CAI-2009-01

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

COAL MINE SAFETY AND HEALTH

REPORT OF INVESTIGATION

Surface Coal Mine

Powered Haulage
February 6, 2009

Medford Trucking (B106)
Charleston, Kanawha County, West Virginia

at

Republic Energy
Elk Run Coal Company
Mahan, Fayette County, West Virginia
ID No. 46-09054

Accident Investigators

Andrew Sedlock
Coal Mine Health and Safety Inspector

Terry Marshall
Technical Support

Originating Office
Mine Safety and Health Administration
District 4
100 Bluestone Road
Mt. Hope, West Virginia 25880
Robert G. Hardman, District Manager

TABLE OF CONTENTS

OVERVIEW

At 9:10 a.m., on Friday, February 06, 2009, a 70-year old coal truck driver with eight weeks of mining experience was fatally injured at Republic Energy Mine. The accident occurred when the victim lost control of the Kenworth coal truck he was operating, struck the left embankment and turned over on the haul road, trapping the victim beneath the cab.

The accident occurred because: (1) the trailer brakes failed to operate effectively, (2) the contractor failed to provide an effective safety program for the pre-shift inspection to identify unsafe conditions, and (3) the victim had not received new miner training.

GENERAL INFORMATION

The Republic Energy mine I.D. No. 46-09054 is located near Mahan, Fayette County, West Virginia. The principal officers for the mine at the time of the accident were:

James V. Wood .....President
Bryan K. Anderson .....Superintendent
Doug Robinson.....Safety Director

The principal officers for Medford Trucking at the time of the accident were:

Kevin Medford .....President
Dale Medford.....Truck Supervisor

Prior to the accident, the Mine Safety and Health Administration (MSHA) completed its last regular safety and health inspection on June 2, 2008. Four accidents were reported at this mine in 2008. The mine's Non Fatal Days Lost (NFDL) rate for 2008 was 1.37, compared with the 2008 National rate of 1.25 for this type of mine. A regular safety and health inspection was ongoing at the time of the accident.

DESCRIPTION OF THE ACCIDENT

William D. Wade, victim, began his shift on Friday, February 6, 2009, at approximately 4:00 a.m., at the Medford Trucking parking lot at Belle, West Virginia. After completing the vehicle inspection/pre-trip portion of the daily report, he proceeded to the Elk Run Coal Company, Republic Energy mine. While descending the approximate two mile long haulroad during the second trip of the day, he began to experience what witnesses described as "losing his brakes." Mr. Wade warned other drivers by CB radio of his situation. The victim proceeded down the haulroad to a point near the bottom, where he attempted to "ditch" the truck in an attempt to slow or stop it. The truck's left front wheel dropped into a drainage sump in the ditch line. The front wheel then struck the downhill end of the sump, folding the wheel unit underneath the tractor. Unable to control the truck's direction, it ran up the embankment at approximately a 45 degree angle for approximately 87 feet. The truck then rolled over to the right onto the haulroad, trapping the victim beneath the cab's right side. Mr. Wade was pinned from the waist down, lying on his back. Miners and mine management responded immediately with first aid and extraction efforts while awaiting emergency medical assistance. Mr. Wade lost consciousness and required CPR, at the scene as well as on the way to the hospital, where he was pronounced dead upon arrival.

Ricky Hovater, a Medford Trucking driver, was traveling up the haulroad when he passed Wade at Marker No. 46. Hovater could hear the "Jake" brake of the victim's truck as he passed and estimated Wade was traveling at normal speed.

Arthur Goble, another Medford Trucking driver, was returning to the mine on the haul road and had just switched the CB channel at Marker No. 39 when he heard the victim over the radio say he had lost air pressure.

Goble proceeded up the road to Marker No. 41 where he saw Wade coming down the road at approximately Marker No. 42. Goble told Wade, by CB radio, to hit an axle berm or ditch the truck. Wade passed Goble at Marker No. 41, where Goble described the victim as in control of the truck.

