

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

COAL MINE SAFETY AND HEALTH

REPORT OF INVESTIGATION

Surface Coal Mine

Fatal Powered Haulage Accident
March 17, 2015

Rogers Petroleum Services, Inc. (X1A)
Pikeville, Kentucky

at

Republic Energy
Republic Energy, Inc.
Mahan, Fayette County, West Virginia
ID No. 46-09054

Accident Investigators

Joshua A. McNeely
Coal Mine Safety and Health Inspector

James Angel, Mechanical Engineer
MSHA Approval and Certification Center

Originating Office
Mine Safety and Health Administration
District 4
100 Bluestone Road
Mount Hope, West Virginia, 25880
David S. Mandeville, District Manager

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OVERVIEW

On Tuesday, March 17, 2015, at approximately 3:05 a.m., Von E. Bower, a 52-year-old truck driver was fatally injured when the fuel tanker truck he was operating rolled over near the No. 28 marker on the Eagle Land haul road. The truck was found lying on its top against the hill side. The vehicle was found with the top of the cab crushed and both doors closed.

The victim had driven the truck into a descending, sharp, right hand curve on the haul road where it was found overturned. Since there was no indication the truck traveled onto the berm or hillside, the driver likely made a sharp turn, at too high of a speed, to follow the road. This indicates that the speed of the truck was not under control. There were no eyewitnesses to the accident.

GENERAL INFORMATION

The Republic Energy mine is a surface coal mine operated by Alpha Natural Resources, Inc., and is located near Scarbro, Fayette County, West Virginia. The mine employs 115 miners, which work two 12-hour shifts per day, five to six days per week. The mine produces 3,000 tons of coal per day from various coal seams. Rogers Petroleum is a contractor for the mine operator and employs 13 miners at the mine, which work three 8-hour shifts, five days per week. Rogers Petroleum provides diesel fuel delivery services to the operation.

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

James V. WoodPresident
Jeremy Crist Superintendent
Scotty HarrisForeman

The principal officers for Rogers Petroleum at the time of the accident were:

Jim Rogers Owner
Greg Adkins.....Manager

Prior to the accident, the Mine Safety and Health Administration (MSHA) completed the last safety and health inspection (E01) on February 25, 2015. The Non-Fatal Days Lost (NFDL) injury incidence rate for the mine in calendar year 2014 was 0.0, compared to the national NFDL rate of 0.78 for mines of this type.

DESCRIPTION OF THE ACCIDENT

On Monday, March 16, 2015, Von E. Bower arrived at the mine around 10:30 p.m. Bower and Mike Coalson, Fuel Truck Drivers, spent a couple of hours around the shop prior to refueling their tanks. As evidenced by records found during the investigation, Bower performed a pre-operational examination of the fuel truck prior to its operation and filled out an 18 item checklist to document the results of the examination. Bower did not list any safety defects on the checklist.

At approximately 1:15 a.m., Bower left the refueling station to fuel equipment. According to maintenance foreman Bobby Nichols, Bower told him on the CB radio that he traveled to Bat Ridge and the equipment there did not need to be fueled. He then said that he was going onto the Eagle Land haul road to fuel the equipment there.

At approximately 2:15 a.m., Bower contacted Jimmy Cooper, Equipment Operator and Elite Coal Services contract employee for Republic Energy, about the location of an excavator he wanted to fuel. Bower did not display or state any physical

distress/issues prior to the accident. At approximately 2:55 a.m., Cooper left work. As he descended the Eagle Land haul road, he observed the Rogers Petroleum fuel truck, which was driven by Bower, on its top near the No. 28 marker at approximately 3:05 a.m.

Cooper contacted Will Marcum, Mechanic, and informed him of what he saw and requested emergency medical services (EMS). Marcum then contacted Nichols about the accident. Nichols contacted Scotty Harris, Republic Energy Foreman, and they both traveled to the accident site. Cooper also notified the warehouse personnel and told them to call the appropriate authorities.

