# West Virginia Office of Miners' Health, Safety and Training

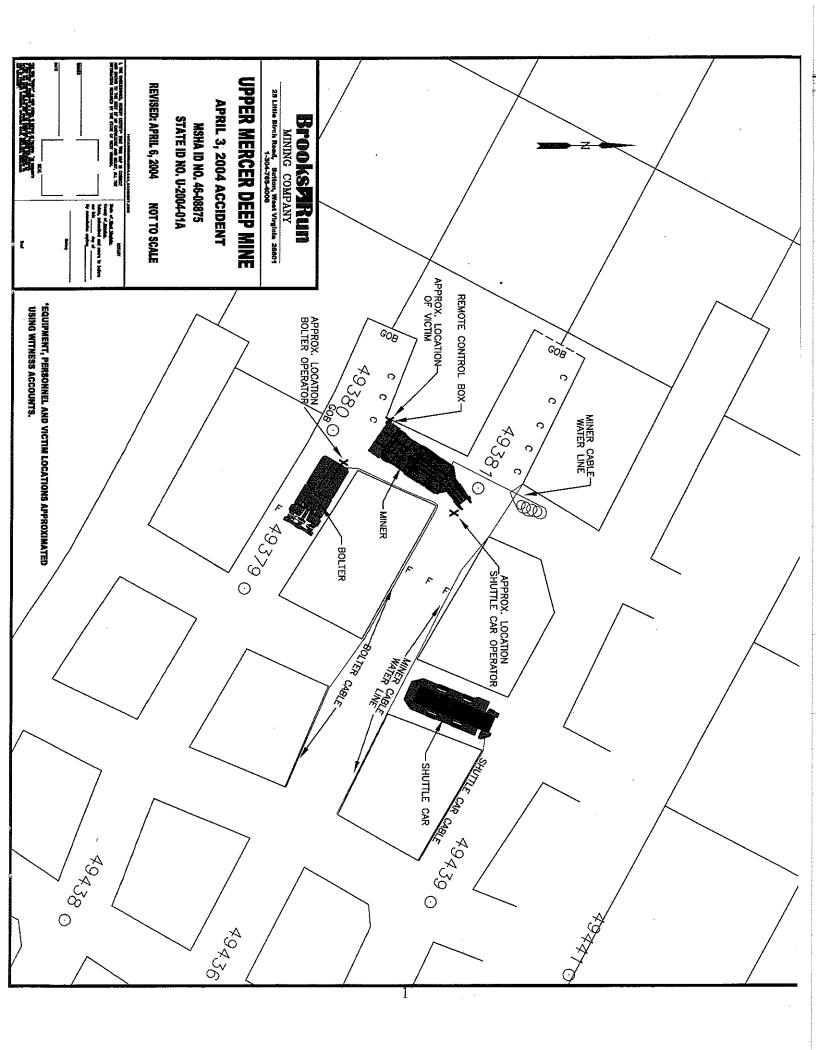
April 3, 2004

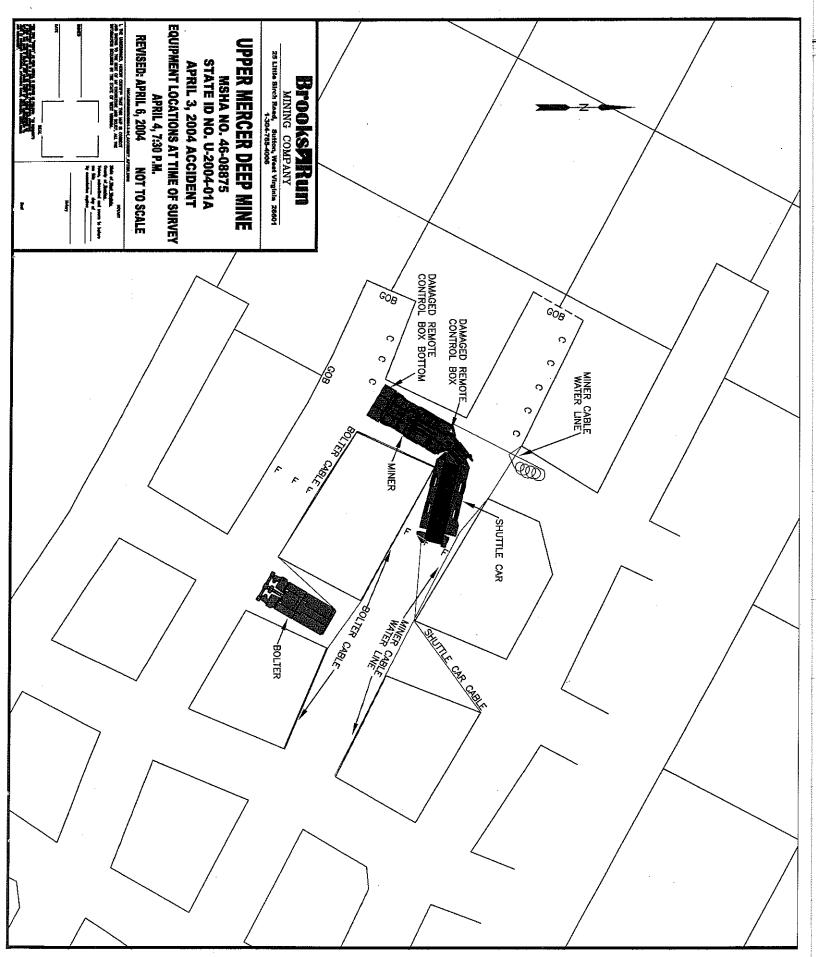
Report of a Machinery Fatality (Underground Coal Mine)

Brooks Run Mining Company, LLC Upper Mercer Mine Permit No. U-2004-01A

Region IV Office 142 Industrial Drive Oak Hill, West Virginia 25901 Gary S. Snyder, Inspector-at-Large \* ACKNOWLEDGMENT \_\_\_\_\_

\* APPENDIX \_\_\_\_\_\_\_10 - 14





## REPORT OF A MACHINERY FATALITY BROOKS RUN MINING COMPANY, LLC UPPER MERCER MINE PERMIT NO. U-2004-01A

#### **GENERAL INFORMATION**

A fatal machinery accident occurred at approximately 11:40 p.m. on April 3, 2004 at the Brooks Run Mining Company, LLC, Upper Mercer Mine (U-2004-01A) located at Erbacon, in Webster County. The accident occurred on the No. 1 working section in the last open crosscut between the No. 2 and No. 3 entries near survey station No. 49380. William Brady, 47 years of age, received fatal crushing injuries while tramming a Joy 12-27 continuous miner. Mr. Brady was caught between the outer portion of the cutter drum and the right coal rib. Jeff Bennett, Safety Director, notified Terry Casto, Deep Mine Inspector for the West Virginia Office of Miners' Health, Safety and Training, Oak Hill office, at approximately 12:30 a.m. (EST) on April 4, 2004. A joint investigation with the Mine Safety and Health Administration was started immediately.

#### DESCRIPTION

Brooks Run Mining Company, LLC was issued a permit to operate the Upper Mercer Mine on March 1, 2004. (The mine had previously been operated as Coastal Coal – West Virginia, LLC, Upper Mercer Mine, permit number U-2004-01.) Currently the mine employees sixty persons and has