

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

COAL MINE SAFETY AND HEALTH

REPORT OF INVESTIGATION

Underground Coal Mine

Fatal Methane Explosion

October 23, 2006

R&D Coal Company, Inc. Mine
R&D Coal Company, Inc.
Lincoln, Schuylkill County, PA.
ID No. 36-02053

Accident Investigators

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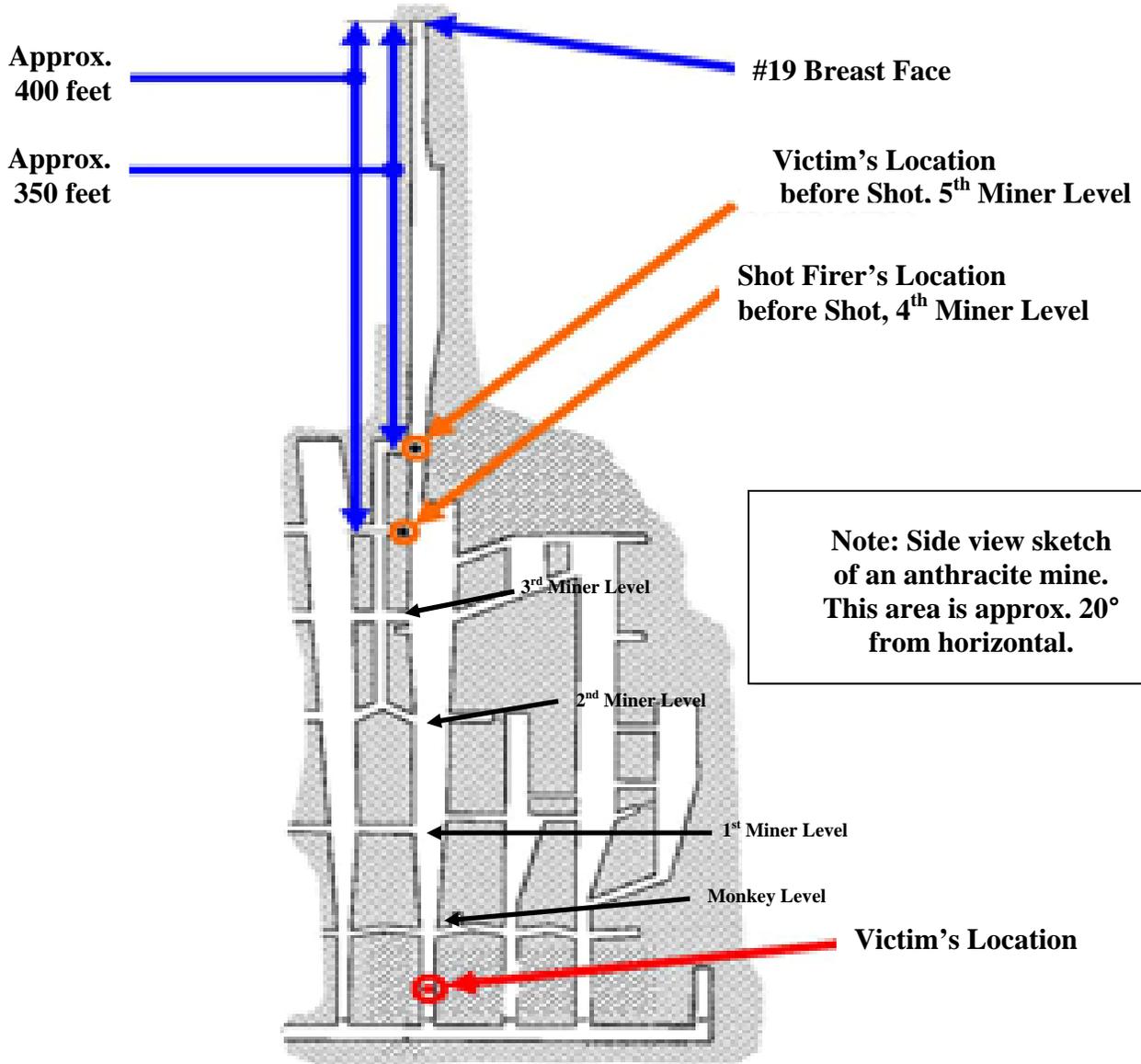
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PROFILE SKETCH of ACCIDENT SCENE



OVERVIEW

On Monday, October 23, 2006, a 43-year old miner was fatally injured when a methane explosion occurred, initiated during an explosives detonation, in the #19 breast on the east side of the mine. The victim, Dale Reightler, was located in the manway of the #19 breast in the vicinity of the 5th miner heading when the explosion occurred. (See preceding sketch and Appendix C). Jeff Klinger, miner, located in the 4th miner heading off the #19 breast, had just fired the working face of the #19 breast when the explosion occurred.

GENERAL INFORMATION

The R&D Coal Company, Inc., R&D Coal Company, Inc. mine is an underground anthracite mine located one mile east of Lincoln, Schuylkill County, Pennsylvania. The mine operates one production shift per day, Monday through Friday. Production shifts start at 7:00 a.m. The mine employs 7 persons and produces 60 raw tons of anthracite coal per day. The mine was placed in active status on December 3, 2001.

Coal is gravity fed from the faces, with the assistance of water, down the breasts, through the chutes and into the mine cars. An air-operated mucking machine is used to load the blasted coal and rock from the face of the gangway. Coal from the chutes and gangway is loaded into three, side dump two-ton capacity mine cars and hauled to the counter chute with a non-permissible locomotive. The three loaded mine cars are dumped into the counter chute where it is transferred to the surface by a manually operated hoist located on the surface.

