
West Virginia Office of Miners' Health, Safety and Training

February 1, 2006

Fatal Dozer Fire Investigation Report
Elk Run Coal Company, Inc.
Black Castle No. 4
Permit No. S-5075-86

Region Three – Danville Office
137 Peach Court, Suite 2
Danville, West Virginia 25053
Harry Linville, Inspector-at-Large

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55
+ 1805.6

16" GAS LINE

BURN AREA
0.51 ACRES

44
+ 1823.9

56
+ 1817.8

43
+ 1826.6

57
+ 1821.9

DOZER
RIPPER
BLADE

42
+ 1833.6

35
+ 1832.60

32
+ 1836.0

34
+ 1839.6

37
+ 1829.4

BODY SHOE

58
+ 1840.6

DOZER TRAM LOCATION

53
+ 1813.7

41
+ 1853.6

59
+ 1857.8

38
+ 1845.5

16" GAS LINE

60
+ 1870.5
40
+ 1874.1

39
+ 1859.1

61
+ 1884.5

45
+ 1894.4

DOZER LOCATION
ELEVATIONS

32: 1836.0	36: 1829.4
33: 1837.3	37: 1830.3
34: 1839.6	38: 1830.3
35: 1832.6	

ELK RUN COAL CO.
PERMIT# S-5057-92
BURN AREA LOCATION

DATE: 02/01/06
SCALE: 1"=40'



16" GAS LINE

DOZER

35
+ 1832.60

BLADE

RIPPER

32
+ 1836.0

34
+ 1839.6

33
+ 1837.3

36
+ 1829.4

37
+ 1830.3

74
+ 1830.3

BODY
SHOE

58
+ 1840.6

16" GAS LINE

DOZER LOCATION
ELEVATIONS

32: 1836.0 36: 1829.4

33: 1837.3 37: 1830.3

34: 1839.6 74: 1830.3

35: 1832.6

DOZER TRAM LOCATION

ELK RUN COAL CO.
PERMIT# S-5057-92
DOZER AREA LOCATION

DATE: 02/01/06
SCALE: 1"=10'

Fatal Dozer Fire Investigation Report
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GENERAL INFORMATION

A fatal accident resulting from a dozer cutting into an active gas line occurred on Wednesday, February 1, 2006, at the Elk Run Coal Company, Inc., Black Castle No. 4 mine located three miles up Robinson Creek Road in Boone County, West Virginia. Paul K. Moss, a 58 year-old master dozer operator, suffered fatal burn injuries at approximately 2:10 p.m. on February 1, 2006. Mr. Moss was operating a Caterpillar D10-R bulldozer in the East of Stollings, Amendment Area No. 1 in which he was assigned to crop and bench the Clarion coal seam. The victim was recovered approximately two and a half (2.5) hours later. Mr. Moss is survived by his wife and one child and resided at Sissonville, West Virginia. He had been employed at this mine since October 22, 2001.

The West Virginia Office of Miners' Health, Safety and Training was notified at approximately 2:20 p.m. on February 1, 2006 by Aaron Price, Safety Director for Black Castle No. 4. A joint investigation with the Mine Safety and Health Administration (MSHA) was started immediately.

The Elk Run Coal Company, Black Castle No. 4 mine is permitted with the Office of Miners' Health, Safety and Training, permit no. S-5075-86. The mine was permitted to commence operation on November 7, 1986 and employs 287 employees on two ten-hour shifts. Coal is mined in the Five Block, Clarion, Stockton, Coalburg, and Buffalo Creek seams. Mountaintop and contour mining methods are currently being used. The area where the accident occurred is referred to as East of Stollings, Amendment Area No. 1.

DESCRIPTION

Paul K. Moss, age 58, master dozer operator at Black Castle No. 4 mine began his regular shift on the morning of Wednesday, February 1, 2006 at approximately 5:45 a.m. under the direction of Michael Boothe, drill/bench foreman. Mr. Moss was then directed to resume working in an area where he had worked previously the day before and to continue excavating an access road and bench on the outcrop of the Clarion coal seam level. Mr. Moss was operating a Caterpillar D10-R bulldozer.

Mr. Moss continued to operate the bulldozer throughout the morning and at approximately 2:00 p.m. in the afternoon trammed the bulldozer to just under the ridge line approximately 75 feet higher in elevation, turned the bulldozer around and began to descend with the blade dropped back toward the Clarion coal seam level. At this time the bottom left corner bit on the bulldozer blade contacted the 16 inch unmarked, actively charged gas gathering line approximately 3 feet deep resulting in a fatal fire.