one (1) super section. Coal is extracted from the Upper Mercer seam with an average height of 10 1/2 feet. Coal is produced seven days a week on two (2) nine-hour day and evening shifts overlapping into the midnight shift. The remainder of the midnight shift is used for maintenance and other work. Three production crews are scheduled to work four (4) shifts on with two (2) shifts off.

On Saturday, April 3, 2004, the evening "B" crew, led by Scott Carpenter, section foreman, entered the mine at 4:00 p.m. (EST). The crew traveled by track-mounted vehicle to the working section and arrived at 4:25 p.m.

The shift progressed normally, with mining and roof bolting cycles alternating between the left and right sides of the seven-entry section. Ventilation work, cleaning, rock dusting and supplying of the section were performed as needed throughout the shift. Ed McCoin, section electrician, had made his normal tour of the section early in the shift, and checked with equipment operators on maintenance needs and the performance of their machines. Mr. McCoin had talked to the victim, William Brady, during that time. Mr. Brady had informed Mr. McCoin that the scrubber was not secured well to the continuous miner. He checked the scrubber and found that some of the bolts that held the scrubber ductwork were loose, but would not present a problem. Mr. McCoin told Mr. Brady that he would have the maintenance crew make the repairs that night. He had also asked how the continuous miner was otherwise performing. Mr. Brady had told him that

after some bit inserts had been replaced recently, the machine was cutting the best that it had for a long time. He did not indicate that any other problems existed on the machine.