The R&D Coal Company, Inc. mine has two slope openings into the Buck Mountain vein. The mine slope openings are approximately 1,414 feet above sea level. The length of the intake slope from surface to gangway was approximately 2,100 feet. The #19 breast face was approximately 4,020 feet from the surface intake slope.

There was no underground electric face equipment in use at this mine. Mining equipment consisted of hand-held, air-operated drills, an air-operated mucking machine, 12-inch auxiliary air fans with 12-inch diameter tubing, air movers used in conjunction with 12-inch diameter tubing to ventilate the working faces, and a Mancha nonpermissible, battery operated locomotive to transport coal cars along the gangway to the working section.

The mine is ventilated from two slope openings. The hoisting slope provides intake air for the active workings and the second opening is for the designated alternate escapeway from the section to the main fan located on the surface. Ventilation is induced into the mine by a 72" diameter, 40 horsepower Jeffrey fan. Daily methane liberation obtained from the last E01 inspection was 40,332 cubic feet per 24 hours.

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

David Himmelberger - President

David Zimmerman - Vice-President

Richard Boyer - Secretary

Prior to the accident, the last Safety and Health Inspection (E01) of the mine was completed August 11, 2006. The Non-Fatal Days Lost (NFDL) incidence rate for the mine during calendar year 2005 was 0.00. The 2005 National NFDL rate for underground mines was 5.40.

DESCRIPTION OF ACCIDENT

This report is based on on-site evaluations of physical conditions, laboratory evaluation of materials gathered at the mine site, violations issued as part of the accident investigation, and statements made by various mine officials and employees during interviews conducted by the Pennsylvania DEP and MSHA.

On October 23, 2006, the following miners reported to the mine site for their regular scheduled shift; Dale Reightler, Miner, Dave Zimmerman, Hoist man, Ralph Geist, Miner, Craig Deeter, Miner, Ricky Lee Bloch, Miner, Harold Schnoke, Miner, Steve Zimmerman Foreman, and Jeff Klinger, Miner.

Steve Zimmerman, along with Deeter both certified examiners, reportedly went underground to conduct the preshift examination. The two examiners entered the mine via the main slope. The hoist was operated by Schnoke. There was no indication in the preshift record book that an examination at the face of #19 breast was conducted. Following the preshift inspection, Steve Zimmerman walked back to the intake haulage slope and called the preshift inspection out to Dave Zimmerman. Steve Zimmerman walked back through the gangway to the active section where he was to work. Dale Reightler and Dave Zimmerman walked to the old slope to examine the pump and were back at the change room at approximately 6:50 a.m.

Klinger, Geist, Schnoke and Bloch went underground after the preshift examination was completed and Dave Zimmerman replaced Schnoke as the hoist man. Deeter and Steve Zimmerman were assigned to work in the monkey level near the #21 chute. After Reightler and Klinger transported some timbers to a point approximately 50 feet outby the face of the #19 breast, Klinger climbed to the face where he washed broken coal down the breast from a previous cut that was fired on October 20, 2006.

Klinger brought a drill, shovel, pick, and full boxes of blasting powder and caps from the sled to the face area. Reightler faced the cut with the pick. Klinger drilled six holes in the face for the shot. Reightler loaded and tamped the powder in the drilled holes. Each hole was drilled approximately seven feet deep. The pattern was rectangular, 2 rows - 3 top holes and 3 bottom holes. Two sticks of 1 ¼ by 24" Coalite 8 SU permissible powder was

used per hole with Electric LP detonators. The explosives were manufactured by Orica USA Inc. No stemming (dummies) was used. The remainder of the powder and caps were stored together in an uncovered cardboard box in which the powder was originally shipped. The stored explosives were located approximately thirty feet from the face that was to be fired (Appendix C). Klinger asked Reightler if he should move the powder prior to the blast and Reightler said no.

Reightler told Klinger that a prop (approximately 42" in length) had to be installed near the face. Klinger brought a timber prop up to Reightler for installation. Klinger and Reightler disconnected the air hose from the pneumatic equipment and used the air from the hose to provide additional face ventilation. During interviews it was stated, "Reightler checked for methane and found none." After the prop was installed, Reightler completed wiring the shot. The upper sled was then lowered. While in the process of moving, the sled tore some of the line curtain down. Both men made repairs and Klinger traveled back down to the fourth miner heading approximately 410 feet outby the face. Reightler positioned himself approximately fifty feet inby Klinger at the fifth miner heading about 350 feet outby the face to be fired.

Reightler, standing in the manway of the #19 breast, shook his cap lamp up and down to signal Klinger that the shot was ready to be fired. Klinger fired the shot approximately one minute after the visual signal, about 10:00 a.m. At this time, Steve Zimmerman and Deeter were ready to start the drag (coal conveyance to the chute) in the monkey level.

Klinger heard two normal blasts. However a third blast was loud enough Klinger felt a concussive force. Klinger knew immediately that something was wrong. Klinger's hard hat was knocked from his head and the water line to the face was broken from the force of the third blast. Excessive smoke rapidly filled the area following the blast, causing Klinger to grab his Self Contained Self Rescuer (SCSR), which he did not don.

Steve Zimmerman and Geist heard three blasts followed by a fourth loud blast. Steve Zimmerman and Geist immediately started to walk down the monkey to the #19 chute to see what had happened with Klinger and Reightler. Steve Zimmerman met Klinger when they found water gushing down the #19 breast carrying debris.

Deeter heard a crack and Bloch heard two normal blasts, but the third was loud and Bloch felt air rush past him. Schnoke told Bloch that something was wrong. Bloch and Schnoke walked to the #19 chute where they met Deeter in the gangway who also said something was wrong. Geist, walking in the monkey, saw Deeter and had him shut off the water.