Cooper observed Bower in the truck with his body positioned toward the passenger side of the truck. Cooper checked Bower's wrist for a pulse and could not find one. After Marcum arrived at the site at approximately 3:15 a.m., Bower's neck was checked for a pulse and none was found. The men used the boom lift on Marcum's mechanic truck to pry open the driver's side door. Cooper and Marcum, along with emergency medical technicians Harris and Nichols, then removed the victim from the truck and waited for EMS to arrive. Cooper stated it appeared Bower was not wearing his seatbelt; however, Bower could have possibly unhooked his seat belt after the truck overturned.

Shortly after the victim was removed from the truck, the Cabin Creek Volunteer Fire Department and EMS arrived at the accident scene. The Kanawha County Sheriff's Department and the West Virginia State Police also arrived to conduct an investigation. The victim was pronounced dead by the Charleston Area Medical Center Physician at 4:38 a.m., on Tuesday, March 17, 2015.

The victim was taken to Charleston Area Medical Center, General Division, by the EMS and subsequently taken to the West Virginia State Medical Examiner's office in Charleston, West Virginia for an autopsy. The Chief Medical Examiner concluded the manner of death was an "accident" and not "natural" (e.g. a heart attack). The cause of death was determined to be a "closed head injury" due to a motor vehicle crash. On June 10, 2015, MSHA received the autopsy report.

INVESTIGATION OF THE ACCIDENT

At approximately 3:59 a.m., on March 17, 2015, Doug Robinson, Republic Energy Safety Manager, notified the MSHA National Call Center that a vehicular accident had occurred at the mine site that had resulted in a fatality. MSHA issued a non-contributory citation for a violation of 30 CFR § 50.10, because the mine operator did not notify MSHA immediately, at once, without delay, and within 15 minutes.

The call center notified Roy Baker, Health Supervisor, of the accident at 4:10 a.m. Baker contacted Fred Wills, Acting Assistant District Manager, and informed him of the accident. Wills dispatched Joshua McNeely, Coal Mine Safety and Health Inspector/ Accident Investigator, to the mine to investigate the accident.

A 103(j) order was issued verbally to the mine operator at 4:20 a.m. by Baker to ensure the safety of miners and to preserve the accident scene. Upon arrival at the mine, McNeely reduced the 103(j) order to writing and subsequently modified it to a 103(k) order.

Other MSHA personnel present at the accident scene with McNeely included Wills, Shane Adkins, Field office Supervisor, and Mike Boggs, Surface Coal Mine Safety and Health Inspector.

The investigation was conducted with the assistance of the mine operator, the contractor, the miners, and the West Virginia Office of Miners' Health, Safety and Training (WVOMHS&T).

Formal interviews were conducted on Wednesday, March 25, 2015, at the WVOMHS&T Office in Oak Hill, West Virginia, with persons considered to have knowledge about the accident. A list of persons who were interviewed and/or participated in the investigation is included in Appendix A.

Preliminary information was gathered, the accident site was investigated, and photographs and relevant measurements were taken. A survey and sketch of the accident scene was also constructed by the mine operator. The sketch and photos of the accident site are included in Appendices B and C.

On Tuesday, March 17, 2015, District 4 requested assistance from MSHA's Technical Support Group, Mechanical and Safety Engineering Division, MSHA Approval and Certification Center. James Angel, Mechanical Engineer, traveled to the site and assisted in the investigation of the accident. The physical portion of the investigation was completed on March 19, 2015.

DISCUSSION

At approximately 3:00 a.m., on Tuesday, March 17, 2015, Von E. Bower was driving a fully loaded (approximately 3,500 gallons) fuel tanker truck down a dirt haul road on the Republic Energy mine site, reportedly to refuel an excavator located further down the road. Bower was later found fatally injured in the cab of his overturned truck near the lower portion of the mine haul road. The operator's compartment of the truck sustained considerable damage.