Joshua Bowe, a fuel delivery truck driver for Rogers Petroleum, was starting up the haul road at Marker No. 39 when he heard Wade on the CB radio state he was losing his brakes. Bowe moved over in a wide spot off the paved road between Markers No. 39 and 40 and stopped. Bowe heard other drivers advising the victim to ditch the truck or put it into an axle berm. As Wade approached Bowe's position, Wade appeared to be traveling at normal speed. As the victim's truck passed Bowe, it seemed to speed up to 25 to 30 miles per hour. Bowe observed smoke coming from the wheels. At approximately 9:10 a.m., Bowe observed the victim's truck cross over to the left, go into the ditch line, and ride up onto the hillside. The truck hesitated and then the trailer began to roll over. As the trailer rolled over, it pulled the tractor over with it. Bowe was the first person to the scene of the accident, where he found the victim lying on his back, pinned from the waist down beneath the tractor's right exhaust stack and cab. He stated that the victim was conscious and complaining of back pain, while attempting to sit up.

INVESTIGATION OF THE ACCIDENT

Doug Robinson, safety/security director at Republic Energy, notified MSHA of the accident at 9:38 a.m., on Friday, February 6, 2009, via a telephone call to the MSHA notification hotline.

MSHA accident investigators were immediately dispatched to the mine. A 103(k) Order was issued to ensure the safety of all persons at the mine. The investigation was conducted with the assistance of the mine operator, the contractor, miners, and the West Virginia Office of Miners' Health Safety, and Training (WVOMHS&T).

Photographs and relevant measurements were taken and a sketch of the accident scene was made. Interviews were conducted with persons who had knowledge about the accident at the Medford Trucking office at Belle, West Virginia. Those persons who were interviewed and/or participated in the investigation are listed in Appendix A of this report.

The physical portion of the investigation was completed on April 2, 2009, and the 103(k) Order was terminated.

DISCUSSION

The truck involved was a 2006 Kenworth Model W900L tandem drive axle tractor, VIN No. 1XKWDBOX96J122158, with a 2005 MAC rear dump body tri-axle trailer, VIN No. 5MADS353396C010834. The tractor had a Caterpillar C15 diesel engine, an engine brake, and an Eaton-Fuller Model RTL0-1891 B, 18 speed transmission. The tractor had a gross vehicle weight rating of 59,200 pounds. The trailer had a Gross Axle Weight Rating (GAWR) of 69,000 pounds. The tractor trailer combination had a gross combination weight rating of 128,200 pounds. Weigh slips for the first load hauled by the victim show the truck gross combined weight was approximately 125,000 pounds. The gross combined weight at the time of the accident was approximately 120,000 pounds.

The haul road is approximately 2 miles long with approximately 1¾ miles, which consists of grades ranging from 6 to 13 percent. This 1¾ mile section is paved. The posted speed limit for this section of haulroad is 18 miles per hour. There are six axle or center berms constructed for emergency use along the paved portion of the road. One axle berm was approximately 500 feet upgrade from the site of the accident between curve markers No. 40 and No. 41. The curves are numbered in ascending order from No. 13 at the guard house to No. 55 at the end of the paved road near the top to the mountain. Drivers call out these numbers on the CB radio as they approach them to alert one another of their position along the haul road.

Robert Johnson, a Medford Trucking driver, had driven the truck involved in this accident on the previous shift without problems, making three round trips from the Republic Mine to a load out on the Kanawha River. He finished his shift at approximately 3:30 a.m.

Upon inspection of the truck tractor, all six of the service brake chamber pushrod strokes were within the readjustment limits. One of the five brake chambers on the trailer was damaged during the accident. The remaining four service brake chamber pushrod strokes for the trailer exceeded the maximum allowable pushrod stroke readjustment limit. All the brake lining thicknesses on both the

tractor and trailer were within the acceptable limits. None of the brake linings on the trailer showed signs of effective contact with their respective drums. Four of the six brake drums on the trailer were measured to be worn beyond the wear limits recommended by the drum manufacturer, including the left intermediate axle drum and all three right side drums. When lifted off the ground, except for the left rear axle due to the damaged brake chamber, all trailer wheels tested could be manually turned with a four foot slate bar with either the parking brake or service brake applied.

The right intermediate trailer axle brake chamber had an internal defect, adversely affecting its reserve stroke, even though it was within readjustment limits. The lack of reserve stroke in all five of the intact trailer brake chambers created conditions in which none of the five intact brakes produced any effective braking.

During the investigation it was discovered that a practice of manually readjusting automatic slack adjusters existed. This practice gives the operator a false sense of security about the effectiveness of the brakes. The manufacturer warns against making manual adjustments of an automatic slack adjuster.

The investigation found that Mr. Wade, the victim, had not received 24 hours of New Miner Training before being assigned to work duties. This is a contributing factor to the accident. Medford Trucking's training form, shown to the mine operator, indicated that the training had been completed. After investigating further, it was determined that the form was marked in error and the training had not been given. It could not be determined if the victim jumped or was thrown out of the truck.

