

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

COAL MINE SAFETY AND HEALTH

REPORT OF INVESTIGATION

Surface Mine

Fall of Highwall Double Fatality
October 28, 2011

Mine Equipment and Mill Supply Company (MEMSCO) CXJ

at

Equality Mine
Armstrong Coal Company Inc.
Centertown, Ohio County, Kentucky
ID No. 15-19344

Accident Investigators

William L. Barnwell
Mine Safety and Health Coal Mine Inspector

Ray A. Cartwright
Mine Safety and Health Coal Mine Inspector

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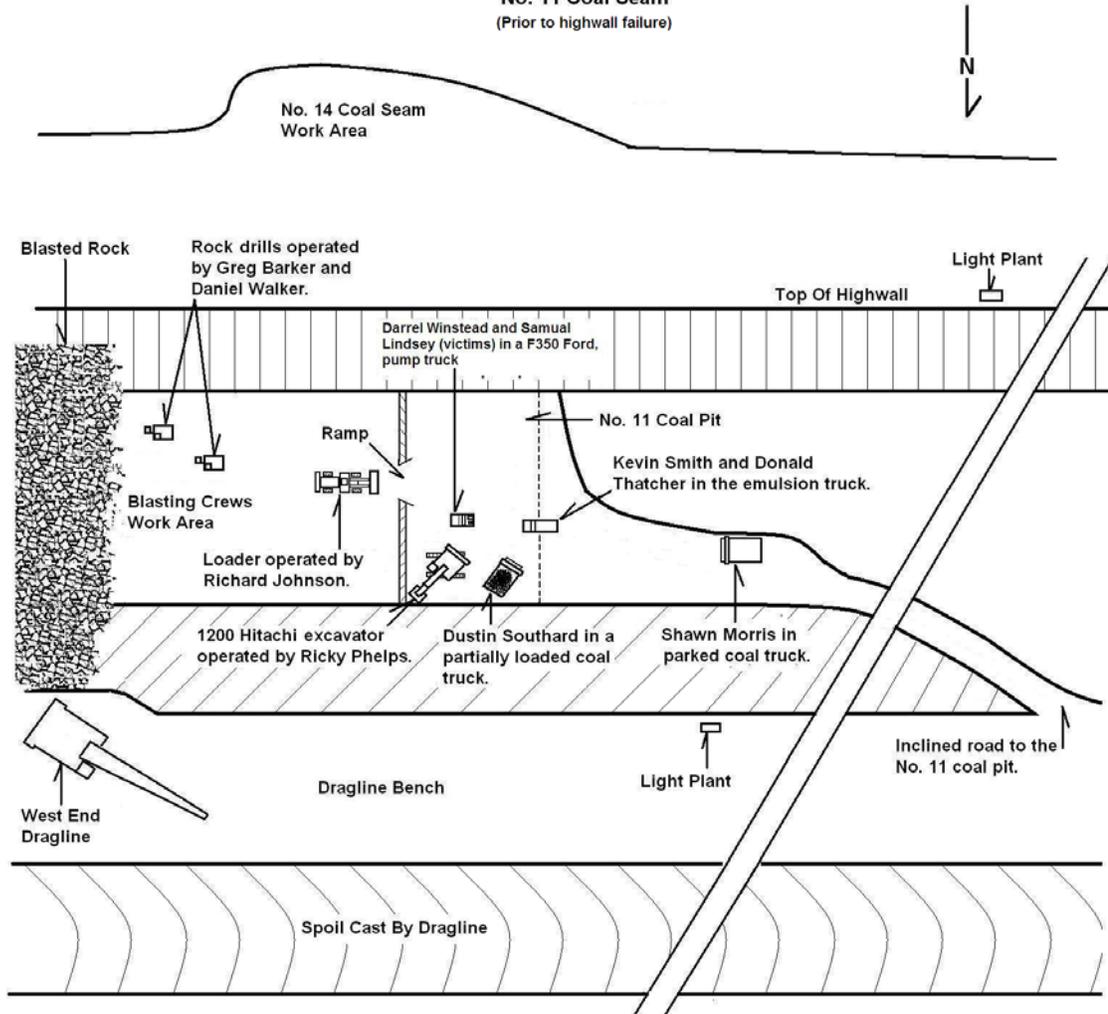
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Accident Scene Sketch

Coal Fatal 18 & 19
October 28, 2011
Armstrong Coal Company Inc.
Equality Mine
15-19344

The Accident Scene West End Dragline Pit No. 11 Coal Seam (Prior to highwall failure)



Not To Scale

OVERVIEW

On Friday, October 28, 2011, at approximately 6:15 a.m., 47-year old Darrel Alan Winstead, Certified Blaster, and 23-year old Samuel Joe Lindsey, Blaster Helper, were killed when the 1-ton truck they were in was struck and covered by rock and rubble when a portion of the highwall failed. Both miners were employees of Mine Equipment and Mill Supply Company (MEMSCO), a contractor blasting company for Armstrong Coal Company, Inc. The two miners were in the #11 Pit traveling to the area of the pit that had been prepared for the loading of explosives and the eventual blasting of material as part of normal mining activity when the highwall failure occurred. The accident occurred because mine management failed to recognize a geologic anomaly, located in the portion of the highwall below the #14 coal seam and above the #13 coal seam, prior to the highwall failure.