Witnesses who were working across the valley from where Mr. Moss was operating the bulldozer stated that they heard a loud "boom" and a sound that resembled a low-flying jet

airliner. They also stated that when the wind shifted they could see the bulldozer blade leveling jacks, smoke and fire approximately 50 feet in the air.

Mike Black, foreman for Ramo surface mine and Lexerd surface mine stated that he was notified by a coal truck driver who was passing by the area of the fire. He immediately turned his pick-up truck around and proceeded to the area of the fire that was approximately 4 or 5 minutes away. After unsuccessful attempts to reach Mr. Moss by 2-way radio, Mr. Black began to ascend the hillside to the location of the victim, but because of the intense heat from the fire, was unable to get any closer than approximately 100 feet to the bulldozer. The Equitable Gas Company was immediately notified and the process began of turning off the 16 inch gas gathering line so as to extinguish the fire and recover the victim.

Federal, state and company officials began arriving on the scene at approximately 3:00 p.m. and the extrication of the victim's body was at approximately 4:30 p.m.

FINDINGS OF FACT

1. Paul K. Moss was operating a Caterpillar D10-R bulldozer (company no.7) when the accident occurred.
2. The bulldozer was positioned parallel to the 16 inch unmarked gas gathering line and facing slightly downhill toward the bench of the Clarion coal seam level at the time of the accident.
3. The lower left corner bit on the bulldozer blade was the direct cause of the rupture in the 16 inch low-pressure, high-volume, actively charged gas gathering line.
4. Mining maps and inspection of the accident site revealed that the 16 inch gas gathering line was unmarked for distance of approximately 2,000 feet in both directions from where the accident occurred.
5. Testimony by witness revealed that Mr. Moss was concerned about the fact that he did not know the specific location of the gas gathering line.
6. Mike Vira, superintendent, started his pre-shift examination of the East of Stollings, Amendment Area No. 1 at approximately 4:30 a.m. on the morning of Wednesday, February 1, 2006. Mr. Vira stated that he visually inspected the area of the accident before dawn with a spotlight shining on and above the existing highwall from the cab of his company issued pick-up truck.
7. The pre-shift examination record on Wednesday, February 1, 2006 showed no evidence of dangerous conditions in the accident area.
8. Mr. Moss had been employed as a surface miner for over 15 years and had 4.5 years at this mine. His 4.5 years experience at this mine was exclusive to the type of work he was performing at the time of the accident. Mr. Moss received his surface coal miner's certification on June 21, 1976.

9. The benching and access road work to the Clarion coal seam level was being done prior to any removal of trees, stumps or brush. The area had been clear-cut but the trees, stumps and brush had not been removed or disposed of.

CONCLUSION

Mr. Paul K. Moss, 58, was fatally injured by fire resulting from the Caterpillar D10-R bulldozer he was operating, coming in contact with and rupturing a 16 inch unmarked, actively charged, low-pressure, high-volume gas gathering line. The bulldozer was being used to access and bench the Clarion coal seam level located on the East of Stollings, Amendment Area No. 1 of the Black Castle No. 4 mine of Elk Run Coal Company, Inc.

ENFORCEMENT ACTION

The Office of Miners' Health, Safety and Training issued a control order under Title 36, Series 19, Section 7.1. The order applied to the area called East of Stollings, Amendment Area No. 1. The control order applied to the accident area for 2,000 feet along the southeast ridge and 2,000 feet along the north ridge and 150 feet perpendicular to the bulldozer. The control order was issued for the protection of other employees and to control and preserve the scene of the accident pending the investigation.

The following is a list of non-contributing violations:

(V- 1) Chapter 22A, Article 2, Section 63(a): The mine was opened and being operated prior to approval being granted by the Director of the Office of Miners' Health, Safety and Training. The mine was being operated under the permit no. S-5057-92 without being associated to permit no. S-5075-86.

(V-2) Title 56, Series 3, Section 27.1(b): Upon completion of pre-shift examinations dated 1-31-06 and 2-1-06, the foreman failed to record in a book prescribed by the director, at the designated station at the surface mine, a dangerous condition. (The dangerous condition was the location of the actively charged 16 inch gas gathering line in close proximity to the Clarion coal seam access road located in the East of Stollings, Amendment Area No. 1.)

