

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

COAL MINE SAFETY AND HEALTH

REPORT OF INVESTIGATION

Surface Mine

Fatal Powered Haulage Accident
May 23, 2006

at

Risner Branch #1 Mine
Miller Bros Coal LLC
Rousseau, Breathitt County, Kentucky
ID No. 15-18600

Accident Investigators

Arthur V. Smith
Mine Safety and Health Inspector (Surface)

Eugene Hennen
Mechanical Engineer
MSHA Approval and Certification Center

Originating Office
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Norman Page, District Manager

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ACCIDENT SITE



OVERVIEW

At 9:50 a.m. on Tuesday, May 23, 2006, a 23-year old miner with 10 months of mining experience was fatally injured at Miller Bros Coal LLC, Risner Branch # 1 Mine. The accident occurred when Steven Bryant, driving a Mack water truck, lost control while descending a steep mine access road. The accident occurred because the service brakes were not adequate, the engine brake was inoperative, and because the victim was not task trained. The approved training plan was not followed and effective procedures were lacking to ensure adequate braking systems. The truck overturned and slid over an embankment.

GENERAL INFORMATION

The Risner Branch #1 Mine is a surface mine located near Rousseau in Breathitt County, Kentucky. The mine is owned and operated by Miller Bros Coal LLC. The president of the Limited Liability Corporation is James Hake and the vice-president is Scott A. Deppe. The mine utilizes 992G & D Caterpillar loaders with five 100 ton rock trucks and five large bulldozers and supporting/service equipment. Mountain top removal and contour mining methods are employed to mine the Skyline and Haddix coal seams which are 4' & 6' thick respectively. The mine works two production shifts each day, five days a week, and has an average daily production of 2,000 tons. Coal is hauled by contract trucks to river barge loading facilities at Louisa, Kentucky.

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

Samuel D. Maggard Superintendent
Lanny Lyons Superintendent

Prior to the accident, the Mine Safety and Health Administration (MSHA) completed the last regular safety and health inspection on 10/06/2005. The Non-Fatal Days Lost (NFDL) injury incidence rate for the mine in 2005 was 4.21 compared to a National NFDL rate of 5.02.

DESCRIPTION OF ACCIDENT

On Tuesday, May 23, 2006, at 4:50 a.m., Steven Bryant, victim, arrived early at the mine and fueled the mining equipment (dozers, loaders, and rock trucks). Since miners were substituting for those who were on vacation, Bryant had been assigned to fuel the equipment all week. When fueling was completed, Bryant parked the fuel truck at the front lot.

At approximately 6:15 a.m., Superintendent Dave Peters met with blasting foreman Bill Campbell, and instructed him to have Lawrence Prater drive the water truck because Bill Napier, the normal water truck driver, was filling in for the grease truck driver. Prater said he did not know how to operate the water truck. Peters then instructed Campbell to ask Bryant to drive the water truck. Campbell saw Bryant at the front lot and informed

Bryant he would be operating the water truck today. Because Bryant had never driven the water truck, Napier met with Bryant at the front lot and showed him how to couple the water hoses and turn the water valve on, to water the roadway. Napier asked Bryant if he would be alright with the water truck. Reportedly, Bryant said "I will be alright; I see the shift pattern on the dashboard". Napier told Bryant that the engine brake did not work on the water truck. Napier said, "stop out there and tell Ernie (the mechanic) and he might fix it". (The engine brake failure was reported to Dave Peters, on two different occasions prior to the accident.)

Bryant drove the water truck and followed Campbell to the pond. Campbell showed Bryant how to use the water pump and instructed Bryant to water the area where the equipment was working. At approximately 8:15 a.m. Superintendent Peters noticed there was no water on the roads, he drove to the water pump and asked Bryant if he was having problems. Bryant stated that he was having trouble because he could not determine how much water was in the truck. Peters told Bryant to climb onto the truck and see how much water was in it. The truck was only about half full. As instructed by Peters, Bryant applied the water on the number 4 area where the equipment was working. Peters called on a citizens band radio for the road grader to move the water pump closer to the water. Peters then went to check the pit area. Peters later returned to the water pump and guided Bryant as he backed the water truck into position to be reloaded. Peters then drove to the coal stockpile.

Bryant filled the truck with water and started down the mountain road where the coal trucks had hauled earlier that morning. Bryant apparently did not know the coal trucks had stopped hauling. The road down the mountain was 0.8 mile long and had a 9% grade. It intersected with KY State highway 30 at the foot of the mountain.

As he was traveling down the haul road, Bryant lost control of the truck because the service brakes were not adequate, the engine brake was inoperative, and because he was not task trained. The truck apparently gained speed, and near the bottom of the mountain, the truck overturned, and slid over an embankment into a field.