GENERAL INFORMATION

Equality Mine is operated by Armstrong Coal Company LLC. The mine is located off of State Highway 69, approximately six and a half miles Southeast of Centertown, Kentucky. At the time of the incident the mine employed 118 people and 14 contractor employees. Daily production of coal averages 13,500 tons. The Equality mine is a surface mine with an open pit, mining 4 separate seams of coal. The mine operates on a schedule where mobile equipment runs two 10-hour shifts, 5 days per week and 8 hours on Saturday. The two draglines run three 8-hour shifts, 7 days a week. Blasting operations are provided by MEMSCO.

The principal officials for the Equality Mine were:

John Bruce General Superintendent of Surface Operations
Dwight D. Lee..... Mine Superintendent
Roger L. Smith Safety Manager

The principal officers for Armstrong Coal Company, Inc. were:

J. Hord Armstrong, IIIChairman and Chief Executive Officer
Martin D. Wilson..... President and Director
Kenneth E. AllenExecutive Vice President of Operations
David R. CobbExecutive Vice President of Business Development
J. Richard Gist.....Senior Vice President, Finance and Admin. and CFO
Richard A. BrothersDirector of Safety

The contact person for MEMSCO:

Marty Vincent.....HSE Manager

A regular safety and health inspection (E01) by MSHA was in progress at the time of the accident. The previous inspection was completed on September 27, 2011. The Non Fatal Days Lost (NFDL) incidence rate for the mine in 2010 was 0.00, compared to a national NFDL incidence rate of 1.12 for surface mines.

DESCRIPTION OF ACCIDENT

On Friday, October 28, 2011, at 4:00 a.m., Dwight D. Lee, Superintendent, Jerry Southard, supervisor, Tommy Williams, Supervisor and Roger Smith, Safety Manager, met to discuss the day's work detail. At 4:20 a.m. Lee, Southard, and Williams proceeded to the pit areas to conduct examinations. Williams went to the East end of the #11 Pit, Lee to the West end of the #11 Pit, and Southard to the #14 pit. Lee was in

the #11 Pit on two separate occasions prior to the accident. On four occasions, Lee passed the section of highwall that failed. Lee stated that he met Winstead coming into the #11 Pit to the drilled area in the West end. Lee further stated this was when Winstead would conduct a pre-shift examination of his work area as part of the routine as certified blaster. Winstead returned to the staging area where the explosives truck and pump truck were located to meet with the miners that conducted blasting for the shift.

At 5:30 a.m., Winstead met with all the blasting company employees assigned to the day shift and gave them work orders. Typically, the employees load their trucks with the supplies to be used and enter the #11 Pit. Donald Thacker and Kevin Smith, Blaster Helpers, traveled to the pit and waited at the bottom of the ramp, which descends from the dragline bench into the #11 Pit. Winstead and Lindsey entered the pit 20 minutes later and led a second truck, occupied by Smith and Thatcher, toward the drill bench of the #11 Pit. Once reaching the area next to the ramp close to the Hitachi excavator/loader, operated by Ricky Phelps, Winstead exited the Ford F350 pump truck to look at the small ramp going up from the #11 coal seam to the rock bench above the #11 seam area. The ramp is approximately a six-foot incline to the East. Witnesses stated Winstead said he had trouble seeing the ramp because lights from the equipment in the pit were casting shadows on the pit floor and he wanted to make sure he was accessing the ramp properly.

As Winstead re-entered his truck, a rock, reported to be the size of a watermelon, fell into the pit. Winstead attempted to maneuver the truck next to the excavator or to retreat out of the pit. Additional rock began to fall, followed by massive rocks and boulders falling and covering the truck completely. According to witness testimony, only a couple of seconds elapsed between the first rock falling and the massive fall. The truck driven by Smith was backed away when they saw the rock falling and the reverse lights from Winstead's truck. The Caterpillar 773 truck, driven by Dustin Southard, was struck by rock. Southard was uninjured and exited the vehicle by the exit window and left the pit on foot.

Rock also struck the Hitachi excavator occupied by Rickey Phelps, who was not injured. Richard Johnson was operating the Caterpillar 988 wheel loader and was facing the truck driven by Winstead. Johnson and Phelps were positioned to see the rocks from the highwall strike the truck carrying Winstead and Lindsey (Victims). According to Johnson, Phelps, and other witnesses, there was no indication of any loose material in the highwall, nor had any material fallen during their time in the pit that morning. They further remarked the floor was clean and free of any rock.

Lee instructed Smith to notify emergency services, the Kentucky Office of Mine Safety and Licensing, (KOMSL), and MSHA. Because of unstable highwall conditions, equipment was mobilized to begin scaling the highwall from the top. Dave Lander, an Armstrong employee, positioned a Komatsu PC800LC-8 excavator and started scaling the highwall. When loose material was removed, a Caterpillar 992G loader was sent

into the pit to remove material from the pit floor. This was done to gain access to the victims' truck and the Hitachi excavator that Phelps had operated.