The following is a list of contributing violations:

(V-1) Title 56, Series 3, Section 27.1(a): Based upon the foreman's testimony an inadequate pre-shift examination was conducted in the area where a fatal accident occurred at this mine, in that the mine foreman or assistant mine foreman did not visit and carefully examine the area for dangerous conditions where the accident occurred. (The area was determined to be the area above the existing highwall where the 16 inch actively charged gas gathering line was located.) (The foreman stated that he drove by the existing highwall during his pre-shift examination and shone a spotlight on and above the highwall.)

(V-2) Title 56, Series 3, Section 27.3: It was determined by testimony that the supervisor or pre-shift examiner was aware of the general location of the 16 inch actively charged gas gathering line and instructed the caterpillar D10-R (company no. 7) bulldozer operator to begin

excavating an access road from the level of the "Judy" low-gap to the level of the Clarion coal seam located in the East of Stollings, Amendment Area No. 1, all the while knowing that the gas gathering line was actively charged and not specifically or conspicuously marked so as to prevent accidental contact with the line.

(V-3) Title 56, Series 3, Section 27.8: Based upon the testimony of witnesses during the accident investigation, it was determined that mine management failed to notify the Caterpillar D10-R (company no. 7) bulldozer operator whose safety was menaced thereby to remain away from the area where the dangerous condition existed. (The dangerous area mentioned was the area of the 16 inch gas gathering line which was actively charged and not specifically or conspicuously mark for identification.)

RECOMMENDATIONS

Amendments to the MSHA required ground control plan to address procedures are to be implemented when operating and/or mining in close proximity to actively charged gas lines to prevent a recurrence. These measures will be added to the mine operator's comprehensive mine safety program in accordance with West Virginia Administrative Regulations Title 56, Series 8, Article 9.4. (See pages 15 and 16)

ACKNOWLEDGEMENT

The Office of Miners' Health, Safety and Training gratefully acknowledges the cooperation of the employees and management of Elk Run Coal Company, Inc., Equitable Gas Company, and the Mine Safety and Health Administration during this investigation.

Terry Farley, Health and Safety Administrator Date

Dennie Ballard, Assistant Inspector-at-Large Date

Lonnie Gore, Surface Inspector Date

Curtiss Vance III Date

APPENDIX

- Mine Information Sheet
- Victim Information Sheet
- Supplemental Information
- Persons Present During Investigation
- Addendum to Comprehensive Mine Safety Program

MINE INFORMATION

COMPANY Elk Run Coal Company

MINE NAME Black Castle No. 4

WV PERMIT S-5075-86 MSHA PERMIT NO. 46-07938

ADDRESS P. O. Box 777, Uneeda, WV 25205

COUNTY Boone PHONE NO. 304-837-3520

DATE PERMIT ISSUED November 7, 1986

WORKING STATUS Active

LOCATION 3 miles up Robinson Creek

UNION _____ NON-UNION X

DAILY PRODUCTION 12,000 tons ANNUAL PRODUCTION TO DATE 395,249 tons

TOTAL EMPLOYEES 287

NUMBER OF SHIFTS 2

COAL SEAM NAME AND THICKNESS Various

ACCIDENT INCIDENT RATE 0.00 LOST TIME ACCIDENTS 0

TYPE OF HAULAGE Truck

WVOMHST INSPECTOR Randall Bailey

DATE OF LAST INSPECTION December 15, 2005

NOTIFIED BY Aaron Price

NOTIFICATION TIME 2:20 p.m. on February 1, 2006

CMSP – ANNIVERSARY DATE March 31, 2006

CMSP – CONTACT PERSON Aaron Price

SUPPLEMENTAL INFORMATION

Mr. Paul K. Moss received newly employed training on October 22, 2001 and the latest annual refresher training on March 19, 2005.

INVESTIGATION

The following persons were present during the onsite investigation and recovery operations conducted on February 1, 2006.

ELK RUN COAL COMPANY, INC.

