

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

COAL MINE SAFETY AND HEALTH

REPORT OF INVESTIGATION

Surface Area of Underground Coal Mine

Powered Haulage Accident
January 23, 2006

TBK Haulage, Inc. (RCT)
Hurley, Virginia

at

Sassy Coal Co., Inc.
No. 4
Biggs, Pike County, Kentucky
ID No. 15-17964

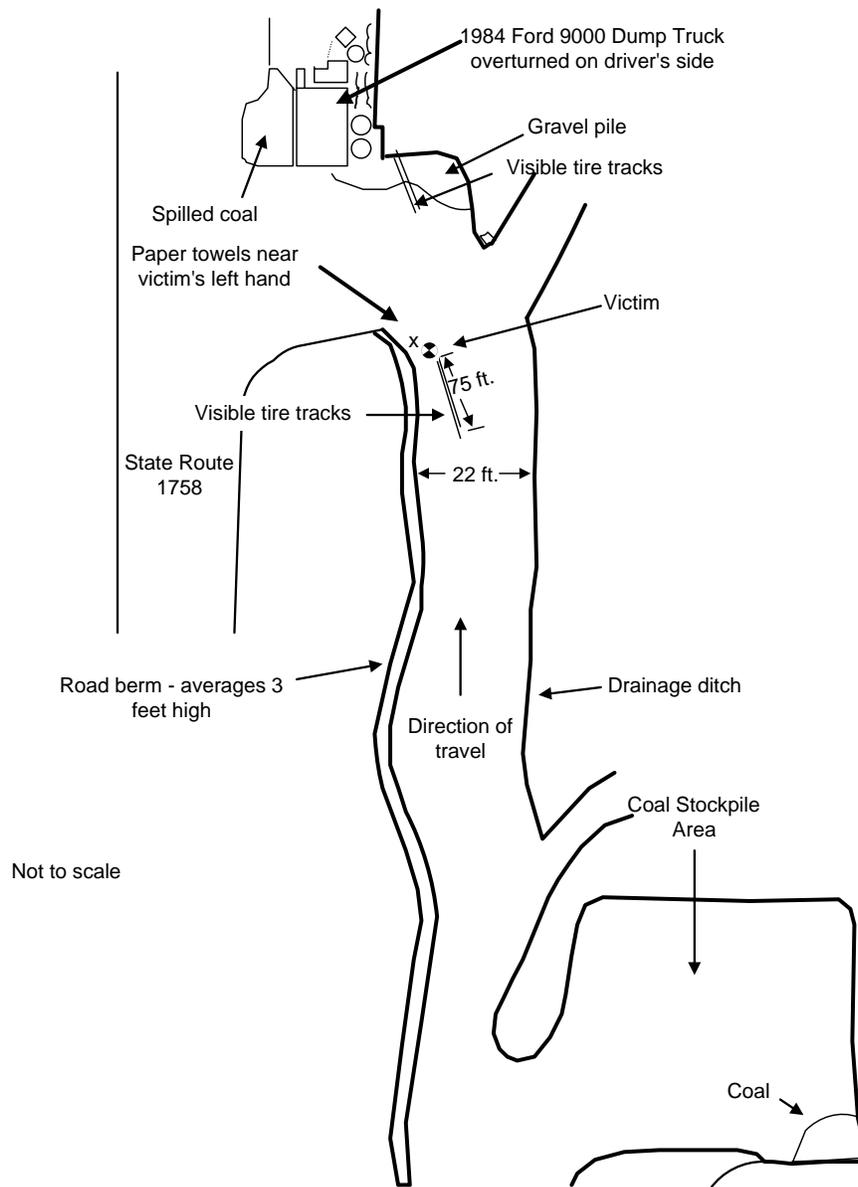
Accident Investigator

Robert H. Bellamy
Mining Engineer

Originating Office
Mine Safety and Health Administration
District 6
100 Fae Ramsey Lane
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Kenneth A. Murray, District Manager

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Sketch of Accident Site
 Fatal Haulage Accident
 TBK Haulage, Inc. (RCT)
 Sassy Coal Co., Inc.
 No. 4
 MSHA ID No. 15-17964
 January 23, 2006



Photo of Accident Scene
Sassy Coal Co., Inc. Mine Haul Road
January 23, 2006

OVERVIEW

At approximately 10:30 a.m. on January 23, 2006, James David Thornsberry, a 72-year old truck driver for TBK Haulage, Inc., was fatally injured while operating a loaded Ford LT 9000 coal truck on the Sassy Coal Co., Inc. underground mine access/haul road. Thornsberry fell from the coal truck while hauling the sixth load of the day down the graded mine road. The rear tandem wheels of the truck overran Thornsberry, resulting in fatal injuries.