Kenneth Allen, Executive Vice President of Operations for Armstrong Coal, Ronnie Drake, KOMSL District Office Supervisor, and Ted Smith, Assistant District Manager for MSHA, arrived on site to coordinate and facilitate recovery of the miners. At 9:10 a.m., a plan of action was formulated to continue recovery operations, using the 992 Caterpillar loader working in the pit. At 9:33 a.m., the plan was modified to allow the excavator, operated by Lander, to go back to the top of the highwall and pull/scale other loose material. At 9:52 a.m., the plan was modified further to allow Lander to operate a Hitachi EX1200 excavator in the pit to remove rock from around the Hitachi excavator that Phelps had been operating at the time of the accident. The excavator operated by Phelps had experienced damaged hydraulic lines and could not be used to move material. Once enough fallen rock was removed from this excavator, more space was provided to allow Lander to begin removing rock that would recover the bodies of Winstead and Lindsey. The rock was removed and stacked to the side and occasionally was relocated further to the East in the pit by the Caterpillar loader. The victims were recovered at 12:00 p.m. by rescue workers and pronounced dead at the scene by the Ohio County Coroner.

INVESTIGATION OF THE ACCIDENT

At 6:50 a.m. on the day of the accident, Ted Smith, was notified by Bill Cook, Field Office Supervisor, that there was a highwall failure at the Equality Mine with potential fatalities. Cook had been notified by text message from an employee at the mine, informing him there had been an accident and two MEMSCO employees were involved. William Barnwell, Coal Mine Inspector, was assigned as the lead accident investigator and dispatched to the mine. Ray Cartwright, Coal Mine Inspector, and Smith, traveled to the mine to assist in rescue/recovery operations. At 7:10 a.m. Troy Davis, Staff Assistant, issued a 103(j) Order to Richard Hicks, Armstrong Safety Manager. Upon arrival at the mine at 7:12 a.m., Cook modified the 103(j) Order to a 103(k) Order.

On October 28, 29, and 30, 2011, Barnwell, Smith, Cartwright, Davis, Cook, and Jim Pfiefer and Megan Witkowski from MSHA Technical Support, along with Greg Goins, Kenny Mitchell, Bill Millay, Chris Ashby and Ronnie Drake, KOMSL Accident Investigators, traveled to the accident scene to take measurements and photographs. Interviews were held at the MSHA Beaver Dam Field Office on Saturday, October 29, 2011. Seven mine management officials, six miners and two contractor employees were interviewed.

On October 29, 2011, Cartwright, Davis, Pfiefer and Witkowski conducted an evaluation of the pit and highwall.

DISCUSSION

Description of the Mining Method and Geology

Four coal seams are mined from pits that are typically 6,000 feet long (east to west) and 100 feet wide. The #14 Coiltown seam (#14 seam) is at elevation 360 feet, the #13 Baker seam (#13 seam) is at elevation 280 feet, the #12 Baker seam (#12 seam) is at elevation 260 feet, and the #11 Herrin seam (#11 seam) is at elevation 245 feet. The #14, #12, and #11 seams are 4 feet thick and the #13 seam is 3 feet thick. The depths of the pits vary between 80 to 120 feet. As mining is completed in a pit, another 100-foot-wide cut is made on the southern side to create the next active pit. Typically, the spoil (overburden material removed) is dumped on the northern side of the active pit.

Generally, the interburden consists of limestone between the #11 and #12 coal seams and shale/siltstone between the #12 and #13 seams. The interburden between the #13 and #14 coal seams appears as two distinct stratigraphic units. The upper unit consists of alternating bands of sandstone and shale, with a more pronounced (thicker) sandstone band apparent on the eastern side of the pit. The lower unit consists of shale/siltstone.

Extraction of the four coal seams begins after the overburden above the #14 coal seam is removed. Once the #14 coal is extracted, the interburden between the #14 seam and the #13 seam is drilled and shot, with the southernmost row of blast holes drilled at an angle in order to cast a portion of the shot material into the previous pit. The interburden is approximately 80 feet. Pre-splitting techniques are used to reduce back-break in the rock mass, and as the interburden is removed, dozers and excavators reportedly scale the loose rocks from the highwall. Draglines are used to remove the shot interburden between the #14 and #12 coal seams. Bulldozers, excavators, and haul trucks are used to remove the coal in all of the seams and the interburden between the #12 and #11 coal seams.

According to company personnel, the pit highwall is exposed for approximately one month before mining is completed in the active pit and the overburden for the next pit is shot.

Description of the #11 Pit

The overburden above the #14 seam had been stripped back approximately 500 feet south of the active pit (#11 Pit) and the #14 coal seam had been removed on the western side of the pit. Approximately 7 feet of overburden was placed in the area where the #14 seam had been removed. A berm, approximately 5 feet high and constructed of spoil, was located near the top of the highwall. The 500-foot-wide bench was approximately 95 feet above the bottom of the active pit in the area where the failure occurred. All coal, including the #11 Herrin seam, had been removed from the active pit to the west of the failure. To the east of the failure area, coal down to the #12 seam had been removed. Active mining of the #11 seam was occurring in the location of the failure area.

In the area of the highwall failure, the dumped spoil on the northern side of the pit was sloped at approximately 42 degrees from horizontal. At the locations measured, the slope of the highwall was generally continuous from the top to the bottom with the overall slope being approximately 17.5 degrees from vertical. At areas away from the failure area, the slope of the highwall appeared to be consistent from top to bottom.