Location of Accident and Conditions

The accident occurred 2.6 miles from the top of the right-hand traffic haul road which is all downhill except for approximately 1,520 feet. A company survey shows the grade to be 13.1% for a distance of 400 feet above the accident scene. The entire road is approximately four miles long. There are eight axle berms constructed along the downhill portion of the road for use in case of an emergency. The call points in the haul road are numbered from No. 39 at the guard post to No. 4 near the top of the mountain. Drivers call out the numbers and direction of travel by CB radio as they approach markers to alert one another of their position on the road. According to the truck policies and guidelines provided by the company, drivers are required to bring their truck to a stop and perform a walk around inspection at the designated brake check point. The brake check point is located near the No. 23 call point where the grade of the haul road is relatively flat and the speed limit is posted as 15 miles per hour. The No. 23 call point is approximately 0.7 miles from the accident site. At the No. 26 call point, which is approximately 0.25 miles from the accident site, a sign warns drivers of the steep grade and to use a lower gear.

At the time of the accident the road was wet and muddy. The weather was cloudy with no precipitation.

Truck Information

The truck the victim was driving was a 1997 Kenworth tractor, Model W900, VIN 1NKWL90X0R743004, with a fully loaded 3,500 gallon diesel fuel tank. The truck was equipped with an Eaton Fuller RTO14709MLL 11-speed, high/low range transmission. The truck had two drive axles and was not provided with an engine compression release brake (Jake Brake). The odometer showed 265,412 miles. The maximum Gross Vehicle Weight Rating (GVWR) for the truck was 62,400 lbs. The estimated gross weight for the truck at the time of the accident was approximately 42,260 lbs. This was within the rated GVWR of 62,400 lbs. for the truck.

The gear shift lever was found in 1st gear, low range after the accident. The maximum rated speed for the truck in this gear was estimated to be 6.4 mph based on Kenworth and Eaton Fuller transmission information. It is unknown if Bower was in first gear at the time of the accident, due to the possibility that the gear shift lever or the high/low range selector may have been moved during the accident or recovery of the victim.

The transmission has a low range (gears 1st through 4th) and high range (gears 5th through 8th). The high/low selector located on the shifter switches the transmission between low range (1st through 4th) and high range (5th through 8th). Since 1st gear and 5th gear are located in the same position on the shifter, the selection on the high/low switch determines if the transmission is in 1st gear or 5th gear. As previously stated, it is

unknown if Bower was in 1st gear or 5th gear at the time of the accident, due to the possibility that the gear shift lever or the high/low range selector may have been moved during the accident or recovery of the victim. According to Kenworth and Eaton Fuller, the maximum speed in 5th gear would be approximately 24 mph.

Summary of equipment related physical factors

The truck overturned and skidded 27 feet to a stop on its top. In order for the high center of gravity 21-ton fuel tanker truck to overturn, the truck had to have been traveling at too high a rate of speed to allow the driver to negotiate a sharp curve near the bottom of the haul road. Since there was no indication the truck traveled onto the berm or hillside, the driver likely made a sharp turn, at a high speed, to follow the road. This indicates that the driver was able to steer the truck, but the speed of the truck was not under control. On site testing of a truck similar to the one involved in the accident, found that up to approximately 17 miles per hour (1st gear, low range through 4th gear, low range) the driver should have been able to safely negotiate the turn in the haul road. Therefore, the accident investigation concluded that the truck was most likely traveling faster than 17 miles per hour.

MSHA's inspection of the truck involved in the accident revealed the following information about the mechanical condition of the machine.

With the truck's air pressure maintained at 90 psi, the brake pushrod strokes at all the wheels were measured during a full brake application. Following the pushrod stroke measurements, the wheels were removed and the inside diameters of all the drums were measured.