At 10:23 p.m., Mr. Brady began mining the No. 3 left crosscut with the No. 2 Joy 12-27 continuous miner. Around 11:00 p.m., Scott Carpenter talked to Mr. Brady after mining was completed in the No. 3 crosscut and asked him about the performance of the scrubber. Mr. Brady indicated that the scrubber was performing properly. Mr. Carpenter then left to carry on his duties as section foreman. Mining of the No. 5 face began at 11:02 p.m., with John Cochran operating the No. 1 Joy 12-27 continuous miner.

After Mr. Brady had finished mining the No. 3 left crosscut, he backed the continuous miner into the last open crosscut between No. 3 and No. 4 entries. Bob Williams and Lowell Carpenter, roof bolter operators, brought their roof bolting machine into the No. 3 left crosscut and installed the required roof support. When roof bolting was completed, they trammed the roof-bolting machine down No. 2 entry and parked it just outby the crosscut. They planned to wait there until Mr. Brady finished mining the No. 2 left crosscut and then install roof support there. Using a battery-powered scoop, Gary Brown cleaned and then rock dusted the No. 3 left crosscut. He backed the scoop down the No. 3 entry and parked it just outby the No. 3 left crosscut. At about 11:25 p.m., Scott Carpenter went to the section power center to fill out some paper work.

Mr. Brady moved the continuous miner into the No. 3 left crosscut in preparation to start mining the No. 2 left crosscut, by approaching it straight on. Mr. Williams and Mr. Carpenter were in the No. 2 entry just inby the crosscut installing line curtain. The two men had a short discussion with Mr. Brady about the line curtain being in his way when he started mining the No. 2 left crosscut. Mr. Brady said that the line curtain would be alright, however, Mr. Williams nailed the lower corner of the line curtain to the right rib. Mr. Williams and Mr. Carpenter then returned to the roof bolting machine. During this time, the pump motor of the continuous miner continued to operate.

Mr. Williams stated that he was at the rear of the roof-bolting machine pouring a cup of coffee. According to him, Mr. Brady was standing in the No. 2 entry intersection. The pump motor stopped on the continuous miner, catching Mr. William's attention. He was not sure if Mr. Brady stopped the machine, if it had stopped by itself, or if the signal was lost between the remote control unit and the continuous miner. He assumed that Mr. Brady had lost the signal, by his actions. Mr. Brady appeared to be attempting to restart the miner with the remote control unit, as he stepped toward the continuous miner and into the crosscut. At this time (11:40 p.m.), the pump motor of the continuous miner started. According to Mr. Williams, the machine immediately moved forward about two (2) feet and completely stopped. It had sounded as if the continuous miner had started tramming in high speed.

Shortly before, Steve Rider, shuttle car operator, had completed his last trip to the No. 5 entry. He parked his shuttle car in the second crosscut between the No. 3 and No. 4 entries. He walked up No. 3 entry to the left outby corner of the intersection and passed Mr. Brown at the scoop on his way there. He called to Mr. Brady across the length of the continuous miner and asked him if he was ready. His response was "In just a second". Mr. Rider saw Mr. Brady, by the position of his cap lamp, in the No. 2 entry inby the continuous miner. Mr. Rider stated that almost immediately, the continuous miner started, moved two or three feet and then suddenly stopped. Because of the sound the machine had made, he felt or sensed that something wrong had occurred. He traveled around the loading boom of the continuous miner, and looked toward the front of the machine. He saw Mr. Brady pinned between the cutting head of the continuous miner and coal rib. He called to him three (3) times, but received no answer. He then went to the power center to obtain additional help and first-aid materials.

Mr. Williams and Mr. Carpenter rushed to the accident site and found Mr. Brady pinned between the cutting head and coal rib of the crosscut. They attempted to find a pulse, but none was detected. Mr. Williams noticed that the continuous miner remote control unit was also caught and damaged, and that an indicator lamp continued to operate on the unit. Mr. Williams traveled to the No. 5 entry to get Mr. Cochran and his remote control unit.