Description of the Highwall Failure

The highwall failure occurred in the shale/siltstone zone between the #14 and the #13 coal seams, approximately 1,700 feet east of the western end wall. It was a wedge-type failure, where the rock mass between two intersecting (or nearly intersecting) discontinuities slid into the pit. The rock mass slid along the northeast-facing geologic discontinuity and dropped approximately 30 feet onto the pit floor. The bulk of the slide debris on the pit floor was located east of the center of the failure area in the highwall and the volume of the material that slid into the pit was estimated to be approximately 9,000 cubic yards. Using 120 lb/ft³, this would approximate over 14,000 tons of material. The rubble pile was approximately 250 feet wide, 85 feet high, and extended out from the highwall a distance of approximately 95 feet. At the top of the highwall, the width and depth of the failed area was approximately 130 feet and 45 feet, respectively. The truck that the victims were in was located approximately 50 feet from the base of the highwall and was buried in the debris pile. An excavator that was being used to load haul trucks was positioned approximately 75 feet from the highwall and was contacted by the falling debris.

The discontinuity that defined the western side of the failure area was concave shaped, dipped at about 40 to 43 degrees (from horizontal), and faced the northeast direction (approximately 50 degrees from north). This surface was located in the shale/siltstone strata between the #13 and #14 coal seams and was approximately 25 feet high, with the top being approximately 10 feet below the top of the highwall. The bottom of this surface day-lighted (exited) the highwall approximately 25 feet above the elevation of the #13 coal seam.

The discontinuity that defined the eastern boundary of the failure was a joint, or set of joints, in the rock mass. It was poorly defined, nearly vertical, and appeared to extend from the top to the bottom of the highwall. This plane was in the shale/siltstone strata, as well as the sandstone strata (sedimentary rock layers) between the #13 and #14 coal seams. It faced the northwest direction (325 degrees from north).

Two geologic features, specifically pinched-out sandstone and undulating strata at the top of the highwall, were also observed in the strata just west of the failure. These features were not observed in the highwall to the east of the failure area. It appeared that the pinched-out sandstone and warped strata coincided with the type of discontinuity (potential slickenside) that defined the western boundary of the failure area. Published literature suggests that the surface that defined the western boundary of the failure area could be a slickenside that was caused by differential compaction of

the relatively soft and compressible shale, compared to the massive sandstone just east of the failure area. Published literature also suggests that slickensides typically occur beneath the margin of paleochannels (buried stream channels) and wherever stiffer rocks abut softer rocks. Slickensides are typically defined as surfaces along a fault or a subsidiary fracture in the strata where past movement has occurred. Due to safety concerns, the accident investigators could not get close enough to verify the presence of polished surfaces or striations on the plane that defined the western boundary of the failure. Tension cracks at the top of the highwall, or any other indications of mass instability, were not observed during the accident investigation.

Other Physical Factors

Historical weather records for Madisonville, KY, indicate that approximately 0.9 inches of rain fell on October 26-27, 2011, and that there was no measurable amount of rain (less than 0.01 inches) during the 24 hours prior to the highwall failure. At the time of the accident, it was dark and illumination was limited to a light plant on the highwall and one on the dragline bench. The dragline provided some indirect lighting of the pit. Water was not observed to be seeping from the highwall in the area of the failure and the planes that defined the boundaries of the failure appeared to be dry and it did not appear to play a role in the failure. Historical records also indicate that there were no earthquakes in the vicinity of the mine at the time of the accident or just prior to the accident.

Training

Winstead had 2 years mining experience and 1 year, 29 weeks at this mine. He held the position of certified blaster for 1 year and 26 weeks. Winstead was a certified surface miner. His hazard training for the Equality mine was performed on September 13, 2010 and again on August 2, 2011 by Roger Smith. His Annual Refresher Training was completed on August 27, 2011 and was given by John Wardlaw of John M. Wardlaw Co. LLC, at 101 North Main, Madisonville, Ky.

Lindsey had 13 weeks experience as a miner, all of this as a blaster helper at the Equality Mine. Lindsey was issued his Kentucky Temporary Inexperienced Surface Miner card on April 20, 2011. He received his Hazard Training for the Equality mine on July 28, 2011, by Roger Smith. On July 28, 2011, Lindsey received Part 48, Experienced Miner Training by Marty Vincent, MEMSCO HSE Manager.

The mine operator's training plan was reviewed and found to be deficient. Corrective training measures were made by the mine operator, including revisions to the mine training plan and highwall hazard recognition training was provided for all mine personnel that may be exposed to potential geologic hazards. In addition, the miners were provided training in changes to the mine operator's ground control plan because of the accident.

Examinations

The mine operator's examination conducted for the #11 Pit on the morning prior to the highwall failure was inadequate because the examiner failed to recognize the geologic anomaly that was exposed in the highwall. This anomaly was present for several days prior to October 28, 2011. Similar anomalies were also present in the highwall a few hundred feet to the West of the highwall failure at the same time as the fatal accident. The examination record book did not note the presence of the anomaly, nor the need for corrective actions to be taken by the mine operator.