The accident occurred because the driver fell from the cab while the truck was in motion. A defect with the cab door window crank mechanism contributed to the circumstances leading to the accident.

GENERAL INFORMATION

Sassy Coal Co., Inc., No. 4, is a one-unit underground coal mine located directly off State Route 1758, one mile north of the intersection of State Route 1758 and State Route 194, at Biggs in Pike County, Kentucky. The principal officer is Charles T. Norman, President. The mine operates one eight-hour shift, five days per week and employs 8 persons. The mine produces approximately 150 tons of coal per day. The coal is transported by truck to the Clintwood Elkhorn Mining Company, Inc, Clintwood Elkhorn #2 preparation plant, located approximately 1.7 miles from the mine.

TBK Haulage, Inc. (MSHA Contractor I.D. RCT) is an independent trucking contractor having one coal truck and one employee. The principal officer is Steven Justus, Owner.

The last regular safety and health inspection of the mine prior to the accident was completed on December 21, 2005.

DESCRIPTION OF ACCIDENT

On Monday, January 23, 2006, at approximately 9:10 p.m., Steven Justus met James Thornsbery at the stockpile area of the Sassy Coal Co., Inc., No. 4 mine in order to assist Thornsbery in adding engine coolant to the Ford LT 9000 coal truck. At that time, Thornsbery was preparing to haul his fourth load of the day to the Clintwood Elkhorn Mining Company, Inc, Clintwood Elkhorn II preparation plant, located approximately 1.7 miles from the mine.

Justus returned to the mine office area where he was contacted by phone by John Freeman, mine owner at an adjacent mine, around 10:30 a.m. Freeman informed Justus that he could see the truck on its side near the bottom of the mine haul road with the front end down in the creek. Justus immediately drove down to the accident scene where he found Thornsbery at a location approximately 520 feet from the stockpile loading point. Thornsbery was lying along the edge of the road near the inside edge of the road berm, and approximately 70 feet upgrade of the truck. Justus then returned to the mine office, called 911 for emergency assistance and asked Verlin Taylor, Mine Superintendent, to go to the accident scene and check on Thornsbery.

In the mean time, Freeman had contacted Ott Mullins, Manager of Safety and Environmental Affairs for Clintwood Elkhorn Mining Company, Inc, who was also an emergency medical technician (EMT). Upon Mullins' arrival at approximately 10:45 a.m., Justus and Jackie Dotson, a truck driver from the

adjacent mine, were also present at the site. Mullins checked Thornsby for pulse and breathing and observed there were traumatic injuries to Thornsby's lower torso area indicating he had been run over by the truck. Thornsby was pronounced dead at 11:51 a.m. by Ernest Casebolt, Pike County Deputy Coroner.

INVESTIGATION OF ACCIDENT

Verlin Taylor notified the MSHA Elkhorn City Field Office of the accident at approximately 10:45 a.m. MSHA personnel from the Elkhorn City Field Office and the MSHA District Office in Pikeville, Kentucky, were dispatched to the accident site. A 103(k) Order was issued to secure the accident scene while an investigation was conducted to ensure the safety of any persons at the mine. A mechanical engineer from the MSHA Approval and Certification Center office arrived on January 24, 2006, to conduct a detailed mechanical evaluation of the Ford LT 9000 truck. The investigation was conducted in cooperation with State officials. An interview with the contractor was conducted at the Kentucky Office of Mine Safety and Licensing office in Pikeville, Kentucky on January 26, 2006.

DISCUSSION

Haul Road Conditions

The mine haul road began at the stockpile area where the truck was loaded by the driver. The mine haul road extended downgrade for a distance of approximately 600 feet where it joined a graveled state road. The overall grade of the mine haul road was 14.1%, according to surveying information provided by Clintwood Elkhorn Mining Company, Inc. The haul road base was well compacted and the surface consisted of graded, limestone gravel. The berm on the outside edge of the road averaged three feet in height.

The post-accident visual examination of the haul road revealed no evidence of extreme braking efforts (skid marks) nor evidence that the truck had been in a runaway mode (there was no indication of an attempt to steer the truck into the hillside or the road ditch). Tire tracks that varied from the normal path of travel were visible. The tracks gradually deviated toward the berm on the outside edge of the road starting at a point approximately 75 feet upgrade of the location of the victim. The truck continued traveling in this general direction until it crossed the mine haul road due to encountering a steep curve to the left then went over a gravel berm and into the creek channel.