ROOT CAUSE

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:

1. Root Cause: An effective, comprehensive, and enforced program for pre-operational inspection to identify, report, and correct unsafe conditions was not in use by Medford Trucking at the time of the accident.

Corrective Action: A 12 point, pre-shift inspection procedure has been implemented with instructions for drivers not to leave a location if defects are found; and to ensure brakes, air systems, and safety devices, are in good working condition. During the shift, a brake and air supply check area has been designated before proceeding down steep grades.

2. Root Cause: The victim was not wearing a seat belt when the tractor rolled over.

   Corrective Action: Drivers were instructed to never operate a truck or any type equipment without wearing a seat belt.

3. Root Cause: The victim passed by at least one axle berm, designed to stop equipment when the operator is experiencing brake or control problems, while descending the haul road.

   Corrective Action: Drivers were instructed to be alert to quickly changing conditions and utilize escape ramps or axle berms before equipment becomes totally out of control. An escape ramp has been constructed by Republic Energy at an appropriate location on the haulroad.

4. Root Cause: Automatic slack adjusters were being readjusted manually.

   Corrective Action: All brake canisters will be from the same manufacturer and the manufacturer's recommendations for adjusting brakes will be followed.

CONCLUSION

This accident occurred because (1) the trailer brakes failed to operate effectively, (2) the contractor failed to provide an effective safety program for the pre-shift inspection to identify unsafe conditions, and (3) the victim had not received new miner training.

Approved by:

_____ _____

Robert G. Hardman Date
District Manager

ENFORCEMENT ACTIONS

1. A 103(k) Order, No. 6620636, was issued to Republic Energy on February 06, 2009, to ensure the safety of persons at the mine until all areas and equipment were deemed safe.

2. A 103(k) Order, No. 6620637, was issued to Medford Trucking on February 07, 2009, to ensure the safety of all persons at the mine until all areas and equipment were deemed safe.

3. A 104(a) Citation, No. 8079384, was issued to Medford Trucking for a violation of 30 CFR, §77.404(a). The Kenworth Coal Truck, Co. No. 21, Model W900L, VIN No. 1XKWDBOX96J122158, and MAC tri-axle trailer, VIN No. 5MADS353396C010834, was being operated on the mine property and not maintained in safe operating condition. When tested, all six of the trailer service brakes were not effective due to over stroke or defective brake chambers. Four of the six brake drums on the trailer were measured to be worn beyond the wear limits recommended by the drum manufacturer. Maximum brake drum internal diameter is 16.620 inches. The four trailer brake drums measured 16.960, 16.870, 16.866, and 16.990.

4. A 104(a) Citation, No. 8079385, was issued to Medford Trucking for a violation of 30 CFR, §77.1708. An effective program of instruction with regard to the safety regulations and procedures to be followed at the mine has not been established. The operator was adjusting automatic slack adjusters, contrary to manufacturer's recommendations.

5. A 104(a) Citation, No. 8079408, was issued to Medford Trucking for a violation of 30 CFR, § 48.25. The miner had not received 24 hours of New Miner Training before being assigned to work duties.

6. A 104(a) Citation No. 8079410 was issued to Medford Trucking for a violation of 30 CFR, §77.1606(a). An adequate pre-shift inspection was not performed on the Kenworth Coal Truck, Company Number 21, operating on the mine property, prior to placing the truck into operation. An adequate inspection would have revealed that six trailer brakes were ineffective.

APPENDIX A

List of persons furnishing information and/or present during the investigation:

Medford Trucking

Arthur Goble.....Driver
Larry Winter .....Lawyer
W. W. Croye.....Safety Director
Dale Medford.....Truck Superintendent
Kevin Medford .....Owner
Robert Johnston.....Driver
Rickey W. Hovater.....Driver

Republic Energy

Mike Proctor .....Engineer
Roy Johnson.....Coal Loader Operator
David Hardy.....Counsel
Bryan Anderson .....Superintendent
Jimmy Wood.....President
Doug Robinson.....Safety

Rogers Petroleum

Joshua Bowe.....Driver

Massey Coal Service

Phillip Monroe..... Senior Corporate Council

DeMuth Court Reporting

Connie DeMuth.....Court Reporter

West Virginia Office of Miners' Health Safety, and Training

Elaine Skovich ..... Assistant Attorney General
Terry Farley.....Administrator of Enforcement
Gary S. Snyder.....Inspector-at-Large
Gerald Ellison .....Inspector
Gary Wolfe .....Inspector
Henry Armentrout.....Inspector