ROOT CAUSE ANALYSIS

An analysis was conducted to identify the most basic causes of the accident that were correctable through reasonable management controls. During the analysis, root causes were identified that, if eliminated, may have either prevented the accident or mitigated its consequences.

The root causes listed below were identified during the analysis and the corresponding corrective actions were implemented by mine management to prevent a recurrence of the accident:

Root Cause: The mine operator failed to employ mining methods to insure highwall stability.

Corrective Action: The operator has revised their Ground Control Plan. All miners were trained in the changes.

Root Cause: The mine operator had not evaluated an anomaly in the highwall properly or taken prompt corrective action to protect the miners from unsafe ground conditions.

Corrective Action: The mine has enlisted the services of an experienced geologist to provide the evaluations of ground conditions and to instruct examiners in proper procedures to recognize anomalies in the highwall. The mine operator has also put into its ground control plan, design criteria that provides benching to protect miners from highwall failure such as occurred in this accident.

Root Cause: The mine operator has not developed an effective training plan that demonstrates adequately how to recognize and avoid hazards present in the highwall.

Corrective Action: The operator has incorporated in its approved training plan hazard recognition by a qualified professional. All miners at the mine were trained in the training plan revisions.

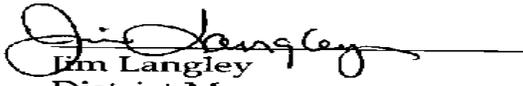
Changes to the Ground Control Plan

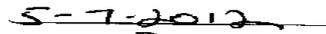
The ground control plan for the mine has been revised to include hazard recognition training for all mine personnel that may be exposed to potential geologic hazards. The training will be provided by a qualified professional. The ground control plan has also been revised to include the construction of an additional bench in the highwall above the pit. The depth of the additional bench will vary, depending on the geologic conditions observed in the highwall. Potentially hazardous geologic conditions that are identified in the highwall will be completely removed during construction of the additional bench.

CONCLUSION

The fatality occurred because of a geologic anomaly, located in the portion of the highwall below the #14 coal seam and above the #13 coal seam. The area of the pit where this shows itself also had two intersecting (or nearly intersecting) discontinuities that slid into the pit. The absence of a substantial bench to prevent the massive failure from entering the active pit where miners were working contributed to the death of two miners. The failure by mine management and the mine examiners to examine the site adequately and to recognize the anomaly and its potential failure and the lack of recognition of hazards by the miners were also contributing factors.

Approved By:


Jim Langley
District Manager


Date

ENFORCEMENT ACTIONS

103(k) Order, No. 8502094, – A serious accident occurred at this operation on October 28, 2011, when two miners were entrapped by rock that fell from the highwall to the pit floor and onto the cab of the 1-ton flat bed truck they were in.

A 104(a) Citation, No. 8498464, was issued for a violation of 30 CFR § 77.207(a): Adequate illumination was not provided or otherwise present to provide adequate hazard examination of the highwall on October 28, 2011. After mining along its active pit below the #14 coal seam on the Western end of the pit, a geologic anomaly was exposed in the highwall. This anomaly was present for several days prior to October 28, 2011. On this day, in the area of the highwall where the anomaly was present, a major failure of the highwall occurred causing fatal injuries to two miners in the #11 pit floor some 85 feet below. Similar anomalies were also present in the highwall a few hundred feet to the West of the highwall failure at the same time as the fatal accident and were obvious to the mine operator and the professional geologist the mine operator hired to evaluate the highwall conditions.

A 104(a) Citation, No. 8498470, was issued for a violation of 30 CFR § 77.1713: An adequate examination was not conducted for hazards related to the highwall in the #11 pit in the minutes, hours or days prior to 6:30 a.m. October 28, 2012. After mining along its active pit below the #14 coal seam on the Western end of the pit, a geologic anomaly was exposed in the highwall. This anomaly was present for several days prior to October 28, 2011. On this day, in the area of the highwall where the anomaly was present, a major failure of the highwall occurred causing fatal injuries to two miners in the #11 pit floor some 85 feet below. Similar anomalies were also present in the highwall a few hundred feet to the West of the highwall failure at the same time as the fatal accident and were obvious to the mine operator and the professional geologist the mine operator hired to evaluate the highwall conditions.

A 104(a) Citation, No. 8502098, was issued for a violation of 30 CFR § 48.25(b)(8): The mine operator failed to provide course material in its training plan and to provide adequate "hazard recognition" training to the miners he employs. Without proper training in "hazard recognition" the miners were not provided with avoidance procedures regarding hazards present in the highwall on October 28, 2011. After mining along its active pit below the #14 coal seam on the Western end of the pit, a geologic anomaly was exposed in the highwall. This anomaly was present for several days prior to October 28, 2011. On this day, in the area of the highwall where the anomaly was present, a major failure of the highwall occurred causing fatal injuries to two miners in the #11 pit floor some 85 feet below. Similar anomalies were also present in the highwall a few hundred feet to the West of the highwall failure at the same time as the fatal accident and were obvious to the mine operator and the professional geologist the mine operator hired to evaluate the highwall conditions. The mine examiners responsible for the examinations of hazards related to the highwall were not

provided with adequate "hazard recognition" and were unable to properly identify hazards that contributed to the fatal accident.

