Control Number: Victim Information: 1. Name of injured/III Employee: 5. Date(MM/DD/YY) and Time(24 Hr.) 7. Regular Job Title: 10. Experience: Years Week a, This Work Activity:	ewly-Emploint from proc ent: Ald: (form 7000 2. Sex Of Death: s Day	yed Experier Juction oper- CP -1) 3. Victim 3. Victim	Inced Miner ator) IR: IS Age 8. Work Is Age	4. Degree	17. Uni e of Injun 6. D Days	12. Natur Indeg Mec on Affiliati y: Date and T d: C: Th Min	Annual: Annual: bendent Co lical Profes on of Victim Time Starter his e:	d:	: ID: (if ap	Task: oplicable) None: 9. Was Days	this work Yos d. Tota Mining	activity participation in the second	t of regula o	ar job? s Day
13. Training Deficiencies: Hazard: New/Nr 14. Company of Employment: (if different 15. On-site Emergency Medical Treatm Not Applicable: First- 16. Part 50 Document Control Number: Victim Information: 1. Name of Injured/III Employee: 5. Date(MM/DD/YY) and Time(24 Hr.) 7. Regular Job Title: 10. Experience: Years Week a. This Work Activity: 14. What Directly inflicted Inlury of Illing	ewly-Emplo nt from proc ent: Ald: (form 7000 2. Sex Of Death: s Day	yed Experied Juction oper- CP -1) 3. Victim 3. Victim	Inced Miner ator) R: S Age 8. Work Is Age	EMT 4. Degree k Activity wh s Weeks	17. Uni e of Injun 6. D en Injure Days	12. Natur Indeg Mec on Affiliati y: Date and T d: s c: Tin Min 12. Natur	Annual: Annual: bendent Co lical Profes on of Victim Time Starter his a: ure of Inium	d:	: ID: (if ap	Task: oplicable) None: 9. Was Days	this work Yes d. Tota Mining	activity participation of the second	rt of regula o Weeks	ar job? s Day
13. Training Deficiencies: Hazard: New/Nr 14. Company of Employment: (If different 15. On-site Emergency Medical Treatm Not Applicable: First- 16. Part 50 Document Control Number: Victim Information: 1. Name of Injured/III Employee: 5. Date(MM/DD/YY) and Time(24 Hr.) 7. Regular Job Title: 10. Experience: Years Week a. This Work Activity: 11. What Directly Inflicted Injury or Illne	ewly-Employ nt from proc ent: Ald: (form 7000 2. Sex Of Death: s Day	yed Experied duction oper- CP -1) 3. Victim 3. Victim 5. b. Regu Job Tit	nced Miner ator) R: s Age 8. Work slar Year: le:	EMT 4. Degree k Activity wh & Weeks	: 17. Uni e of Injury 6. E een Injure Days	12. Natur Inde; Mecon Affiliati y: Date and T d: c: Th Min 12. Natur	Annual: Annual: bendent Co lical Profess on of Victim Time Starter his s: ure of Injur	or Illness intractor isional: d: y or Illne	: ID: (if ap Week \$\$5:	Task: oplicable) None: 9. Was Days	this work Yes d. Totat Mining	activity para N Years	t of regula o Weeks	ar job? 3 Day
13. Training Deficiencies: Hazard: New/Net 14. Company of Employment: (If different 14. Company of Employment: (If different 14. Company of Employment: (If different 15. On-site Emergency Medical Treatm Not Applicable: First-4 16. Part 50 Document Control Number: Victim Information: Victim Information: Victim Information: Victim Information: 1. Name of Injured/III Employee: 5. Date(MM/DD/YY) and Time(24 Hr.) 7. Regular Job Title: 10. Experience: Years Week a. This Work Activity: 11. What Directly Inflicted Injury or Illine 10. Table Deficience:	ewly-Emplo nt from proc ent: Ald: (form 7000 2. Sex Of Death: s Day iss?	yed Experie Juction oper- CP -1) 3. Victim 3. Victim 5. b. Regi Job Tit	nced Miner ator) R: s Age 8. Worf 8. Worf lar Vean lar	EMT 4. Degree k Activity wh s Weeks	17. Uni 17. Uni 6. E en injure Days	12. Natur Indeg Mec on Affiliati v: Date and T d: c: Ti Min 12. Nat	Annual: Annual: bendent Co lical Profes on of Victin ime Starter his e: ure of Injur	rs V y or lline	: ID: (if ap Week \$\$:	Task: pplicable) None: 9. Was Days	this work Yes d. Tota Mining	activity para N Years	t of regula o Weeks	ar job? 3 Day