Mr. Brown had also heard the continuous miner start and stop, and thought that Mr. Brady had gotten the continuous miner onto its trailing cable. He walked to the intersection and observed that surplus cable was coiled at the inby right corner of the intersection and was not likely to be the problem. He heard someone yell that Mr. Brady was pinned. He traveled to the right side of the section to find Scott Carpenter and to obtain help.

Third shift electricians, Marty Taylor and James Rapp had arrived on the section by this time. They were at the section power center with Mr. McCoin discussing maintenance plans for that night. Hearing Mr. Rider's calls for help; they went to the accident scene. Another worker, Curtis Bailey, was positioned near the first aid materials, located just outby the power center. He obtained these materials and transported them to the accident site.

The No.1 continuous miner was on the clean-up run in the No. 5 face when Mr. Williams arrived. Scott Carpenter heard the calls for help and started toward the accident scene. Mr. Williams and Mr. Cochran had also started in that direction. When they arrived, Mr. McCoin, Mr. Rapp, and Mr. Taylor were at the continuous miner.

Mr. McCoin assumed control of the rescue efforts. Scott Carpenter left the site to coordinate other efforts being made. Other crewmembers gathered at the accident site. Some remained to help while others left to perform other tasks.

It was decided to start the machine and attempt to move it away from the victim with the manual controls. The design of the manual controls of this continuous miner only allows tramming in either a forward or backward direction. Tramming units cannot be operated individually or made to travel in different directions at the same time. An attempt by Mr. Cochran to move the continuous miner away from Mr. Brady, using only one (1) manual tram control failed. Further attempts to move the continuous miner, using the manual controls, were abandoned in fear of making the situation worse.

Mr. Cochran said that his remote control unit would not operate the No. 2 continuous miner because of the difference in the control frequencies. Mr. Williams said he would try to remove the lodged remote control unit, in hopes that it could be used to move the machine. The carrying strap was cut on the unit and Williams dislodged it with a hammer, striking the carrying grips on the unit. Mr.Cochran stated that the indicator lamps came on when the remote control unit was supplied with power. He was unsuccessful in his attempt to start the machine with this unit.

Mr. McCoin decided to hook a chain to the cutting head of the continuous miner and use a shuttle car to pull the machine away from the victim. Another shuttle car would push in the opposite direction on the back left corner of the machine.

Gary Brown had moved his scoop out of the No. 3 entry and parked it in an area outby the accident scene. Nathan Lee, right side bolter operator, moved the left roof-bolting machine to the next crosscut outby. These changes would allow the shuttle cars access to the continuous miner. The chain was attached to one (1) shuttle car and the ripper head of the continuous miner, and the other shuttle car was positioned at the left rear of the machine. Mr. McCoin synchronized the movements of the shuttle cars to coincide in the attempt to move the continuous miner away from the victim. The machine pivoted a short distance, freeing the victim.

Mr. Brady was placed on a stretcher and was taken by rubber-tired personnel carrier to the end of the track. He was then transported to the surface by rail. Webster County EMS Ambulance Service transported the victim to the Webster County Memorial Hospital. The victim arrived at the hospital on Sunday, April 4, 2004 at 3:20 a.m. (EDT), where he was pronounced dead.

### FINDINGS OF FACT

1. The operator's remote control station was damaged and rendered inoperable when caught between the cutter drum of the continuous miner and the coal rib at the time of the accident.

- 2. The operator was turned and facing toward the rear of the continuous miner as the machine was being trammed in the opposite direction.
- 3. The mining height on the section is approximately  $10 \frac{1}{2}$  feet.
- 4. The Joy 12-27 continuous miner is designed so that the machine will not tram or operate on start-up if either tram lever on the remote control unit is stuck in an operational position. The unit should indicate that a fault exists under this condition.
- 5. The remote control unit is designed with a "tram enable" switch. This switch must be activated before the machine will tram. If tramming is not initiated within three (3) seconds, the "tram enable" switch must be recycled.
- 6. The continuous miner was tested using two (2) different remote control stations of the same manufacturer and design as that of the damaged station.
  - a) Control signals were tested from inby, outby and to either side of the continuous miner with no problems encountered.
  - b) Control signals could be maintained for distances up to 380 feet from the continuous miner.
  - c) When programmed to the same control frequency at the same time, neither remote control station would activate the continuous miner. (This is a safety feature design of the continuous miner, so that nearby operating continuous miners will not be affected by possible frequency drift.)
  - d) The battery in use at the time of the accident, and which had not been removed from the scene nor recharged, was used to conduct these tests.
  - e) Tramming of this model of continuous miner may be accomplished at any of three (3) speeds. Tramming may begin at any of these selected speeds, however "ramp up" controls start the machine at low speed and will automatically progress the tramming phase to the highest speed selected. When the highest tramming speed is selected, the time span between the initial start up at low speed and the machine reaching high speed is one (1) to two (2) seconds.
  - f) When the control power was de-energized while tramming the continuous miner at the highest speed, the continuous miner would continue to move or coast for approximately two (2) seconds in nearly level conditions.