A 104(a) Citation, No. 8502099, was issued for a violation of 30 CFR § 77.1000:

The mine operator failed to recognize and control hazards relating to the highwall prior to and on October 28, 2011, when two miners were killed as the result of a massive highwall failure. After mining along its active pit below the #14 coal seam on the Western end of the pit, a geologic anomaly was exposed in the highwall. This anomaly was present for several days prior to October 28, 2011. On this day, in the area of the highwall where the anomaly was present, a major failure of the highwall occurred causing fatal injuries to two miners in the #11 pit floor some 85 feet below. Similar anomalies were also present in the highwall a few hundred feet to the West of the highwall failure at the same time as the fatal accident and were obvious to the mine operator and the professional geologist the mine operator hired to evaluate the highwall conditions.

A 104(a) Citation, No. 8502100, was issued for a violation of 30 CFR § 77.1000:

The operator failed to establish and follow a ground control plan for the safe control of the highwall prior to and on October 28, 2011. After mining along its active pit below the #14 coal seam on the Western end of the pit, a geologic anomaly was exposed in the highwall. This anomaly was present for several days prior to October 28, 2011. On this day, in the area of the highwall where the anomaly was present, a major failure of the highwall occurred causing fatal injuries to two miners in the #11 pit floor some 85 feet below. Similar anomalies were also present in the highwall a few hundred feet to the West of the highwall failure at the same time as the fatal accident and were obvious to the mine operator and the professional geologist the mine operator hired to evaluate the highwall conditions.

APPENDIX A

Persons Participating in the Investigation

Management Personnel Armstrong Coal Company, Inc.

David Lee Mine Superintendent
Jerry Southard..... Foreman
Roger Smith..... Safety Supervisor
David Lander..... Foreman
Robert Leach..... Foreman
Larry Wilson..... Foreman
Jerry Howard..... Foreman

Miners from the Equality Mine

Ricky Phelps Heavy Equipment Operator
Dustin Southard..... Heavy Equipment Operator
Richard Johnson..... Heavy Equipment Operator
Greg Barker..... Heavy Equipment Operator
Shawn Morris..... Heavy Equipment Operator
Daniel Walker..... Heavy Equipment Operator

Miners from MEMSCO

Kevin Smith..... Blaster Helper
Donald Thatcher..... Blaster Helper

Mine Safety and Health Administration

William Barnwell Coal Mine Safety and Health Inspector
Ray Cartwright Coal Mine Safety and Health Inspector
Troy Davis..... Coal Mine Safety and Health Staff Assistant
Jennifer Thomas Office of the Solicitor
James Pfiefer, P.E. MSHA Pittsburgh Safety and Health Technology Center
Megan Witkowski..... MSHA Pittsburgh Safety and Health Technology Center

Kentucky Office of Mines Safety and Licensing

Greg Goins Accident Investigator
Ronnie Drake Accident Investigator
Chris Ashby Accident Investigator
Bill Millay Accident Investigator
Kenny Mitchell Accident Investigator