The clearance between the deviating tire tracks and the road berm was 10 feet where the tracks first left the normal route of travel. As the truck continued downgrade, the clearance between the tire tracks and the berm gradually decreased and was measured to be four feet at the location of the victim.

Post Accident Position of Truck

The post accident position of the truck was nose down in the creek channel and resting on the end of a five-foot steel culvert with the truck rolled over onto its left side. The right rear tandem drive wheels were in the air. Persons interviewed stated that the engine was running and the right drive wheels were turning.

Minimal damage occurred to the cab and body of the truck. There was no apparent damage to the interior of the cab. The coal which had been loaded into the truck bed had partially spilled after the truck had turned on its side. No coal spillage was observed except in the immediate area of the truck bed.

Mechanical Condition of Truck Relative to Accident

The evaluation of the mechanical condition of the truck was conducted by the Approval and Certification Center to determine if any equipment related factors contributed to the accident. The most significant findings relative to whether defects would have caused the truck to enter a runaway mode while traveling down the graded mine haul road are the following:

1. No functional defects to the transmission and driveline were identified. The transmission was in the lowest possible gear and would have provided significant reduction of speed.
2. The engine retarder (Jacobs engine brake) was fully functional and engaged in the highest mode. The engine retarder would have a significant supplemental effect in controlling the speed of the truck.

The gear selection and application of the engine retarder are the two most important means used by experienced drivers for controlling the speed of this type of haul truck when traveling down a grade loaded. With the gear selection in low and the engine retarder engaged in the high position, the truck speed would have been adequately controlled. Although deficiencies with the service brakes were identified that would have decreased the overall effect of the service brakes, it is doubtful that the service brakes would have been employed by the driver as a resource to control the speed of the truck for the relatively short distance the truck traveled downgrade before leaving the normal route of travel.

A functional seat belt was provided in the truck. The seat belt was found to be disengaged and in the stored position. The truck was not equipped with a rollover protection system. Although regulations do not require the use of seat belts in equipment that is not provided with rollover protection, MSHA strongly recommends the use of seat belts in all types of mobile equipment.

Mechanical Condition of Driver's Side Cab Door

Deficiencies to the window crank handle were identified during the evaluation of the Ford LT 9000 truck. An upward lifting force was required to be applied to the window glass while turning the window crank handle in order to close the window.

During the accident investigation, the closing or "rolling up" of the door window was performed while sitting in the driver's seat. The process required reaching across the body with the right hand to grasp the top of the window glass to apply the lifting force, while using the left hand to work the crank handle in a counter-clockwise motion. This action required a shifting of weight and the body to be leaned toward the door. It was noted that the crank handle would intermittently "slip" and in order to achieve meshing with the internal workings of the crank mechanism, it was necessary to back off the crank handle in the clockwise direction and then continue the counter-clockwise cranking motion.

The knob was missing from the window crank handle which required the crank to be grasped from the end. The clearance between the end of the window crank handle and the end of the door latch handle was measured to be two inches.

The door latch mechanism was operative and properly functioning to hold the door closed. The motion required to release the door latch was an upward lifting motion of the inside latch handle, while the motion to roll up the door window was a counter-clockwise motion. The two motions are converse to one another, but as noted, it was necessary to back off the window crank handle intermittently in a clockwise motion to achieve realignment of the crank mechanism. The effort required to release the door latch was significantly less for the driver's side door than for the passenger side door. The distance from the driver's side door to the outside rear view mirror was 15 inches.

Weather

It had been raining lightly throughout the morning and at the time of the accident. The temperature was approximately 40 to 45 degrees.

Possible Cause of Accident

There was no eyewitness to the accident. The following facts and conclusions are presented to develop a basis for the factors contributing to the accident:

1. There was no physical evidence at the accident site that the truck had been out of control or running away while descending the mine haul road. The mechanical evaluation of the truck revealed no defects to the transmission, driveline, or engine retarder and the proper gear and engine retarder selection had been utilized by the highly experienced driver. Based on these facts, it is concluded the driver did not jump from the truck due to fear of the truck running away.
2. Folded paper towels were located within inches of the driver's left hand and the driver's side window glass position was six inches from being closed after the accident occurred. Based on these facts, it appeared that the driver may have been cleaning the driver's side rear view mirror.
3. The driver's side window crank mechanism was defective. In order to roll the window up, a shifting of weight toward the door by using the right hand to lift the window glass while cranking with the left hand was required. The knob for the window crank was missing which meant that the window crank handle would have to be grasped from the end which was located two inches from the door latch handle. Based on these facts, it appeared that the door latch was inadvertently tripped while the driver rolled up the window.