Geist was still in the monkey when he saw Bloch and Schnoke climbing in the #19 chute. Geist called to them indicating that an explosion had occurred and they should get to the intercom and tell Dave Zimmerman to contact 911. Schnoke saw the victim in the #19 chute. Schnoke and Bloch checked and found no sign of life. No methane or carbon monoxide (CO) tests were made. Geist stayed in the chute until the mine rescue team

arrived and Schnoke, Bloch and Deeter traveled to the intake slope. Schnoke, Deeter and Bloch exited the mine to the surface where they told Dave Zimmerman to call 911, that a victim was in the #19 chute.

Dave Zimmerman then called Dave Himmelberger, mine president, at Himmelberger's other underground mine, Orchard Coal Company. Dave Zimmerman told Himmelberger that someone was injured at R&D Coal Company and for him to contact MSHA and the State.

Klinger and Steve Zimmerman traveled up the #19 breast which was on intake air and looked for Reightler for approximately 30 to 45 minutes but could not find him. No methane or CO tests were made. They then went down the #19 breast to the gangway, which they traveled to the intake haulage slope.

Klinger and Steve Zimmerman met Bloch, Deeter and Schnoke at the intake slope. Geist and Schnoke indicated that they found Reightler lying in the #19 chute. Geist and Schnoke told Klinger and Steve Zimmerman that fatal injuries were incurred by Reightler. Steve Zimmerman walked back to the #19 chute to assess the condition of the victim. Steve Zimmerman found Reightler approximately thirty feet above the gangway in the #19 chute. Steve Zimmerman walked back to the intake slope and waited. It could not be confirmed that tests for methane or CO were conducted during this time, before leaving the #19 heading.

Dave Zimmerman, with Schnoke operating the hoist, traveled underground to assure every one was safe. Klinger, Geist and Steve Zimmerman were at the 6th level gangway when they informed Dave Zimmerman that Reightler was not good.

A phone call regarding the fatal accident was made to 911 at 11:09 a.m. The AUGR mine rescue team arrived at the mine site at approximately 11:30 a.m. Ricky Bloch was in the change room when the rescue team arrived and Schnoke was hoisting. Dave Zimmerman and Deeter came out of the mine prior to the mine rescue team going underground.

INVESTIGATION OF THE ACCIDENT

The accident was reported to the Pottsville field office at approximately 11:25 a.m. on October 23, 2006. At 11:35 a.m., Thomas Garcia, MSHA Supervisory Coal Mine Safety and Health Specialist, was informed by cell phone at a neighboring mine that an accident had occurred at R&D Coal Company, Inc. Garcia and Gregory Mehalchick, District Mining Engineer, immediately traveled to R&D Coal Company, Inc. Slightly earlier, at 11:25 a.m., Lawrence Gazdick, Pottsville Field Office Supervisory Mine Inspector and Patrick Boylan, Coal Mine Safety and Health Inspector, together at a near by mine, were notified of the accident. Gazdick and Boylan arrived at the R&D Coal Company at approximately 11:50

a.m. Gazdick met with David Zimmerman, Vice President and hoist operator at this operation to gather information of the accident.

Gazdick verbally informed David Zimmerman that the mine was under a 103 (k) order to assure the safety of all persons at this operation. At approximately 1:00 p.m. the 103(k) order and a 107 (a) imminent danger order was issued and explained to David Himmelberger, Superintendent. Garcia arrived at the mine at approximately 12:15 p.m. and was told that four miners (Ralph Geist, Jeff Klinger, Steve Zimmerman and Dale Reightler) and four AUGR mine rescue team members (Troy Wolfgang, Paul Wagner, Scott Wolfgang and Dave Himmelberger) were underground.

Troy Wolfgang, Pennsylvania Department of Environmental Protection, Deep Mine Safety (DEP) - Coal Supervisor and one of the four AUGR mine rescue team members came to the surface. Troy Wolfgang informed Garcia that an explosion had occurred and that one of the four miners received fatal injuries. The operator, the Pennsylvania DEP, and MSHA coordinated activities to recover the working face and entry of the #19 breast. MSHA and State personnel remained at the mine site to monitor and assist with all recovery activities. William D. Sparvieri, acting District Manager assigned Garcia as the team leader for the MSHA investigation of the accident. Leonard Paul Sargent, MSHA Coal Mine Safety and Health Inspector, and Gregory Mehalchick, District Mining Engineer, were assigned to complete the investigation. Patrick Boylan, MSHA Coal Mine Safety and Health Inspector and Special Investigator, was also assigned to the investigation. MSHA personnel from District 1 remained at the mine site throughout the recovery operation until the on-site investigation was complete.

Recovery

At approximately 11:45 a.m. Jeff Klinger, Ralph Geist, and Steve Zimmerman reached the surface. Boylan arrived at the mine at approximately 11:50 a.m. At approximately 12:45 p.m., the victim was brought to the surface and moved to the West Schuylkill Advanced Life Support vehicle. Sargent and Ron Pinchorski, MSHA Coal Mine Safety and Health Inspector arrived at approximately 1:00 p.m. Bottle samples taken at the main fan averaged 0.89% methane. No carbon monoxide was detected. A short time later, the body was transferred from the scene to the Coroner Dutcavich's facility in Minersville, PA.

On the surface, the group discussed their findings with Thomas Garcia. Due to the fact that all miners and the victim were brought to the surface, a group consisting of MSHA, State and company personnel decided to begin the formal investigation on October 24, 2006. The Pennsylvania DEP, mine operator, and MSHA personnel participating in the investigation are listed in Appendix A.