13. Training Deficiencies: Hazard: New/Ne 14. Company of Employment: (if different 15. On-site Emergency Medical Treatm Not Applicable: First- 16. Part 50 Document Control Number: Victim Information: 1. Name of Injured/III Employee: 5. Date(MM/DD/YY) and Time(24 Hr.) 7. Regular Job Title: 10. Experience: Years Week a. This Work Activity: 11. What Directly Inflicted Injury or Illne 13. Training Deficiencies:	ewly-Emploint from proc ent: Ald: (form 7000 2. Sex Of Death: s Day iss?	yed Experie Juction oper- CP -1) 3. Victim 3. Victim 5. D. Regu Job Tit	nced Miner ator) R: s Age 8. Work lar Vean lar	4. Degree	: 17. Uni a of Injury 6. I Days	12. Natur Indeg Mec on Affiliati y: Date and T d: Cate and T d: Cate and T d: Cate and T Min Min	Annual: Annual: bendent Co lical Profes on of Victin Time Starter his e: ure of Injur Annual	rs V y or lline	:: ID: (if ap Neek \$\$5:	Task: oplicable) None: 9. Was Days	this work Yes d. Tota Mining	activity para N Years	rt of regula o Weeks	ar job? s Day
13. Training Deficiencies: Hazard: New/Nr 14. Company of Employment: (if different 15. On-site Emergency Medical Treatm Not Applicable: First- 16. Part 50 Document Control Number: Victim Information: 1. Name of injured/III Employee: 5. Date(MM/DD/YY) and Time(24 Hr.) 7. Regular Job Title: 10. Experience: Years Week a. This Work Activity: 11. What Directly Inflicted Injury or Illne 13. Training Deficiencies: Hazard: New	ewly-Emplo nt from proc ent: Ald: (form 7000 2. Sex Of Death: s Day iss? /Newly-Emp	yed Experied Juction oper- CP -1) 3. Victim 3. Victim 5. Regu Job Tit 5. Job Tit	nced Miner ator) R: s Age 8. Work alar Vear alar renced Miner	EMT EMT 4. Degree k Activity wh s Weeks ner:	: 17. Uni e of Injun 6. I Days	12. Natur Inde; Mecon Affiliati y: Date and T d: c: TT Min 12. Nat	Annual: Annual: bendent Co lical Profes on of Victim ime Starter his e: urre of Injur Annual	or Illness intractor isional: d: y or Illne L:	s:	Task: pplicable) None: 0. Was Days Task:	this work Yes d. Tota Mining	activity parts	t of regula	ar job? 3 Day
13. Training Deficiencies: Hazard: New/Nr 14. Company of Employment: (If different Not Applicable: First- 15. On-site Emergency Medical Treatm Not Applicable: First- 16. Part 50 Document Control Number: Victim Information: Victim Information: Victim Information: Name of Injured/III Employee: 5. Date(MM/DD/YY) and Time(24 Hr.) 7. Regular Job Title: 10. Experience: Years Week a. This Work Activity: 11. What Directly Inflicted Injury or Illne 13. Training Deficiencies: Hazard: New 14. Company of Employment: (If different	ewly-Employ Int from proceed ent: Ald: (form 7000 2. Sex Of Death: S Day iss? (Newly-Employment from pro	yed Experied duction oper- CF -1) 3. Victim 3. Victim 5. b. Regu Job Tit ployed Exper- duction oper-	nced Miner ator) R: s Age 8. Work lar Year lar re: rienced Min rator)	EMT EMT 4. Degree 4. Degree 4. Degree 5. 6. 6. 6. 6. 6. 6. 6. 6. 6.	: 17. Uni s of Injury 6. I. en Injure Days	12. Natur Indeg Mecon Affiliati y: Date and T d: c: Ti Min 12. Nat	Annual: Annual: bendent Co lical Profess on of Victim ime Starter bis profess verified and the starter bis con of Victim ime Starter bis con of Victim ime Starter bis con of Victim ime Starter bis con of Victim ime Starter bis con of Victim	or Illness or Illness intractor isional: n: d: y or Illne intractor isional: intractor isional: isiona	S:	Task: pplicable) None: 0. Was Daya Task:	this work Yes d. Tota Mining	activity parts	t of regula o Weeks	ar job?