Upon inspection of the truck, two of the brake chamber pushrod strokes were beyond the readjustment limit. The right front steering axle brake chamber stroke was 2 $\frac{1}{8}$ inches. The limit for this type 30 chamber is 2 inches. The left rear 1st axle brake chamber was 2 $\frac{1}{4}$ inches. The limit for this type 30 chamber is 2 inches.

The service brake chamber strokes were measured and evaluated in accordance with the Kenworth operator's manual for this truck (KW1466, 5/94) and the Commercial Vehicle Safety Alliance's (CVSA) Out-of-Service Criteria (OOSC) Handbook. The Kenworth manual defines proper maintenance for the vehicle and the CVSA Handbook determines when a vehicle needs to be immediately taken out of service.

The inspection of brake pads and drums revealed that all of the brake pads appeared to be in good condition. The brake drums used on the truck were all 16.5 inch drums with a maximum allowable wear diameter of 16.620 inch. Four of the brake drums exceeded the maximum allowable wear diameter. The right front brake drum measured 16.623 inch, the left 1st rear axle measured 16.732 inch, the right 1st rear axle measured 16.630

inch, and the right 2nd rear axle measured 16.700 inch. In addition, the left front drum and pads had an accumulation of oil and grease contamination. This oil and grease accumulation appeared to be fresh and was likely deposited after the accident.

Of the six brakes inspected, the total defects described above likely resulted in essentially no braking action at one wheel and a reduction in the braking action at another wheel. Per the CVSA OOSC, 1½ of the six brakes were defective. This does not exceed the CVSA 20% limit for immediately taking the vehicle out-of-service based on brake defects. Note that CVSA rounds the number of defective brakes down when calculating the 20% limit. A citation, that did not contribute to the accident, was issued for a violation of 30 CFR § 77.1606(c) for this condition.

The vehicle was equipped with a service brake, a parking brake, and a hand operated brake valve mounted on the right side of the steering column that could be used to modulate the braking action of the rear two axles. As previously stated, the truck was not equipped with a Jake Brake. The truck was equipped with an 11 speed, high/low range transmission. There was no damage evident to the steering system that suggested any defects existed prior to the accident. The seat belt also latched and unlatched without difficulty when tested. Personal items along with some mud and debris were present in the cab. There was no indication this material interfered with operation of the truck.

Experience and training records

Mr. Bower began his career in the mining industry with Rogers Petroleum as a fuel truck driver. In September of 2010, he received New Miner Training and on January 5, 2015, he received Hazard Training at Republic Energy. This hazard training addressed matters such as safety while driving on the road and brake checks. He received annual refresher retraining every year after 2010, with the last one completed in September of 2014. MSHA conducted a thorough examination of the training records for Rogers Petroleum employees and no deficiencies or violations were found.

Mine examination and maintenance records

The Eagle Land Haul Road was examined by two Republic Energy certified examiners on March 16, 2015, before the fatal accident. The day shift (1st shift) examiner identified the road as "muddy" in the Violation or Hazardous condition section of the Daily On-shift Report. The corrective action recorded by the examiner was identified as "Grader" in the written record. The evening shift (2nd shift) examiner identified the condition of the road as "Rough Areas" with the same corrective action recorded. The Foreman stated a grader was used on the haul road between 7:00 and 8:00 p.m. Prior to the start of each shift the trucks are examined by the drivers. The company provided the drivers with an 18 item check list for performing their pre-operational check. The maintenance

records for 2015, provided by Rogers Petroleum Services, Inc., show two brake drums for this truck were purchased on January 6, 2015 and were installed on the truck prior to the accident.

ROOT CAUSE

An analysis was conducted to identify the most basic cause of the accident that was correctable through reasonable management controls. This root cause, if corrected, would have prevented the accident or mitigated the outcome. The following root cause was identified.

Root Cause: The contractor's policies, programs, and procedures were not sufficient to assure the truck driver maintained full control of his vehicle while in motion, descending a steeply inclined mine haul road that included sharp curves and while the vehicle was fully loaded.