The investigation team members met in Pottsville, Pennsylvania on October 24, 2006, and were briefed on the accident and subsequent activities of MSHA personnel at the mine.

Later on October 24, 2006, the underground investigation was started in cooperation with the Pennsylvania DEP, mine operator and MSHA.

The underground investigation was conducted in all accessible areas of the MMU 001-0 section. The section was mapped, location of pertinent information, signs of heat, and the extent of forces were documented. Items of evidence (melted line brattice, clothing, shot battery, explosives and caps, cap lamp, methane monitor, etc. (See Appendix C)) were collected for examination, testing or analysis. As discussed in greater detail below, the rehabilitation of the #19 breast commenced on October 24, 2006 and was completed on October 30, 2006. During rehabilitation, methane in excess of 5 percent and CO in excess of 1500 parts per million were encountered and ventilated from the #19 breast.

The investigation team conducted 7 interviews with mine personnel on October 23, 2006 and October 24, 2006 and 9 interviews with mine personnel November 16 and 17, 2006. The interviews were conducted at the mine site and at the MSHA Wilkes-Barre District Office.

DISCUSSION

Physical Factors

On the day of the accident, seven miners were underground at the time of the explosion. One miner, working in the #19 breast received fatal injuries. Another miner working in the #19 breast received minor injuries. Five miners working in the gangway and monkey were not injured.

The mine operator was permitted to stop the fan on idle days or idle shifts. The fan was to be started and operated for at least 30 minutes prior to any person entering the mine to make a preshift examination. According to Dave Zimmerman, he is usually the first to arrive on mine property to start the fan and air compressor. Steve Zimmerman usually arrives at the mine between 5:30 a.m. and 6:00 a.m. to make the preshift examination. The remaining miners usually arrive before 6:00 a.m. On Monday, October 23, 2006, Steve Zimmerman arrived at the mine at approximately 6:00 a.m. and began the preshift inspection with Craig Deeter.

The investigation determined that an inadequate preshift examination was conducted in that:

1. No dates, times and initials were found in all areas where miners were required to work or travel during the oncoming shift;
2. There was no entry recorded in the preshift book to verify that the #19 breast was examined;
3. Methane at a level of 0.8 percent was measured in an entry developed 34 feet in the monkey without approved curtain;

4. Line curtain in the #22 breast was not properly installed in accordance with the approved ventilation plan;
5. The #19 breast was developed as a single entry for a distance of approximately 350 feet from the 5th miner heading to its face while the approved roof control plan specified a maximum of 65 feet;
6. Permanent stoppings required by the approved ventilation plan were not installed in the monkey or miner headings in the #19 breast;
7. Line curtain was installed in an exhausting configuration in the #19 and #22 breast which is not in accordance with ventilation plan approved on July 6th, 1998.

Accident Scene

The Pennsylvania DEP, mine operator and MSHA entered the mine at approximately 8:15 a.m. on October 24, 2006. Numerous tests for methane, oxygen and CO were made with hand-held detectors at locations along the gangway. No methane or CO was detected. A bottle sample collected in the #22 blind chute at about 9:05 a.m. contained 15.27% methane, 0.22% CO and 16.88% oxygen. It was learned that the air compressor that powered the air fan was not operating prior to the investigation team entering the mine. The air fan with tubing attached was the source of the face ventilation in #22 chute. The air compressor was started on the surface to ventilate the #22 chute to dilute and/or remove the methane.

The investigation team, always working in intake air, examined the other blind heading which was the monkey face. No methane or CO was found in this area. The investigation team traveled in intake air to the 5th miner heading which was the last open crosscut in the # 19 breast. When traveling to this area they observed some damage to the ventilation controls but no methane or CO was encountered. On October 25, 2006 the investigation team repaired the stopping line in the #19 breast which was observed the previous day.

The team started the recovery effort from the 5th miner heading towards the face of the #19 breast, methane and CO was encountered at levels in excess of 5.0% and 1500 ppm, respectively. No smoke or heat was observed in the area and visibility was good. Line brattice and ventilation tubing was used to reventilate and carry away any harmful gases. The air fan was used in combination with the line brattice to effectively move any harmful gasses away from the investigation team. This method was employed until reaching the face of the #19 breast on October 30, 2006. The distance was approximately 350 linear feet from the 5th miner heading.

Investigation Findings

On October 24, 2006, the mine map in the mine office was determined to be inaccurate. The depiction of the #19 breast was not accurate. It appeared that the area had been placed on the mine map but was removed (erased or whited out).

Based on results of interviews with miners and the mine operator, prior to the explosion, the face of the #19 breast was ventilated by line curtain (brattice) hung to within approximately ten feet of the face of the #19 breast. The brattice was hung close to the left rib, the setup providing exhausting face ventilation. An air fan with tubing attached was located approximately 300 feet from the face of the #19 breast to assist the mine ventilation. A bazooka, an auxiliary air mover powered by compressed air from the surface, was located approximately fifty feet from the face of the #19 breast. Tubing was attached to the bazooka to assist the ventilation to the face. The air line for the pneumatic equipment was also used to blow air to the face. During the accident investigation no evidence of any tubing was found in proximity to the air mover.

Based on interviews conducted with miners and mine management, it was determined that stemming material was not used when blasting. During an on-site investigation, no stemming materials were found in the mine.

The temporary stoppings from the monkey airway to the #5 miner heading were blown out. Line curtain and tubing extending from #5 to the face was damaged or destroyed. The air fan, located outby the #5 miner heading, was found in the #19 chute a distance of approximately 470 feet. Line brattice was melted from approximately 30 to 75 feet outby the face. During the accident investigation, a methane detector was recovered in the area of the #4 miner heading in the #19 breast. No SCSR was recovered in the #19 breast.