Mine Safety and Health Administration

Andrew Sedlock ..... CMS&H Inspector/Accident Investigator
Vincent Nicolau ..... CMS&H Inspector
Terry Marshall ..... Technical Support

Appendix B

Accident Investigation Data - Victim Information
Event Number: 4 1 2 0 5 5 3

U.S. Department of Labor
Mine Safety and Health Administration

Victim Information: 1

1. Name of Injured/Ill Employee:	2. Sex	3. Victim's Age	4. Degree of Injury:
William D. Wade	*M*	*70*	*01 Fatal*

5. Date(MM/DD/YY) and Time(24 Hr.) Of Death: *a. Date: 02/06/2009 b.Time: 10:38*

6. Date and Time Started: *a. Date: 02/06/2009 b.Time: 4:00*

7. Regular Job Title: *176 Over-the-road Coal Truck*

8. Work Activity when Injured: *055 Hauling coal from mine*

9. Was this work activity part of regular job? Yes | X | No

10. Experience	Years	Weeks	Days		Years	Weeks	Days		Years	Weeks	Days		Years	Weeks	Days
a. This Work Activity:	0	10	0	b. Regular Job Title:	30	0	0	c: This Mine:	0	8	0	d. Total Mining:	0	10	0

11. What Directly Inflicted Injury or Illness? *076 Coal Truck Overturned*

12. Nature of Injury or Illness: *170 Fractured Pelvis*

13. Training Deficiencies: Hazard: | | New/Newly-Employed Experienced Miner: | X | Annual: | | Task: | |

14. Company of Employment: (If different from production operator) *Medford Trucking LLC*

Independent Contractor ID: (if applicable) *B106*

15. On-site Emergency Medical Treatment: Not Applicable: | | First-Aid: | X | CPR: | X | EMT: | X | Medical Professional: | | None: | |

16. Part 50 Document Control Number: (form 7000-1)

17. Union Affiliation of Victim: *9999 None (No Union Affiliation)*

Victim Information:

1. Name of Injured/Ill Employee:	2. Sex	3. Victim's Age	4. Degree of Injury:

5. Date(MM/DD/YY) and Time(24 Hr.) Of Death:

6. Date and Time Started:

7. Regular Job Title:

8. Work Activity when Injured:

9. Was this work activity part of regular job? Yes | | No | |

10. Experience:	Years	Weeks	Days		Years	Weeks	Days		Years	Week	Days		Years	Weeks	Days
a. This Work Activity:				b. Regular Job Title:				c: This Mine:				d. Total Mining:			

11. What Directly Inflicted Injury or Illness?

12. Nature of Injury or Illness:

13. Training Deficiencies: Hazard: | | New/Newly-Employed Experienced Miner: | | Annual: | | Task: | |

14. Company of Employment: (If different from production operator)

Independent Contractor ID: (if applicable)

15. On-site Emergency Medical Treatment: Not Applicable: | | First-Aid: | | CPR: | | EMT: | | Medical Professional: | | None: | |

16. Part 50 Document Control Number: (form 7000-1)

17. Union Affiliation of Victim:

Victim Information:

1. Name of Injured/Ill Employee:	2. Sex	3. Victim's Age	4. Degree of Injury:

5. Date(MM/DD/YY) and Time(24 Hr.) Of Death:

6. Date and Time Started:

7. Regular Job Title:

8. Work Activity when Injured:

9. Was this work activity part of regular job? Yes | | No | |

10. Experience:	Years	Weeks	Days		Years	Weeks	Days		Years	Week	Days		Years	Weeks	Days
a. This Work Activity:				b. Regular Job Title:				c: This Mine:				d. Total Mining:			

11. What Directly Inflicted Injury or Illness?

12. Nature of Injury or Illness:

13. Training Deficiencies: Hazard: | | New/Newly-Employed Experienced Miner: | | Annual: | | Task: | |

14. Company of Employment: (If different from production operator)

Independent Contractor ID: (if applicable)

15. On-site Emergency Medical Treatment: Not Applicable: | | First-Aid: | | CPR: | | EMT: | | Medical Professional: | | None: | |

16. Part 50 Document Control Number: (form 7000-1)

17. Union Affiliation of Victim:

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