Mike Snelling	President, Massey Energy – Surface Operations
Chris Adkins	Corporate Operations Officer
Drexel Short	Director, Elk Run Coal Company
Philip March	President, Black Castle No. 4
William Marcum	General Manager, Black Castle No. 4
Mike Vira	Superintendent, Black Castle No. 4
Dewayne Fransico	Superintendent, Aracoma Alma No. 1
Mike Black	Mine Foreman, Ramo and Lexerd
Bill Waters	Maintenance Foreman
Mark King	Production Engineer
Johnny Robertson	Safety Director, Massey Energy
Aaron Price	Safety Director, Black Castle No. 4
Dave Brown	Safety Director, Independence Coal
Shane Harvey	Attorney

MINE SAFETY AND HEALTH ADMINISTRATION

Jesse Cole	Manager, District 4
Jim Humphrey	Accident Investigator
Sherman Slaughter	Accident Investigator
Paul Prince	Coal Mine Inspector
Brian Morris	Coal Mine Inspector

OFFICE OF MINERS' HEALTH, SAFETY AND TRAINING

Doug Conaway	Director
C. A. Phillips	Deputy Director
Terry Farley	Health and Safety Administrator
Lonnie Gore	Surface Inspector
Curtiss Vance III	Surface Inspector

INTERVIEWS

The following persons were present during interviews conducted on February 1, 2006.

ELK RUN COAL COMPANY, INC.

Mike Snelling	President, Massey Energy – Surface Operations
Philip Marsh *	President, Black Castle No. 4
Mike Black *	Foreman, Ramo and Lexerd
Michael Boothe*	Drill/Bench Foreman
Richard Darnell *	Surveyor
Shane Harvey	Attorney
Anna Dailey	Attorney

* (Denotes those interviewed)

MINE SAFETY AND HEALTH ADMINISTRATION

Jesse Cole	Manager, District 4
Jim Humphrey	Accident Investigator
Sherman Slaughter	Accident Investigator
Paul Prince	Coal Mine Inspector
Brian Morris	Coal Mine Inspector

OFFICE OF MINERS' HEALTH, SAFETY AND TRAINING

C. A. Phillips	Deputy Director
Dennie Ballard	Assistant Inspector-at-Large
Lonnie Gore	Surface Inspector
Curtiss Vance III	Surface Inspector

The following persons were present during interviews conducted on February 3, 2006.

ELK RUN COAL COMPANY, INC.

Mike Snelling	President, Massey Energy – Surface Operations
Philip Marsh	President, Black Castle No. 4
Mike Vira *	Superintendent, Black Castle No. 4
William Marcum *	General Manager, Black Castle No. 4
Lonnie Napier *	Dozer Operator
Aaron Price	Safety Director, Black Castle No. 4
Shane Harvey	Attorney
Anna Dailey	Attorney

* (Denotes those interviewed)

MINE SAFETY AND HEALTH ADMINISTRATION

Jim Humphrey	Accident Investigator
Sherman Slaughter	Accident Investigator
Paul Prince	Coal Mine Inspector

OFFICE OF MINERS' HEALTH, SAFETY AND TRAINING

C. A. Phillips	Deputy Director
Dennie Ballard	Assistant Inspector-at-Large
Curtiss Vance III	Surface Inspector

The following persons were present during interviews conducted on February 8, 2006.

EAST CUMBERLAND (Tree cutters)

Rejean Boulet *	Owner
Elmer Bishop *	Foreman

* (Denotes those interviewed)

MINE SAFETY AND HEALTH ADMINISTRATION

Jim Humphrey	Accident Investigator
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OFFICE OF MINERS' HEALTH, SAFETY AND TRAINING

Dennie Ballard	Assistant Inspector-at-Large
Lonnie Gore	Surface Inspector
Curtiss Vance III	Surface Inspector

The following persons were present during interviews conducted on February 23, 2006.

EQUITABLE GAS COMPANY

Brian Miller *	Superintendent
Brian Swigert	Attorney

* (Denotes those interviewed)

MINE SAFETY AND HEALTH ADMINISTRATION

Jim Humphrey	Accident Investigator
Sherman Slaughter	Accident Investigator

OFFICE OF MINERS' HEALTH, SAFETY AND TRAINING

Dennie Ballard	Assistant Inspector-at Large
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Gas Line Location Training, Training Awareness Plan and Crossing Plan

Please find listed below the revisions that will be made to the existing Black Castle Mining Ground Control Plan. Before performing any type of work, travel, excavation or blasting near active gas lines or wells the following stipulations will be met.

Any gas line will be considered as being active unless the line has been cut, purged and capped on each end. Any gas well will be considered active unless the well has been adequately plugged below the elevation of the work area. Documentation will be provided to show that the condition of the gas lines and/or wells is as described.