#### CONCLUSION

William Brady received fatal crushing injuries when he was pinned between the outer portion of the cutting drum on the continuous miner and the coal rib. He was positioned in an area that did not afford him protection while operating the machine.

## **ENFORCEMENT ACTION**

A non-assessed control order was issued in accordance with Chapter 22A, Article 2, Section 68 of the WV Code to preserve evidence following the accident.

The West Virginia Office of Miners' Health, Safety and Training, issued one (1) notice of violation to Brooks Run Mining Company, LLC during this investigation. This violation was considered to have contributed to the accident. The violation was written as follows:

Notice of Violation; Title 36, Series 43, Section 3.2:

The requirements of Title 36, Series 43, Section 3.2 were not complied with on April 3, 2004, on the active 001 working section, which resulted in a mine fatality. This requirement states in part that, during mining and place changing with remote control miners, all persons shall be positioned in an area that will afford protection to themselves and others from unsupported roof and moving equipment. Chapter 22A, Article 2, Section 49(d) further adds that; no person shall stand along the side of a boom, or pass or stand along the loading head or cutting head, on a continuous miner or loading machine in operation. Page 5, paragraph 12 of the approved roof control plan (22A-2-25(a)) adds that; when any continuous mining machine is equipped with remote control operating capacity, it shall be operated from a sufficient distance and/or location that the operator will not be endangered by the continuous mining machine or shuttle car.

#### RECOMMENDATIONS

The comprehensive mine safety program for the Upper Mercer Mine shall be modified to include the following safety precautions and guidelines:

- 1. All employees shall be instructed in the hazards associated with improper or unsafe positioning of themselves and others, when working near or traveling by all operating equipment.
- 2. Guidelines shall be initiated for the correct positioning of persons while operating continuous miners. This will include the re-defining of the red operating zone.
- 3. The remote control box for the continuous miner shall only be operated from the operator's cap lamp battery.
- 4. When maintenance work is performed on continuous miners, in locations where pinch points exist, the tram circuit shall be de-energized when possible.

## **ACKNOWLEDGMENT**

The West Virginia Office of Miners' Health, Safety and Training gratefully acknowledges the cooperation of the employees and management of Brooks Run Mining Company, LLC and the Mine Safety and Health Administration during this investigation.

Respectfully Submitted:

Hary S. Smyder	<u>May 20, 2004</u> Date
Gary S. Snyder, Inspector-at-Large	Date
Thomas & Harmon	Mgy 20,200 4 Date
Thomas E. Harmon, Electrical Inspector	Date
Terry L. Casto, Deep Mine Inspector	May 20, 2004 Date
Lloyd G. Collins, Deep Mine Inspector	May 20, 2004 Date
Lloyd G. Collins, Deep Mine Inspector	Date

## APPENDIX

- Mine Information Sheet
- Victim Information Sheet
- Persons Present During Investigation and Interviews

## MINE INFORMATION

COMPANY Brooks Run Mining Company, LLC
MINE NAME Upper Mercer Mine
WV PERMIT <u>U-2004-01A</u>
ADDRESS 25 Little Birch Road, Sutton, West Virginia 26601
COUNTY Webster
DATE PERMIT ISSUED March 1, 2004 WORKING STATUS Active
LOCATION near Erbacon
UNIONNON-UNIONYes
DAILY PRODUCTION 2,400 tons (clean coal)
ANNUAL PRODUCTION TO DATE 614,135 tons (raw coal)
TOTAL EMPLOYEES 60 NUMBER OF SHIFTS 3
NAME OF COAL BED Upper Mercer
SEAM THICKNESS 100 – 120 inches
ACCIDENT INCIDENT RATE 0 LOST TIME ACCIDENTS 0
TYPE OF HAULAGE Belt
WV OMHST INSPECTOR Terry Casto
DATE OF LAST INSPECTION <u>February 11, 2004 (Coastal Coal – WV, LLC)</u>
NOTIFIED BY Jeff Bennett, Safety Director
TIME OF NOTIFICATION 12:30 a.m., April 4, 2004
CMSP – ANNIVERSARY DATE <u>March 1, 2005</u>
CMSP – CONTACT PERSON Jeff Bennett