13. Training Deficiencies: Hazard: New/Net 14. Company of Employment: (If different 15. On-site Emergency Medical Treatment Not Applicable: First-7 16. Part 50 Document Control Number: Victim Information: 1. Name of Injured/III Employee: 5. Date(MM/DD/YY) and Time(24 Hr.) 7. Regular Job Title: 10. Experience: Years Week a. This Work Activity: 11. What Directly Inflicted Injury or Illine 13. Training Deficiencies: Hazard: New 14. Company of Employment: (If different New Processing States)	ewly-Employ nt from proc ent: Ald: 2. Sex 0f Death: s Day iss? /Newly-Employ ent from proc	yed Experie Juction oper- CP -1) 3. Victim 3. Victim b. Regu Job Tit bloyed Exper- duction oper-	Inced Miner ator) IR: IS Age 8. Work Is Age Is Age	EMT EMT 4. Degree Activity wh s Weeks her:	17. Uni a of Injury 6. I. Days	12. Natur Indeg Mec on Affiliati v: Date and T d: c: TT Min 12. Nat Indeg	Annual: Annual: bendent Co lical Profes on of Victin ime Starter his e: ure of Injur Annual	or Illness intractor isional: n: d: rs v y or Illne intractor intractor intractor intractor intractor	x: D: (if ap Week ss: D: (if ap	Task: oplicable) None: 0. Was Days Task:	this work Yes d. Tota Mining	activity para N Years	t of regula o Weeks	ar job? 3 Day
13. Training Deficiencies: Hazard: New/Ne 14. Company of Employment: (If different 15. On-site Emergency Medical Treatm Not Applicable: First- 16. Part 50 Document Control Number: Victim Information: 1. Name of Injured/III Employee: 5. Date(MM/DD/YY) and Time(24 Hr.) 7. Regular Job Title: 10. Experience: Years Week a. This Work Activity: 11. What Directly Inflicted Injury or Illne 13. Training Deficiencies: Hazard: New 14. Company of Employment: (If differe 15. On-site Emergency Medical Treatm 16. On-site Emergency Medical Treatm 17. Name of Injured/III Employment: (If difference) 15. On-site Emergency Medical Treatm 16. On-site Emergency Medical Treatm 17. Nome of Employment: (If difference) 18. On-site Emergency Medical Treatm 19. On-site Emergency Medical Treatm 10. On-site Emergency Medical Treatm 11. On-site Emergency Medical Treatm 12. On-site Emergency Medical Treatm 13. Treatm 14. Company of Employment 15. On-site Emergency Medical Treatm 16. On-site Emergency Medical Treatm 17. Medical Treatm 17. Medical Treatm 18. Medical Treatm 18. Medical Treatm 19. Medical Treatm 19.	ewly-Emploint from proceent: Ald:	yed Experie Juction oper- CP -1) 3. Victim 3. Victim b. Regu Job Tit ployed Exper- duction oper-	nced Miner ator) R: s Age 8. Worf lar Vean lar rienced Mir rator)	4. Degree A. Clivity wh s Weeks	17. Uni a of Injury 6. I Days	12. Natur Indeg Mec on Affiliati y: Date and T d: Cate and T d: 12. Natur Min 12. Natur	Annual: Annual: bendent Co lical Professon of Victim Time Starter his e: ure of Injur Annual bendent Co	or Illness or Illness intractor isional: n: d: rs V y or Illne it:	x: ID: (if ap Week ss: ID: (if ap	Task: opiicabie) None: 0. Was Days Task: pplicable)	this work Yes d. Tota Mining	activity para N Years	t of regula o	ar job? s Day
13. Training Deficiencies: Hazard: New/Nr 14. Company of Employmant: (if different Not Applicable: First- New/Not Applicable: First- New/Not Applicable: First- Not Applicable: First- New/Not Applica	ewly-Emplo nt from proc ent: Ald: (form 7000 2. Sex Of Death: s Day iss? /Newly-Emp ent from pro nent: rst-Ald:	yed Experied duction oper- 	Inced Miner ator) R: s Age 8. Work alar Vean alar rienced Min rator) CPR:	EMT EMT A. Degree A. Activity wh s Weeks rer:	: 17. Uni e of Injun 6. C Days Days	12. Natur Indeg Mecon Affiliati y: Date and T d: c: TT Min 12. Nat Indeg	Annual: Annual: bendent Co lical Profes on of Victin ime Starter his e: urre of Injur Annual bendent Co odical Profe	or Illness intractor isional: n: d: y or Illne isional: i: iuntractor isional: iuntractor isional: iuntractor	x: D: (if ap N/Gek ss: ID: (if ap	Task: pplicable) None: 9. Was Days Task: pplicable)	this work Yes d. Tota Mining	activity parts	rt of regula o Weeks	ar job? s Day