Experience and Training

The victim had 25 years of mining experience and worked at the mine site as a miner for six years. Training records maintained for the victim were found to be in compliance. The investigation determined that the two miners working in the #19 breast were not qualified to handle or detonate explosives under 30 CFR 75.1318(a) and 75.1325(a).

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, would have either prevented the accident or mitigated its consequences. Listed below are root causes identified during the analysis and their corresponding corrective actions implemented to prevent a recurrence of the accident. In each case, no effective management system, policy or procedure was in place to assure compliance with the regulations and safe mining practices.

1. *Root Cause:* Miners conducting the blasting activities that led to the fatal accident were not qualified to handle, load or fire explosives.

Corrective Action: The operator should have a procedure to assure that miners are qualified to perform assigned work – such as blasting.

2. *Root Cause:* A proper preshift examination designed to identify potential hazards to the miners was not adequately conducted.

Corrective Action: The operator should retrain examiners and establish a procedure to monitor the quality and effectiveness of mine examinations.

3. *Root Cause:* Miners that loaded boreholes with explosives did not stem the boreholes in accordance with 30 CFR 75.1322.

Corrective Action: The operator should provide adequate training to qualified miners on proper procedures when working with explosives and loading boreholes with explosives. A management system should be established to assure that lawful and proper blasting procedures are followed.

4. *Root Cause:* The operator failed to follow the provisions of the ventilation plan approved for the mine.

Corrective Action: The operator should provide a review of the approved ventilation plan as part of the mine annual training program and instruct the miners of any changes to the approved plan before the changes are implemented.

5. *Root Cause:* The operator failed to follow the provisions of the roof control plan approved for the mine.

Corrective Action: The operator should provide a review of the approved roof control plan as part of the mine annual training program and instruct the miners of any changes before the changes are implemented.

6. *Root Cause:* Safe firing procedures were not being complied with in the mine. Shots were fired before miners were located in safe areas.

Corrective Action: The operator should ensure that

- a) those miners who handle explosives are properly trained and qualified in blasting procedures.
- b) a qualified person ascertains that all miners are located safely outby his or her location, and that methane tests are conducted immediately before detonating the shot.
- c) tests are conducted using a blasting multi-meter, galvanometer or other instrument designed specifically for such use.

7. *Root Cause:* The mine operator failed to assure that the volume and velocity of the air current in the #19 breast was sufficient to dilute, render harmless and carry away flammable, explosive, noxious and harmful gases.

Corrective Action: The operator should submit a fully revised ventilation plan, containing provisions that guarantee air quantities that will dilute, render harmless and carry away flammable, explosive, noxious and harmful gases. In addition, personnel should be retrained in the requirements and use of gas detectors.

CONCLUSION

A methane explosion occurred in an inadequately ventilated area inby the 5th miner heading of the #19 breast when an unconfined shot was detonated at the face. The accident resulted in one fatality. The accident occurred because the mine operator failed to comply with his approved ventilation and roof control plans. In addition, the operator failed to comply with other ventilation standards which would have provided ventilation in the #19 breast. Also poor blasting practices, the assignment of unqualified personnel to blasting work, and improper preshift examinations directly contributed to the accident.

Approved by:

John A. Kuzar
District Manager

Date

ENFORCEMENT ACTIONS

The following conditions and practices noted in the Findings of Fact contributed to the cause of the accident and constituted violations of the Federal Mine Safety and Health Act of 1977 and the mandatory standards contained in 30 CFR, Part 75. Citations or Orders were issued for the following violations and conditions associated with the accident investigation.

(1) 103 (k) Order issued October 23, 2006 to assure the safety of all personnel at this operation.

(2) 107 (a) imminent danger order issued October 23, 2006. The mine has experienced a fatal accident.

(3) 104(d) (1) Citation: During an on-site investigation of the fatal accident which occurred on October 23, 2006 and interviews with the miners and management in regards to the accident, it was determined that the miners did not stem the 6 boreholes in the face of the #19 breast with at least 24 inches of stemming prior to blasting the boreholes. This is a violation of Section 75.1322(d).

(4) 104(d) (1) Order: The operator failed to follow the provisions of the ventilation plan approved for the mine on July 6, 1998. Page 9 of the approved plan shows the ventilation current traveling up the right hand side of the breast implementing a blowing system of ventilation to the face of the breast and returning down the left side of the breast. The mine operator was attempting to ventilate the #19 breast with an air fan installed with tubing attached and blowing up the right side of the entry and using line curtain on the left side of the breast for the return air and protective manway which resulted in miners working in return air. An additional air mover was installed 265 feet up the breast to assist the air fan. After the #5 crosscut was developed 485 feet above the gangway, the operator developed a single entry an additional 377 feet. The operator was informed in a meeting at the Shamokin Field Office on October 10, 2006 that he could not develop a single entry to connect two levels. This condition was observed during the rehabilitation of the #19 breast. This is a violation of Section 75.370(a) (1).

The face of the #19 breast was ventilated as follows. Line curtain (brattice) was hung to within approximately ten feet of the face of the #19 breast. The brattice was hung close to the left rib, the setup providing an exhaust ventilation situation. An air fan was located approximately 300 feet from the face of the #19 breast closer to the left side. This located the air fan inby the last open crosscut (fifth miner heading). A bazooka was located approximately fifty feet from the face of the #19 breast, closer to the right side. Twelve inch tubing is attached to the bazooka and extends to within approximately twenty feet of the face. The air line for the pneumatic equipment was also used to blow air to the face.