Based on these combined facts, the most likely accident scenario was as follows:

After loading the truck in the stockpile area, Thornsbery entered the truck and began driving down the mine haul road. He rolled down the window to clean the rear view mirror mounted to the outside of the door. After cleaning the mirror using folded paper towels, Thornsbery began to roll the window back up. He reached across his body with his right hand to pull up on the window glass while turning the window crank with his left hand. The door latch handle was inadvertently tripped, while his weight was shifted against the door. When the door opened, he fell from the cab of the truck.

ROOT CAUSE ANALYSIS

An analysis was conducted to determine the most basic causes of the accident. Listed below are root causes identified during the analysis and their corresponding corrective actions implemented to prevent a recurrence of the accident.

Root Cause: The contractor had no policies or procedures to ensure the truck was being maintained in safe condition. A practice of performing routine pre-operational checks had not been established and records of safety examinations or maintenance measures were not maintained.

Corrective actions: The contractor has developed an accident prevention policy to require truck drivers to: “do a pre-shift examination of the equipment before moving the equipment on a daily basis. A record of the daily examination is to be kept in the end loader.”

Root Cause: The contractor had no policy for the use of seat belts.

Corrective Actions: The contractor has developed an accident prevention policy which states: “Truck drivers will be required to wear seat belts on mine property when trucks are in motion.”

CONCLUSION

The accident occurred when the driver fell from the truck while it was in motion. Pre-operational inspections of the truck by a qualified person were not being conducted and defects affecting safety were not recorded and reported to the contractor and corrected before the truck was put in service. The trucking contractor had no policy for the use of seat belts, which were not worn at the time of the accident.

Approved by:

Kenneth A. Murray
District Manager

ENFORCEMENT ACTIONS

1. A 103(k) Order No. 7424873, was issued on January 23, 2006, to Sassy Coal Co., Inc.

Condition or Practice: "The mine has experienced a fatal truck haulage accident on the mine haulage road. This order is issued to ensure the safety of any person on the surface until an examination or investigation is made to determine that the haulage road and stockpile area are safe. Only those persons from company officials and other persons who are deemed by MSHA to have information relevant to the investigation may enter or remain in the affected area".

2. A 104(a) Citation No. 7426830 was issued to TBK Haulage, Inc. for a violation of 77.1606(a).

Condition or Practice: "Inspections of the Ford LT 9000 truck were not being conducted by a qualified person before the truck was placed in operation. Defects affecting safety were not being recorded and reported to management."

3. A 104(a) Citation No. 7426831 was issued to TBK Haulage, Inc. for a violation of 77.404(a).

Condition or Practice: "The Ford LT 9000 truck was not being maintained in safe operating condition. The driver's side window crank did not operate properly and the window crank knob was missing."

4. A 104(a) Citation No. 7426842 was issued to TBK Haulage, Inc. for a violation of 77.1607(b).

Condition or Practice: "The driver of the Ford LT 9000 truck did not have full control of the truck while it was in motion. While traveling down the mine haul road, the driver had cleaned the outside rear view mirror and was then using both hands to roll up the cab door window due to a malfunction of the window crank mechanism."

APPENDIX A

List of Persons Participating in the Investigation

Sassy Coal Co., Inc

Charles T. Norman	President
Verlin Taylor	Superintendent

TBK Haulage, Inc.

Steven Justus	Owner
Roger Baker	Contract Mechanic

Kentucky Office of Mine Safety and Licensing

Greg Goins	Accident Investigator
Tracy Stumbo	Chief Accident Investigator
Ronald Hughes	Director of Accident Investigations
Mike Elswick	District Supervisor

Mine Safety and Health Administration

F.Terry Marshall	Mechanical Engineer, Approval and Certification Center
James Salyer	Coal Mine Inspector
James Hager	Supervisory Mine Inspector
Robert Hardman	Assistant District Manager-Enforcement
Timothy Watkins	Assistant District Manager-Technical
Robert Bellamy	Mining Engineer
Michael Pruitt	Education Field Services



Ford LT 9000 truck, Photo of center section of driver's side door, window crank and door latch handle



Photo of accident scene looking up the mine haul road