McKinley Neace, a nearby resident, heard the accident and rushed to help. Another resident, Linda McIntosh, heard the truck wreck and phoned Peters who received her call at or near 10:00 a.m. McIntosh also called 911 for help. The 911 call was received by the Kentucky State Police who contacted the Breathitt County Ambulance Service at 10:03 a.m. The Kentucky State Police, Jackson Fire Department, Empire Ambulance Service and the Breathitt County Coroner all responded to the accident.

Peters, an M.E.T., upon receiving the call from McIntosh went to the mine office and got the M.E.T. kit and he and Harold Kilburn drove to the scene of the accident. Peters checked Bryant for a pulse finding none. Bryant was pronounced dead at 10:57 a.m. on May 23, 2006 by Breathitt County Coroner Bobby Thorpe.

INVESTIGATION OF THE ACCIDENT

Ron Burns, Supervisory Coal Mine Safety and Health Inspector, was notified at 10:30 a.m. on the day of the accident by a telephone call from Robert Duff, safety consultant. An order was issued pursuant to section 103(k) of the Mine Act to ensure the safety of miners and to preserve the accident scene. The investigation was started the same day.

MSHA's accident investigation team traveled to the mine; conducted a physical examination of the accident scene and equipment involved, interviewed persons and reviewed conditions and procedures relative to the accident. The investigation was conducted jointly with the assistance of mine management and miners.

DISCUSSION

MACHINE INFORMATION: The truck was a Mack model RD888SX Tandem axle truck manufactured in 1990 VIN 2M2P282C7LC001170. The manufacturer's maximum specified gross (loaded) vehicle weight rating (GVW) was 81,280 pounds. The truck's water tank had a capacity of 5,600 gallons of water. The tank had interior baffles to help prevent the movement of water from interfering with the drivability of the truck.

ENGINE BRAKE: The truck was equipped with a Jacobs engine brake (Jake brake). When a Jake brake is activated it causes each cylinder of the engine to be converted to a compression chamber of approximately 500 pounds thereby restricting rotation of the crankshaft. This slows the speed of the truck once the transmission is engaged. The throttle operated engine brake switch was not working because the switch mounting bracket was twisted and the switch was out of adjustment. This condition prevented the engine brake from being used to slow the truck while the truck was descending a grade. Jake brakes are installed on heavy trucks to reduce fatigue and wear of the service brake components. Jake brakes are usually installed only on trucks which haul on mountain or inclined roads.

TRANSMISSION: After the accident the transmission was found in 4th gear, direct, low range. The transmission was a 15 speed and the differential gear ratio was 7.58. The output shaft was checked and was intact.

BRAKE COMPONENT EXAMINATION: The stroke adjustment for the service brake chambers were measured, the thickness of each brake lining was measured, and all of the brakes were visually inspected. All of the drums were removed and the inside diameters of the drums were measured and the brake assemblies closely examined. All the service brake adjustment tests were conducted with 100 psi air pressure in the brake air tanks. Although the truck had some braking capacity, the examination showed that the brakes were not properly maintained in that the following conditions were found during the examination and test.

1. FRONT AXLE: The front axle had mismatched air brake chambers. The driver side had a type 30 and the passenger side had a type 24. The driver side brake linings did not contact the drum when the service brake was applied. According to the North American Standard Out-Of-Service Criteria either of these conditions requires the truck be taken out of service. The drum and linings had grease on them.

2. REAR DRIVE AXLE: The passenger side linings and drum were covered with grease. The thickness of the brake linings was ¼ inch which is the recommended replacement thickness. The drum wear surface ½ inch in from the open end of the drum was worn in excess of the manufacturer's maximum allowable dimension by .015 inch. The brake canister push rod travel was 2 and 7/16 inches which exceeds the adjustment limit of 2 inches by 7/16 inch.

3. FRONT DRIVE AXLE: Large sections of the wear surface of both drums were blue indicating the brakes on this axle had been overheated.

4. BRAKE DRUMS: The diameter of the drum wear surfaces on the driver side steering axle and both rear axle drums exceeded the manufacturer's maximum recommended diameter.

TIRES: Of the 10 tires on the truck at the time of the accident 9 were in good condition. All the tread was worn off the inside tire on the passenger side of the rear axle.

SEAT BELT: The seat belt was in good condition and firmly attached to the seat. The seat belt buckle operated properly.

PRE-OPERATIONAL CHECK: An adequate pre operational check was not performed in that the driver's side brake linings did not contact the drum when the service brake was applied.

TRAINING: Inspection of company training records and interviews with mine personnel revealed that Steven Bryant did not receive task training to drive the RD888SX Mack water truck. Bryant normally drove the truck used to transport explosives, which was also a Mack, but the transmission on that truck was different than the Mack truck Bryant was operating when the accident occurred.