(5) 104(d) (1) Order: The operator failed to follow the provisions of the roof control plan approved for the mine on September 7, 2000. The operator developed a single entry 377 feet in the #19 breast above the 5th miner heading. The approved roof control plan requires miner headings to be developed on 30 foot to 65 foot centers. On October 10, 2006, a meeting was held in the Shamokin Field Office with the mine operator with regards to his mine ventilation map. The mine operator was informed at that time that his approved roof control plan does not include any approval for single entry development. The mine superintendent countersigned the preshift report on October 20, 2006. He was aware of the development of the entry without connecting crosscuts on 30 foot to 65 foot centers. The on-shift records for the month of October show that the mine foreman conducted the on-shift examinations in this area and knew the entry was developed in excess of the 30 foot to 65 foot centers without connecting crosscuts. This condition was observed during the rehabilitation of the #19 breast. This is a violation of Section 75.220(a) (1).

(6) 104(d) (1) Order: On October 23, 2006, the mine operator failed to assure that the volume and velocity of the air current in the #19 breast was sufficient to dilute, render harmless and carry away flammable, explosive, noxious and harmful gases. Such failure resulted in a methane explosion which resulted in fatal injuries to one miner. This is a violation of Section 75.321(a) (1).

(7) 104(d) (1) Order: The operator developed an entry more than 600 feet from the center line of the entry from which the entry was developed (monkey - return airway) with temporary ventilation controls. The #19 breast was developed 750 feet from the return airway to the face of the #19 breast. David Himmelberger, President - mine foreman, was informed on October 10, 2006 in a meeting in the Shamokin Field Office that he could not develop the entries more than 600 feet with temporary ventilation controls. This condition was observed during the rehabilitation of the #19 breast. This is a violation of Section 75.333(b) (1)

(8) 104(a) Citation: The firing procedures outlined in this section were not being complied with in the area of the #19 breast. The shot in the #19 breast was fired before a miner was located in a safe area around at least one corner. One miner was in the #19 breast in a straight line with the force of the blast when the shot was fired causing fatal injuries to the miner. This is a violation of Section 75.1325(c) (1)

(9) 104(d) (1) Order: The firing procedures outlined in this section were not being complied with in the area of the #19 breast. The face of the #19 breast was fired by a miner that was not qualified to fire the shot and the victim working with the miner that fired the shot was not qualified. This practice was determined by an examination of the records of qualification issued by Pennsylvania DEP and MSHA. This is a violation of Section 75.1325(a)

(10) 104(a) Citation: A proper warning was not given and adequate time was not allowed for miners to respond to the warning before firing a shot in the face of the #19 breast. It was determined during an interview with the miner firing the shot that the only signal given by the victim in the #19 breast was a signal from a cap lamp. The air fan was operating in the breast and the miners could not hear to communicate with each other. This is a violation of Section 75.1325(c) (3)

(11) 104(d) (1) Order: The operator failed to conduct a proper preshift examination of the mine prior to the start of the shift on October 23, 2006.

- a. Dates, times and initials could not be found in all areas where miners were required to work or travel on this shift.
- b. Presence of methane in the amount of 0.8 percent in an entry developed 34 feet in the monkey without approved curtain was found on the section.
- c. The line curtain in the #22 breast was not properly installed.
- d. The #19 breast was developed as a single entry from the 5th miner heading to its face, a distance of 377 feet.
- e. Required permanent stoppings were not installed in the monkey or miner headings in the #19 breast.
- f. Line curtain was installed in an exhausting configuration in the #19 breast which is not in accordance with the operator's mine ventilation plan approved on July 6th, 1998.
- g. Line curtain was installed in an exhausting configuration in the #22 breast which is not in accordance with the operator's mine ventilation plan approved on July 6th, 1998.
- h. An air fan and air mover was used in tandem with the line curtain installed in the #19 breast. This arrangement is not in accordance with the operator's mine ventilation plan approved on July 6th, 1998.
- i. There was no entry in the preshift book to verify that the #19 breast was examined.

These conditions were observed during the rehabilitation of the mine and a review of the operator's records following a fatal accident that occurred at this mine on October 23, 2006. This is a violation of Section 75.360(a)(1)

(12) 104(a) Citation: The boreholes in the face of the #19 breast were loaded by a miner that was not qualified to load the boreholes and was not working in the presence of and under the direction of a qualified person. The two miners in this area were not qualified to load the boreholes. This practice was determined by an examination of the records of qualifications issued by the Pennsylvania DEP and MSHA. The two miners loaded and fired the boreholes, resulting in the death of one of the miners. This is a violation of Section 75.1318(a).

APPENDIX A

PERSONS WHO PARTICIPATED IN THE INVESTIGATION

MSHA Personnel

William D. Sparvieri	-	Assistant District Manager
Thomas J. Garcia	-	Supervisory Mine Safety and Health Inspector District 1
Lawrence Gazdick	-	Supervisory Mine Safety and Health Inspector District 1
Leonard Paul Sargent	-	Ventilation Specialist District 1
Patrick Boylan	-	Coal Mine Safety and Health Inspector District 1
Ronald D. Pinchorski	-	Coal Mine Safety and Health Inspector District 1
Danny Silvers	-	Coal Mine Safety and Health Electrical Inspector District 1
Gregory Mehalchick	-	Mining Engineer District 1
Thomas Lobb	-	Physical Scientist/Explosives Expert MSHA Technical Support, Tridelphia, WV
Dean Nichols	-	Physical Scientist MSHA Technical Support, Tridelphia, WV
Gayle Greene	-	Solicitor Philadelphia, PA
Joanne Jarquin	-	Solicitor Philadelphia, VA

Appendix A continued

Pennsylvania Department of Environmental Protection

Joseph Sbaffoni	-	Director, Deep Mine Safety
Paul L. Hummel	-	Chief, Anthracite-Non Coal Mines
David Williams	-	Engineer, Deep Mine Safety
Troy Wolfgang	-	Supervisor, Deep Mine Safety
Terry Wolfgang	-	Inspector, Deep Mine Safety
Stephen Geist	-	Inspector, Deep Mine Safety
Edward Bernitsky	-	Inspector, Deep Mine Safety
Denise Strikland	-	Supervisory Investigator, Office of Chief Counsel

R&D Coal Company, Inc.