Black Castle will notify the gas company or other entity owning the lines or wells and have them locate and mark the lines or wells according to their operating procedures.

Gas Line Location Plan

1. A pipeline locator of the type used by gas companies (there are different manufacturers) will be used to locate metal gas lines.
2. Older plastic lines will be located by survey records if they exist or by pipeline locator. Recent plastic line installations may have a tracer wire buried with them.
3. The location of all gas lines will be marked in a distinct color on a certified map and the map will be provided with the ground control plan. This color will be noted in the legend of the map.
4. After the line is located it will be identified with markers.
 - a. The markers will be no less than 36" in height above ground level
 - b. Markers will be identified with a distinct, consistent, reflective marking at the top of the marker
 - c. The markers will be placed perpendicular (upright) to the location of the gas line
 - d. The markers will be placed 5' from the location of the gas line
 - e. The markers will be placed on both sides of the gas line at each marker location.
 - f. The markers will be spaced at no more than 75' intervals along the gas line and have a guaranteed line of sight between markers
 - g. Markers will be made of a weather resistant durable material
 - h. Markers will be visible to persons on foot or in equipment from outside the defined zone. The defined zone is the area on both sides of and within 50' of the gas line.
5. In areas where tree cutting and/or clearing operations is to be performed the markers will be inspected after the operation is completed and any markers found to be missing or damaged will be replaced as needed.
6. When tree removal activities must be conducted within 50 feet of the gas line, a grapple type excavator will be used to pick the fallen trees from the marked area. This work cannot be conducted unless the gas line is buried more than two feet

below the surface of the ground and at no time will the ground be disturbed below the surface.

7. At no time will mining, excavation or equipment /vehicle operation occur within 50 feet of a gas line or well except that equipment/vehicles will be allowed to cross at designated crossings. Markers will be established around gas wells to identify this 50-foot zone. An exception to this will be in areas where existing haul roads have been established along side known (surveyed) areas of the gas line where the depth has been verified at a minimum of 3'. In these areas the road will be no closer than 5' to the gas line and additional material will be placed within this 5' area to prevent travel in this area. Additionally, in these areas markers will be placed every 50'. See attached map (Gasline Location Map for East of Stollings/Laxare), which shows the location of these existing haulroads.
8. When there is a curve in a gas line, additional markers will be installed five feet from each side of the gas line and directly across from each other at any location where any part of a gas line is located more than five feet from a straight line extending along the gas line between the center of the gas line at one marked location and the center of the gas line at the next adjacent marked location.
9. Well number 047-005-00483, 047-005-00912, 047-005-00454, 047-005-00364, 047-005-00908, and 047-005-00345 in the northeast corner Laxare East permit are located in a portion of the permit that is five years out in the mine plan. Information will be provided on the aforementioned gas wells and associated gas line prior to any mining activity, work, travel, blasting, or excavation in this area of the Laxare permit.
10. Well number 047-005-00594, 047-005-00824, and 047-005-00342 have been plugged and an affidavit of plugging or information confirming the plugging of the wells from the WVDEP website has been provided. These three wells in addition to being plugged are at an elevation below the mining activity.

Gas Line Awareness Plan

1. Immediate training will be conducted with all personnel and resident contractors.
2. This training will be incorporated during the following sessions:
 - a. Newly Employed Experienced Miner
 - b. Annual Retraining
 - c. Hazard Training
 - d. Contractor Training
3. Additionally, a special safety talk will be conducted with all persons on Black Castle property immediately after gas lines have been located.
4. Gas line locations will be discussed, at least on a quarterly basis, in safety talk.

Gas Line Crossing Plan

1. In all areas where equipment/vehicles cross gas lines, the gas line will be encased with a steel pipe (conductor) of a minimum wall thickness of ¼ inch or protected from damage by equivalent means and will be buried a minimum depth of six feet where equipment weighing more than 150,000 lbs. cross the line and will be buried a minimum depth of three feet where equipment weighing less than 150,000 lbs. cross the lines. Pickup trucks, six wheel mechanic trucks and track

mounted equipment weighing less than 30,000 lbs. will be allowed to cross low pressure gas lines in areas outside the encased zones only if the depth of the gas line is known to be at least three feet and the ground surface is not disturbed.

2. In all areas where equipment/vehicles are allowed to cross, the gas lines will be marked by signs designating the crossing area and identifying the presence of the gas line.