Corrective Actions: The mine operator has revised their policies and guidelines for contract truckers operating on mine property. The written policies include, security log forms that have been modified to log seatbelt use each shift, the installation of high visibility seatbelt covers, the performance of quarterly truck audits and daily seatbelt audits by Alpha Natural Resources (the affiliate of Republic's parent company), and the installation of a camera system at each security post to assist the Security Officer in verifying the use of seatbelts. To better ensure compliance with these requirements, the contract operators are required to read, sign, and date to acknowledge acceptance of these policies. All contractors have been trained in these new policies and guidelines.

CONCLUSION

The accident occurred because the contract truck driver was unable to maintain full control of his fully-loaded fuel truck, while descending a long, steep grade on a mine haul road. The accident investigation determined that the truck was traveling at too high a rate of speed to allow it to negotiate a sharp curve near the bottom of the haul road, causing the fuel truck to overturn and skid to a stop on its top, fatally injuring the driver.

Approved by:



David S. Mandeville
District Manager
Coal Mine Safety and Health, District 4

11/19/15

Date

ENFORCEMENT ACTIONS

- 1) A 103(j) Order, No. 9055884, was issued to Republic Energy on March 17, 2015, to ensure the safety of persons at the mine and to prevent the destruction of any evidence which would assist in investigating the cause or causes of the accident. The order prohibits all activity at the Eagle Land haul road except for emergency equipment aiding in rescue operations until MSHA has determined that it is safe to resume normal mining operations in the area. The order was initially issued orally to the mine operator at 4:20 a.m. on March 17, 2015, and subsequently modified to reflect MSHA is now proceeding under the authority of Section 103(k) of the Federal Mine Safety and Health Act of 1977.

- 2) A 104(a) Citation, No. 9055896, was issued to Rogers Petroleum Services, Inc. for a violation of 30 CFR § 77.1607(b). The operator of the Kenworth fuel truck, Model W900, Company Number M101, did not have full control of his vehicle while it was in motion. On March 17, 2015, at approximately 3:05 a.m., the fully loaded fuel truck (with approximately 3,500 gallons of diesel fuel) overturned while descending an inclined roadway (Eagle Land haul road) causing fatal injuries to the driver.

APPENDIX A

Persons furnishing information and/or present during the investigation:

Rogers Petroleum Services, Inc.

Dwight Kile Manager
 Greg Adkins Manager
 Everett Wood Truck Boss
 Mike Colson Fuel Truck Driver
 Randy Shumate Mechanic
 Dewayne Shumate Mechanic/Fueler
 Eric Warden Fuel Truck Driver
 Cody Crist Fuel Truck Driver

Republic Energy

James V. Wood President
 Doug Robinson Safety Director
 Scotty Harris Shift Foreman
 Bobby Nichols Maintenance Foreman
 William Marcum Mechanic
 Jimmy Cooper Equipment Operator