David Himmelberger	-	President
David Zimmerman	-	Vice-President
Steven Zimmerman	-	Mine Foreman
Ralph Geist	-	Miner
Craig Deeter	-	Miner
Ricky Lee Block	-	Miner
Harold Schnoke	-	Miner
Jeff Klinger	-	Miner

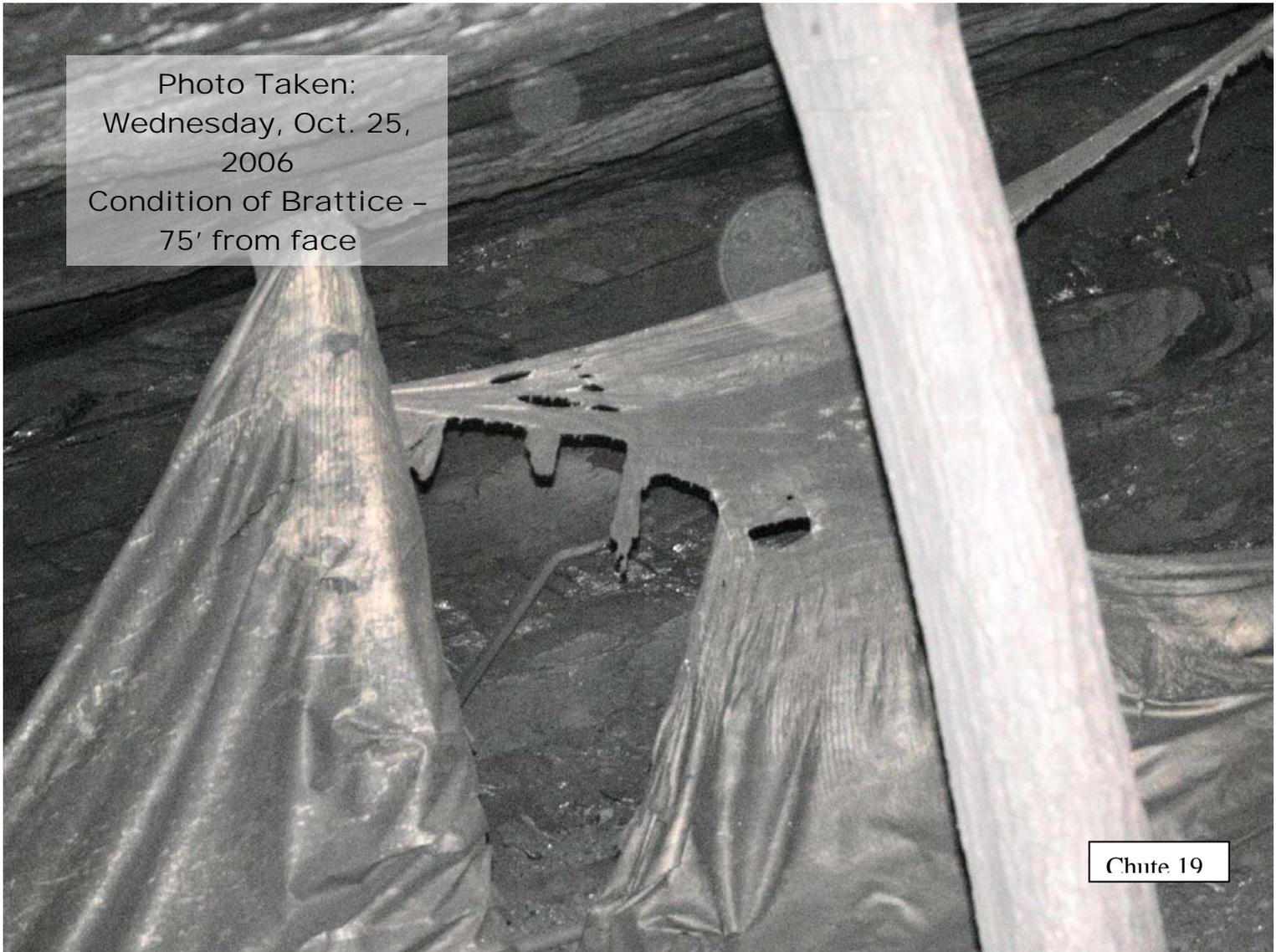
APPENDIX B

Photograph of Caps and box of Powder # 19 Breast



APPENDIX B continued
Photograph of Brattice

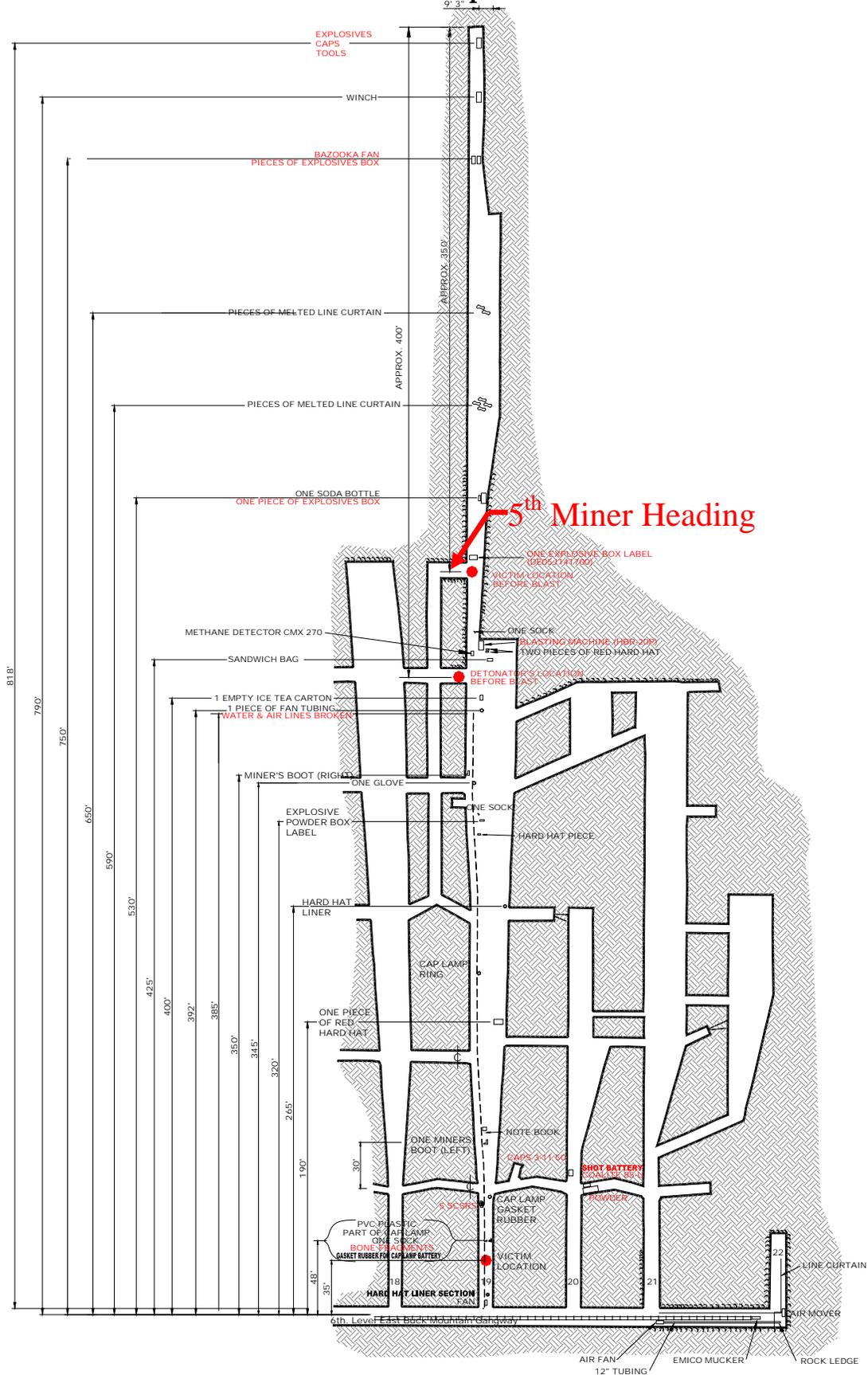
Photo Taken:
Wednesday, Oct. 25,
2006
Condition of Brattice -
75' from face



Chute 19

APPENDIX C

Mine Map - Profile View



APPENDIX D
Victim Information

Accident Investigation Data - Victim Information										U.S. Department of Labor			Mine Safety and Health Administration						
Event Number: 4 3 0 3 2 3 6																			
Victim Information: 1																			
1. Name of Injured/Ill Employee: <i>Dale Reighler</i>			2. Sex: <i>M</i>		3. Victim's Age: <i>43</i>		4. Last Four Digits of SSN:			5. Degree of Injury: <i>01 Fatal</i>									
6. Date(MM/DD/YY) and Time(24 Hr.) Of Death: <i>a. Date: 10/23/2006 b. Time: 10:00</i>							7. Date and Time Started: <i>a. Date: 10/23/2006 b. Time: 7:00</i>												