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. The following root causes were identified during the analysis and their corresponding corrective actions intended to prevent a recurrence of the accident:

1. *Root Cause:* Management failed to task train the victim. An existing procedure, the approved mine training plan, was not followed.

Corrective Action: Management shall adhere to the existing training program and provide proper training. Also, management will assure that trainers are aware of the requirements affecting miners to be trained.

2. *Root Cause:* The service brakes were not properly maintained and the engine brake was inoperative. Management did not have an effective procedure to ensure that mobile equipment brakes were properly maintained.

Corrective Action: Management shall implement a written procedure to provide for regular examinations, maintenance, and repairs of braking systems for each machine. Defects found that affect safety shall be reported to the foreman and shall be corrected before the machine is placed in service.

3. *Root Cause:* Management did not have a policy in place to ensure that adequate pre-operational checks were performed. Nor did they have a procedure to ensure that equipment safety defects were corrected prior to equipment use.

Corrective Action: Management shall establish a procedure to assure that adequate pre-operational checks are conducted on mobile equipment and to assure that any safety defects identified are corrected prior to operation.

CONCLUSION

The accident occurred when Steven Bryant, driving a Mack water truck, lost control while descending a steep mine access road. The accident occurred because the service brakes were not adequate, the engine brake was inoperative, and because the victim was not task trained. The approved training plan was not followed and effective procedures were lacking to ensure adequate braking systems. The truck overturned and slid over an embankment.

Approved By:

Manager's Name
District Manager

Date

ENFORCEMENT ACTIONS

Order No. 7474997 was issued on May 23, 2006, under the provisions of section 103(k) of the Mine Act. A fatal haulage accident has occurred on the access road to the surface mine. This order is being issued to assure the safety of all persons at the mine, until an investigation is made to determine the mine is safe. Only those persons selected from the company officials, state officials, miners' representative and other persons who are deemed necessary by MSHA to have information relative to the investigation may remain at the accident site.

104(a) Citation No. 7526389 citing 30 C.F.R. 48.27(a), S& S, Moderate Negligence
The fatal accident investigation has revealed that Steven Bryant had not received task training before being assigned to drive an RD888SX Mack water truck VIN 2M2P282C7LC001170. This condition contributed to the occurrence of this fatal accident.

104(a) Citation No 7526390 citing 30 C.F.R. 77.1605(b), Moderate Negligence
The fatal accident investigation has revealed the brakes were inadequate on the RD888SX Mack water truck VIN 2M2P282C7LC001170. This condition contributed to the occurrence of this fatal accident.

104(d) (1) Citation No.7526391 citing 30 C.F.R. 77.1606(c), High Negligence
The fatal accident investigation has revealed the engine brake was inoperative on the RD888SX Mack water truck VIN 2M2P282C7LC001170. The investigation also revealed the mine superintendent knew of this condition and yet assigned Steven Bryant to operate this truck. This condition contributed to the occurrence of this fatal accident.

104(a) Citation No. 7526392 citing 30 C.F.R. 77.1606(a), Moderate Negligence
The fatal accident investigation revealed that an inadequate pre-operational inspection was made on the RD888SX Mack water truck VIN 2M2P282C7LC001170 on May 23, 2006. The pre-operational inspection failed to reveal that the driver side steering axle brake linings did not contact the brake drum when the brakes were applied. This condition contributed to the occurrence of the fatal accident

**Appendix A
Persons Participating in the Investigation**

Miller Bros Coal LLC

<u>Name</u>	<u>Title</u>
David C. Peters	Superintendent
Scott A. Deppe.....	Vice President
Tim Spicer.....	Maintenance Supervisor

Contractor

<u>Name</u>	<u>Title</u>
Robert Duff.....	Safety Consultant

Kentucky Office of Mine Safety and Licensing

<u>Name</u>	<u>Title</u>
Ronald H. Hughes.....	Director, Division of Investigation
Greg Goins	Acting Deputy Chief Accident Investigator
Randy Smith.....	District Supervisor
Mike Combs.....	Surface Safety Analyst

Mine Safety and Health Administration

<u>Name</u>	<u>Title</u>
Arthur V. Smith	Mine Safety and Health Inspector (Surface)
Eugene Hennen.....	Mechanical Engineer (Tech. Support)
Ron Burns.....	Supervisory Coal Mine Safety and Health Inspector
Wendell Hall.....	Coal Mine Safety and Health Inspector
Freddie N. Fugate.....	Coal Mine Safety and Health Inspector
Tom Morgan.....	Specialist, Educational Field Services
Adron Wilson.....	Special Investigator