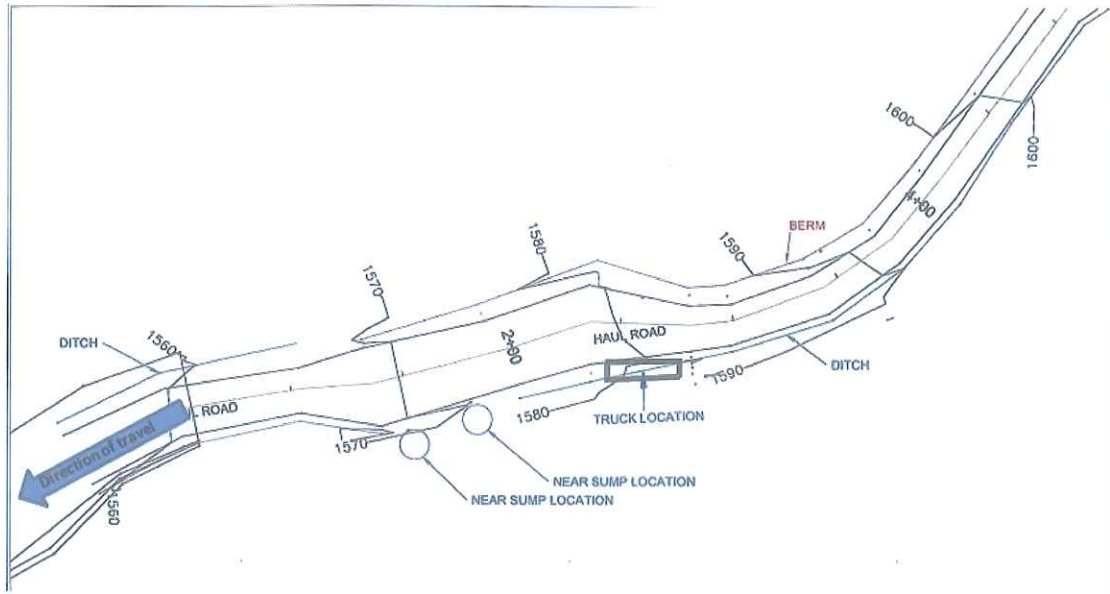
West Virginia Office of Miners' Health, Safety and Training

Matthew Mollohan Inspector
 McKennis Browning Inspector-At-Large

Mine Safety and Health Administration

Joshua McNeely Accident Investigator
 Mike Russell Coal Mine Safety and Health Inspector
 Fred Wills Acting Assistant District Manager
 James Angel Mechanical Engineer, Technical Support
 Mike Boggs Coal Mine Safety and Health Surface Inspector
 Mike Browning Educational Field Services

APPENDIX B



Not to scale

APPENDIX C



View of the accident scene looking down the Eagle Land haul road

APPENDIX C (Continued)



Close up view:
Illustrating the condition of the Eagle Land haul road near the accident scene

APPENDIX D

Accident Investigation Data - Victim Information

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



Event Number:

6	3	0	2	4	9	9
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Victim Information: 1																	
1. Name of Injured/Ill Employee: <i>Von E. Bower</i>				2. Sex: <i>M</i>		3. Victim's Age: <i>52</i>		4. Degree of Injury: <i>01 Fatal</i>									
5. Date(MM/DD/YY) and Time(24 Hr.) Of Death: <i>a. Date: 03/17/2015 b. Time: 3:05</i>								6. Date and Time Started: <i>a. Date: 03/16/2015 b. Time: 23:00</i>									
7. Regular Job Title: <i>176 Truck driver</i>				8. Work Activity when Injured: <i>055 Fuel truck</i>				9. Was this work activity part of regular job? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>									
10. Experience																	
a. This			b. Regular			c. This			d. Total								
Years	Weeks	Days	Years	Weeks	Days	Years	Weeks	Days	Years	Weeks	Days	Years	Weeks	Days			
Work Activity: <i>4 28 0</i>			Job Title: <i>4 28 0</i>			Mine: <i>4 28 0</i>			Mining: <i>4 28 0</i>								
11. What Directly Inflicted Injury or Illness? <i>076 Truck wreck</i>							12. Nature of Injury or Illness: <i>140 Closed head injuries</i>										
13. Training Deficiencies:																	
Hazard:				New/Newly-Employed Experienced Miner:				Annual:				Task:					
14. Company of Employment: (If different from production operator) <i>Rogers Petroleum</i>										Independent Contractor ID: (If applicable) <i>X1A</i>							
15. On-site Emergency Medical Treatment:																	
Not Applicable:			First-Aid:			CPR:			EMT: <input checked="" type="checkbox"/>			Medical Professional:			None:		
16. Part 50 Document Control Number: (form 7000-1)							17. Union Affiliation of Victim: <i>9999 None (No Union Affiliation)</i>										