APPENDIX B

Exhibit 1



Type of vehicle involved in the accident

APPENDIX B (cont.)
Exhibit 2



Highwall adjacent to and immediately to the West of Accident site

APPENDIX B (cont.)
Exhibit 3

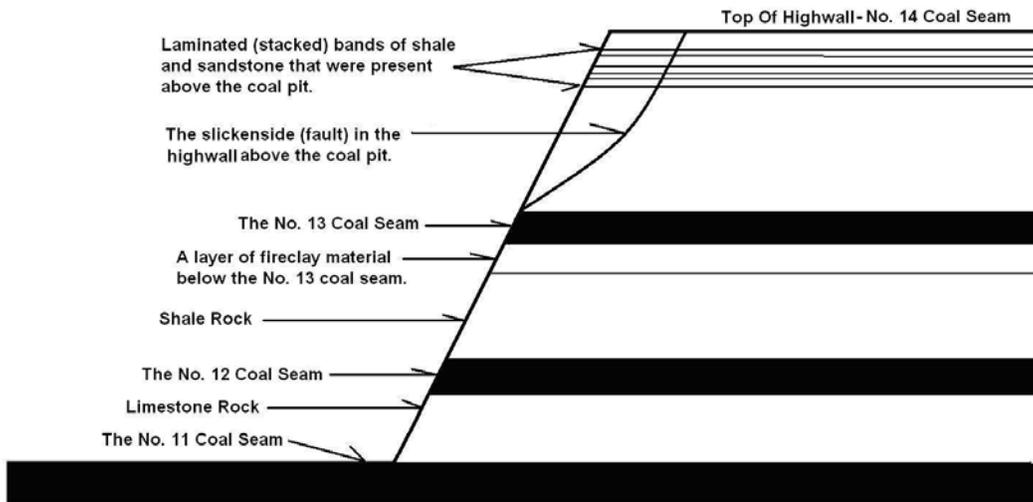
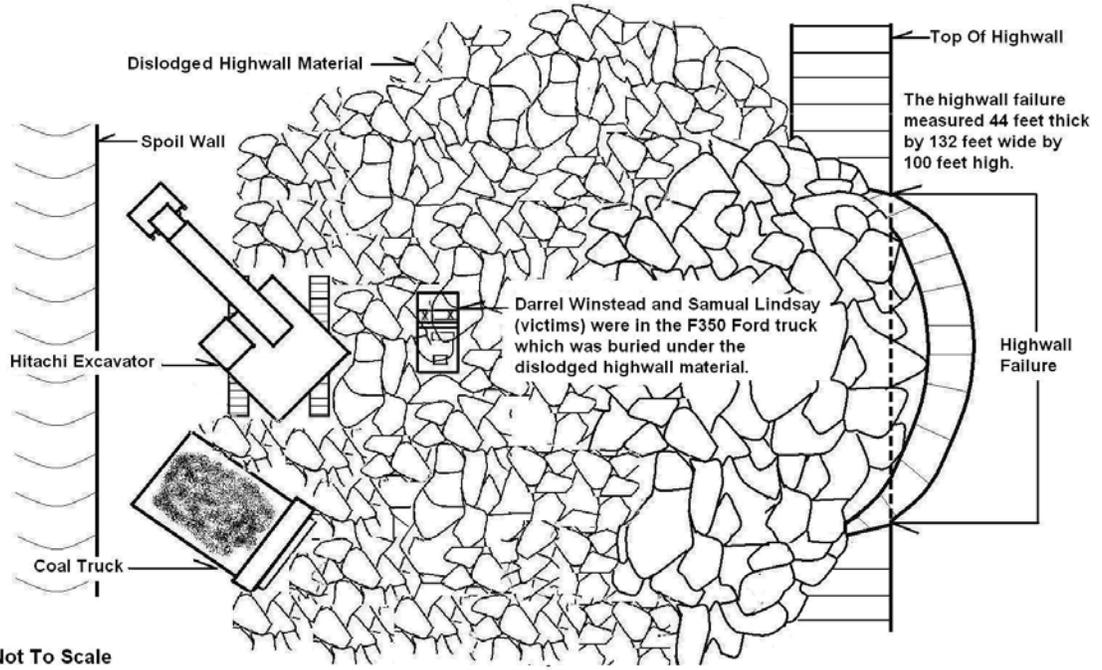


Spoil-side view of accident site

Exhibit 4

Coal Fatal 18&19
 October 28, 2011
 Armstrong Coal Company Inc.
 Equality Mine 15-19344