13. Training Deficiencies: Hazard: New/Nr 14. Company of Employment: (if different Not Applicable: New/Nr 15. On-site Emergency Medical Treatm Not Applicable: New Not Applicable: N	ewly-Emplo nt from proc ent: Ald: (form 7000 2. Sex Of Death: 3. Day iss? /Newly-Emp ant from pro- nent: rst-Ald: ; (form 7000	yed Experied duction oper- 	nced Miner ator) R: s Age 8. Work lar Year lar renced Mir rator) CPR:	EMT EMT A. Degree A. Degree A. Activity wh S Weeks rer: EN	: 17. Uni e of Injury 6. I. Days Days	12. Natur Indeg Mecon Affiliati y: Date and T d: c: TI Min 12. Nat Indeg Indeg	Annual: Annual: bendent Co lical Profess on of Victim Time Starter bis e: ure of Injur Annual bendent Co odical Profestion of Vi	or Illness or Illness intractor isional: n: d: y or Illne isional:	x: D: (if ar Week \$\$5: D: (if ar	Task: pplicable) None: 0. Was Days Task: pplicable) None:	this work Yes d. Tota Mining	activity parts	t of regula	ar job?
13. Training Deficiencies: Hazard: New/Net 14. Company of Employment: (If different 15. On-site Emergency Medical Treatm Not Applicable: First-7 16. Part 50 Document Control Number: Victim Information: 1. Name of Injured/III Employee: 5. Date(MM/DD/YY) and Time(24 Hr.) 7. Regular Job Title: 10. Experience: Years Week a. This Work Activity: 11. What Directly Inflicted Injury or Illine 13. Training Deficiencies: Hazard: New 44. Company of Employment: (If different 15. On-site Emergency Medical Treatm Not Applicable: Fir 16. Part 50 Document Control Number	ewly-Emploint from proceent: Ald:	yed Experied duction oper- 	Inced Miner ator) IR: IS Age 8. Work Is Work Is Age Is Age	EMT EMT 4. Degree 4. Degree k Activity wh k Activity wh k Weeks her:	17. Uni a of Injury 6. I. Days MT: 17.	12. Natur Indeg Mec on Affiliati v: Date and T d: c: TT Min 12. Nat Indeg Indeg Munion Affi	Annual: Annual: bendent Co lical Profes on of Victin ime Starter bis e: ure of Injur Annual bendent Co edical Profe	or Illness intractor isional: n: d: rs v y or Illne essional: isional: isio	x: ID: (if ap Week \$\$5: ID: (if ap	Task: oplicable) None: Daye Task: pplicable) None:	this work Yes d. Tota Mining	activity para N Years	t of regula o Weeks	ar job?
13. Training Deficiencies: Hazard: New/Nr 14. Company of Employment: (if different to company of Employment: 15. On-site Emergency Medical Treatment to company of Employment: First-A 16. Part 50 Document Control Number: First-A Victim Information: First-A 1. Name of Injured/III Employee: 5. Date(MM/DD/YY) and Time(24 Hr.) 7. Regular Job Title: Time(24 Hr.) 10. Experience: Years Week a. This Work Activity: 11. What Directly Inflicted Injury or Illne 13. Training Deficiencies: Hazard: Newn 14. Company of Employment: (if different to company of Em	ewly-Emploint from proc ent: Ald: (form 7000 2. Sex Of Death: ss Day ess? (Newly-Emp ent: rst-Ald: ; (form 7000	yed Experied duction oper- 	Inced Miner ator) R: S Age 8. Work alar ie: rienced Min rator) CPR:	4. Degree A. Degree K Activity wh s Weeks	TT: United and the second seco	12. Natur Indeg Mec on Affiliati y: Date and T d: C: Th Min 12. Nat Indeg Indeg Mn M	e of injury of Annual: bendent Co lical Profes on of Victin Time Starter his e: ure of injur Annual bendent Co odical Profe	or Illness intractor isional: it: it: intractor it:	x: ID: (if ap Week ss: ID: (if ap	Task: opiicable) None: 0. Was Days Task: pplicable)	this work Yes d. Tota Mining	activity para	t of regula o	ar job? s Day

APPENDIX C Sketch of the Accident



(Drawing is not to scale shown)