## VICTIM INFORMATION

NAME OF VICTIM William Brady
ADDRESS P. O. Box 185, Duck, West Virginia 25063
AGE 47 TOTAL MINING EXPERIENCE 29 years
EXPERIENCE AT THIS MINE 1 year
OCCUPATION AT TIME OF ACCIDENT Continuous Miner Operator
REGULAR OCCUPATION Continuous Miner Operator
COAL MINER'S CERTIFICATION NRWG-517A (underground)
OTHER CERTIFICATIONS N/A
SPOUSE'S NAME N/A
DEPENDENTS Two children
DATE OF ACCIDENT 3rd DAY OF April ,2004
AT 11:40 O'CLOCK p.m.
CAUSE OF ACCIDENT: Mr. William Brady received fatal crushing injuries when he
was caught between the cutting drum of a continuous miner and a coal rib.
DATE OF DEATH: 4th DAY OF April 2004

#### INVESTIGATION

The following persons were present during the on-site investigation conducted on April 4 and 5, 2004:

## BROOKS RUN MINING COMPANY, LLC

Ritchie Henderson

General Manager

Charles Dunbar

Vice President of Engineering

Steve Haga

Maintenance Supervisor

**Bobby Evans** 

Chief Electrician

Dave Hickman Stephen Rider

Mine Superintendent Shuttle Car Operator

Robert Williams

Roof Bolter Operator

## MINE SAFETY AND HEALTH ADMINISTRATION

John Pyles

District Manager

Paul Hess

Supervisor

Harold Hayherst

Coal Mine Inspector Coal Mine Inspector

William L. Sperry Larry Cook

Electrical Inspector (Supervisor)

Roger Richmond

Accident Investigator Electrical Engineer

Chad Huntley

Joseph Mackowiak

Coal Mine Inspector

## WV OFFICE OF MINERS' HEALTH, SAFETY AND TRAINING

Gary S. Snyder

Inspector-at-Large

Thomas E. Harmon

Electrical Inspector

Terry L. Casto

Deep Mine Inspector

Lloyd G. Collins

Deep Mine Inspector Safety Instructor

Mike R. Rutledge

## INTERVIEWS

The following persons were present during the interviews conducted on April 5, 2004:

## BROOKS RUN MINING COMPANY, LLC

Vaughn R. Groves

Attorney

Richie Henderson

General Manager

Robert Williams\* Stephen Rider\* Scott Carpenter\*

Roof Bolter Operator Shuttle Car Operator

Nathan Lee\*

Section Foreman

Daniel Harper\*

Roof Bolter Operator Roof Bolter Operator

Edward McCoin\*

Electrician

Gary Brown\*
John Cochran\*

Scoop Operator

Continuous Miner Operator

# CONTRACTORS FOR BROOKS RUN MINING COMPANY, LLC SUPERIOR COAL SERVICES (C-6268)

Lowell Carpenter\*

Roof Bolter Operator

## MINE SAFETY AND HEALTH ADMINISTRATION

Roger Richmond Sharon Cook Accident Investigator Training Specialist

William Sperry

Coal Mine Inspector

Larry Cook

Electrical Inspector (Supervisor)

Chad Huntley

Electrical Engineer

Mike Woodrome

Assistant Chief of Tri-State Initiatives

## WV OFFICE OF MINERS' HEALTH, SAFETY AND TRAINING

Gary S. Snyder

Inspector-at-Large

Thomas E. Harmon

Electrical Inspector

Terry L. Casto

Deep Mine Inspector

Lloyd G. Collins

Deep Mine Inspector

Terry L. Farley

Health and Safety Administrator

<sup>\*</sup>denotes persons interviewed