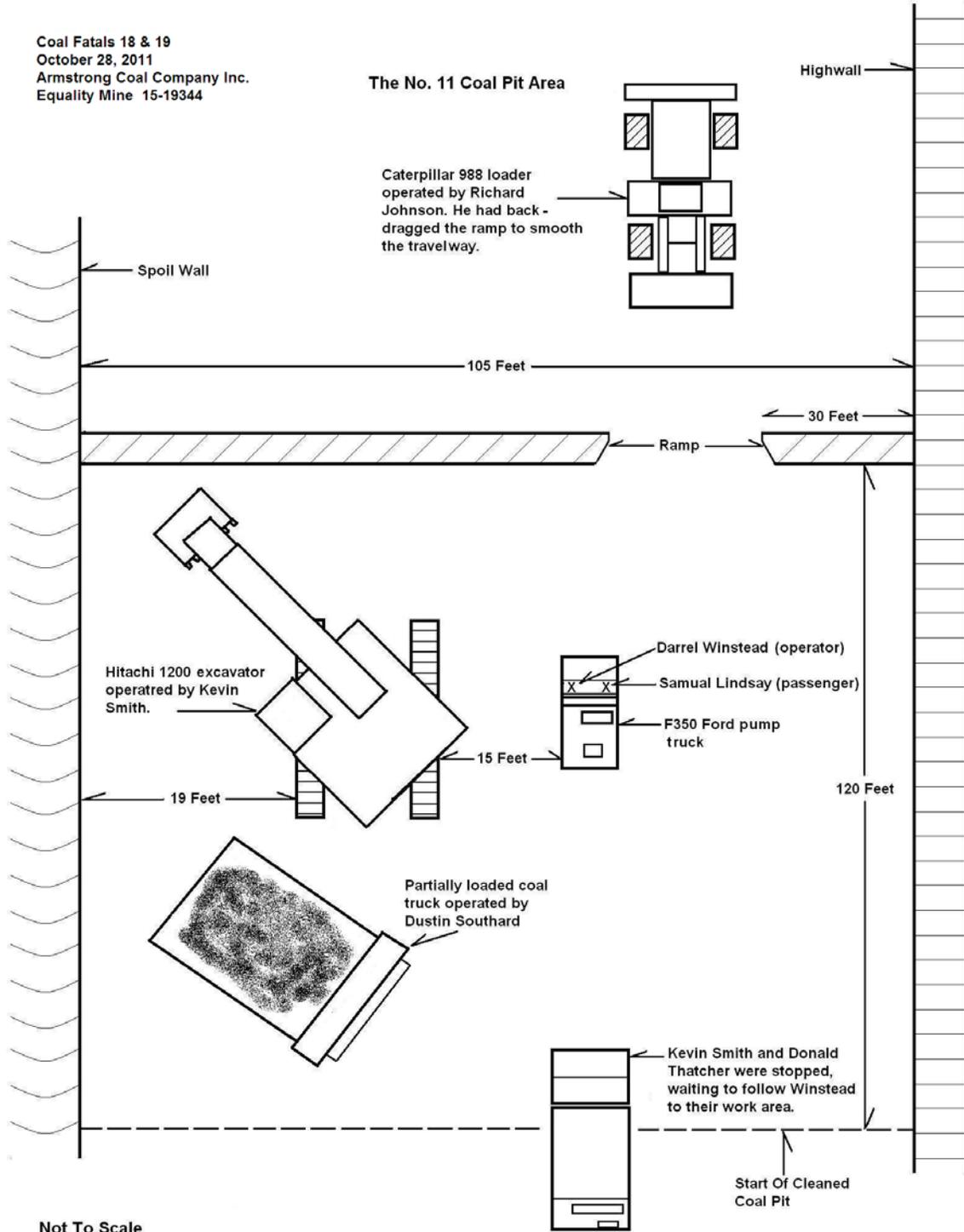
The Accident Scene



Not To Scale

Exhibit 5

Coal Fatal 18 & 19
October 28, 2011
Armstrong Coal Company Inc.
Equality Mine 15-19344



APPENDIX C

MSHA Form 7000-50(b)

Accident Investigation Data - Victim Information

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



Event Number: **4 4 8 6 3 8 7**

Victim Information: 1

1. Name of Injured/III Employee: <i>Darrel A. Winstesd</i>				2. Sex: <i>M</i>		3. Victim's Age: <i>47</i>		4. Degree of Injury: <i>01 Fatal</i>											
5. Date(MM/DD/YY) and Time(24 Hr.) Of Death: <i>a. Date: 10/28/2011 b. Time: 6:27</i>								6. Date and Time Started: <i>a. Date: 10/28/2011 b. Time: 4:30</i>											
7. Regular Job Title: <i>107 Blaster</i>						8. Work Activity when Injured: <i>090 Driving pump truck</i>				9. Was this work activity part of regular job? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
10. Experience		Years	Weeks	Days	b. Regular		Years	Weeks	Days	c. This		Years	Weeks	Days	d. Total		Years	Weeks	Days
a. This					Job Title:					Mine:					Mining:				
Work Activity:		<i>1</i>	<i>26</i>	<i>0</i>	Job Title:		<i>1</i>	<i>26</i>	<i>0</i>	Mine:		<i>1</i>	<i>29</i>	<i>0</i>	Mining:		<i>2</i>	<i>0</i>	<i>0</i>
11. What Directly Inflicted Injury or Illness? <i>091 Highwall failure</i>								12. Nature of Injury or Illness: <i>170 Crushing</i>											
13. Training Deficiencies: Hazard: _____ New/Newly-Employed Experienced Miner: _____ Annual: _____ Task: _____																			
14. Company of Employment: (If different from production operator) <i>Mine Equipment & Mill Supply Company</i>										Independent Contractor ID: (if applicable) <i>CXJ</i>									
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: 2

1. Name of Injured/III Employee: <i>Samual J. Lindsey</i>				2. Sex: <i>M</i>		3. Victim's Age: <i>23</i>		4. Degree of Injury: <i>01 Fatal</i>											
5. Date(MM/DD/YY) and Time(24 Hr.) Of Death: <i>a. Date: 10/28/2011 b. Time: 6:27</i>								6. Date and Time Started: <i>a. Date: 10/28/2011 b. Time: 5:30</i>											
7. Regular Job Title: <i>107 Blaster Helper</i>						8. Work Activity when Injured: <i>076 Riding in pump truck</i>				9. Was this work activity part of regular job? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
10. Experience		Years	Weeks	Days	b. Regular		Years	Weeks	Days	c. This		Years	Weeks	Days	d. Total		Years	Weeks	Days
a. This					Job Title:					Mine:					Mining:				
Work Activity:		<i>0</i>	<i>13</i>	<i>0</i>	Job Title:		<i>0</i>	<i>13</i>	<i>0</i>	Mine:		<i>0</i>	<i>13</i>	<i>0</i>	Mining:		<i>0</i>	<i>13</i>	<i>0</i>
11. What Directly Inflicted Injury or Illness? <i>091 Highwall failure</i>								12. Nature of Injury or Illness: <i>170 Crushing</i>											
13. Training Deficiencies: Hazard: _____ New/Newly-Employed Experienced Miner: _____ Annual: _____ Task: _____																			
14. Company of Employment: (If different from production operator) <i>Mine Equipment & Mill Supply Company</i>										Independent Contractor ID: (if applicable) <i>CXJ</i>									
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/III Employee:				2. Sex:		3. Victim's Age:		4. Degree of Injury:											
5. Date(MM/DD/YY) and Time(24 Hr.) Of Death:								6. Date and Time Started:											
7. Regular Job Title:						8. Work Activity when Injured:				9. Was this work activity part of regular job? <input type="checkbox"/> Yes <input type="checkbox"/> No									
10. Experience		Years	Weeks	Days	b. Regular		Years	Weeks	Days	c. This		Years	Weeks	Days	d. Total		Years	Weeks	Days
a. This					Job Title:					Mine:					Mining:				
Work Activity:					Job Title:					Mine:					Mining:				
11. What Directly Inflicted Injury or Illness?								12. Nature of Injury or Illness:											
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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:									