8. Regular Job Title: <i>063 Miner</i>				9. Work Activity when Injured: <i>003 Shooting #19 breast face</i>						10. Was this work activity part of regular job? <i>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></i>									
11. Experience			a. This			b. Regular			c. This			d. Total							
	Years	Weeks	Days		Years	Weeks	Days		Years	Weeks	Days	Years	Weeks	Days					
Work Activity:	<i>6</i>	<i>0</i>	<i>0</i>	Job Title:	<i>6</i>	<i>0</i>	<i>0</i>	Mine:	<i>6</i>	<i>0</i>	<i>0</i>	Mining:	<i>25</i>	<i>0</i>	<i>0</i>				
12. What Directly Inflicted Injury or Illness? <i>032 Methane Explosion</i>							13. Nature of Injury or Illness: <i>390 Massive trauma</i>												
14. Training Deficiencies: Hazard: _____										New/Newly-Employed Experienced Miner: _____			Annual: _____			Task: _____			
15. Company of Employment:(If different from production operator) <i>Operator</i>										Independent Contractor ID: (if applicable)									
16. On-site Emergency Medical Treatment: <i>Not Applicable</i>										First-Aid: _____		CPR: _____		EMT: _____		Medical Professional: _____		None: <input checked="" type="checkbox"/>	
17. Part 50 Document Control Number: (form 7000-1)							18. Union Affiliation of Victim: <i>9999 None (No Union Affiliation)</i>												