

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  
April 9, 2003

Cottage Grove Auger  
Midwest Auger Company  
Equality, Gallatin County, Illinois  
I. D. No. 11-03102

Accident Investigators

Steven M. Miller  
Coal Mine Safety and Health Inspector

Wolfgang M. J. Kaak  
Coal Mine Safety and Health Specialist (Health)

Roger G. Jewell  
Coal Mine Safety and Health Specialist (Surface)

Ron Medina  
Approval & Certification Center - Technical Support

Originating Office - Mine Safety and Health Administration  
District 8  
2300 Willow Street, Vincennes, Indiana 47591  
James K. Oakes, District Manager

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## **TABLE OF CONTENTS**

OVERVIEW .....	5
GENERAL INFORMATION .....	6
DESCRIPTION OF THE ACCIDENT .....	7
INVESTIGATION OF ACCIDENT .....	9
DISCUSSION .....	10
ROOT CAUSE ANALYSIS.....	11
CONCLUSION .....	12
ENFORCEMENT ACTIONS .....	13
APPENDICES .....	14

## **OVERVIEW**

On Wednesday, April 9, 2003, at approximately 5:45 p.m., Adam Scott, age 20, Truck Driver, was fatally injured when the truck he was operating either stalled or lost traction and began rolling backward down the inclined haulage ramp. The victim apparently jumped from the truck and was fatally injured when he was pinned beneath the bed of the overturned truck and covered with coal. Scott was not wearing a seat belt at the time of the accident.

The accident occurred because neither the service brake nor the parking brake had the capability to stop and hold the loaded truck on the 11.6% grade on which the truck was operated. The front left 3/8-inch brake air line contained a hole approximately 1/4 inch long. Prior to the accident, black electrical tape had been wrapped around the air line and covered the hole. This caused a rapid loss of air pressure in the entire service brake system when the service brake was applied.

## **GENERAL INFORMATION**

The Cottage Grove Auger, Midwest Auger Company, was mining coal in the east end of Cottage Grove Pit No. 2. This pit is located near Equality, Illinois at the intersection of Illinois State Highway No. 13 and Highway No.142. Midwest Auger Company augers coal from the highwall after the Wildcat Hills Mine, I.D. No.11-03017, Black Beauty Coal Company, has completed normal strip mining operations. Midwest Auger Company was auger mining the Illinois No. 6 Seam that is located in a buffer zone near a wetland area that cannot be mined by normal strip mining procedures. The coal produced from the auger operation is transported by truck to a stockpile area located at the pit entrance. At the stockpile area, Black Beauty Coal Company loads the coal into trucks and removes the coal from the mine site.

The Wildcat Hills Mine started operations on October 13, 2000, and coal production began on November 5, 2000. Coal production in the Cottage Grove Pit No. 2 started in July 2001. The normal strip mining operations at the west end of this pit consisted of removing approximately 20-30 feet of unconsolidated material followed by 20-30 feet of shale and sandstone by truck/shovel and bulldozer methods. The Illinois No. 6 Seam and the Allenby Seam are the coal seams mined at this pit.

The principal officers for Midwest Auger Company are:

Michael T. McCullough.....Partner  
Lester R. Erb, Jr. ....Partner/Superintendent

The principal officers for Wildcat Hills Mine are:

Ray Vanover.....Superintendent  
Max Haney..... Safety Director

The last regular safety and health inspection (AAA) conducted by the Mine Safety and Health Administration was completed on March 24, 2003. The NFDL rate for the Cottage Grove Auger mine was 0.00. The NFDL rate for the nation for surface mines was 2.26.

## **DESCRIPTION OF ACCIDENT**

On Wednesday, April 9, 2003, Adam Scott (victim) started his shift at approximately 3:00 p.m. at the Cottage Grove Auger Mine. The auger mine is assigned to the Cottage Grove Pit No. 2 of the Wildcat Hills Mine, ID No. 11-03017, Black Beauty Coal Company, and is located near Equality, Illinois. Scott started his shift by talking to the day shift truck driver, Tim Bowen. Two haulage trucks were used to transport coal from the auger site to the coal stockpile located at the pit entrance. As one of the trucks was loaded in the pit, the other truck would haul about 14 tons of coal to the stockpile and return to the pit.

Bowen stated that they had finished loading coal out of the last auger hole and had brought both haulage trucks into the pit area to wait for the next auger hole to be drilled. While they were waiting for the next auger hole set-up, Scott helped Bowen pump water out of the pit sump near the auger and the auger was moved to the next hole.

At approximately 4:30 p.m. Larry Bunner, Foreman/Auger Operator, started augering coal and loading coal into the Red Mack truck, Model No. R686ST. When this truck was loaded, Scott drove the truck up the No. 2 Pit incline ramp to the coal storage stockpile area and dumped the load of coal. While Scott was transporting the load of coal in the red Mack truck, Clay Mattingly, Auger Helper, positioned the blue Mack truck (accident vehicle), Serial No. 5250, under the auger conveyor. When Scott returned to the pit, he parked the red Mack truck and drove the loaded blue Mack truck to the coal storage stockpile. As Scott was driving the blue Mack truck, Mattingly positioned the red Mack truck under the auger conveyor to be loaded. Scott returned to the pit area, parked the blue Mack truck, and drove the loaded red Mack truck to the coal stockpile area. Mattingly again positioned the blue Mack truck under the conveyor to be loaded. Scott returned to the pit, parked the red Mack truck, and got into the blue Mack truck and drove this truck out of the pit area. The accident occurred while Scott was transporting this load of coal up the incline ramp to the coal stockpile area.

The No. 2 Pit incline ramp that was being used to haul coal to the stockpile area was a secondary ramp. This ramp had been constructed by the Wildcat Hills Mine personnel on the second shift of April 8, 2003. The main haulage ramp was being repaired at the top of the incline. One lane of the main haulage ramp was opened for travel on the morning of April 9, 2003. Work on the remainder of the haulage ramp was completed that day. At the time of the accident, the auger crew was still using the secondary ramp to haul coal to the coal stockpile that was located at the top of the incline ramp at the pit entrance.

While Scott was driving the loaded blue Mack truck up the incline ramp, the truck either stalled or lost traction and began rolling backward down the incline. The truck brakes were defective and would neither stop nor hold the truck on the grade. The truck traveled approximately 150 feet down the incline and rolled upon overburden material located on the right side of the ramp. Scott apparently attempted to jump from the truck and was fatally injured when he was pinned beneath the bed of the truck and covered with coal when the truck overturned.

Kit Brantley, mechanic for the Wildcat Hills Mine, was traveling down the No. 2 Pit incline, when he saw the blue Mack truck overturned near the bottom of the secondary ramp. He stopped

and searched the accident area but could not locate Scott. He drove down into the auger pit area and contacted Larry Bunner and Clay Mattingly. When Brantley became aware that Scott was missing, he radioed Bobby Townsend, Second Shift Lead Man, Shannon Burnett, Second Shift Foreman, and Tommy Russell, Day Shift Lead Man, for their assistance in locating Scott. Townsend, Burnett, and Russell were all employees of the Wildcat Hills Mine. Brantley then drove back to the overturned truck. After being notified of an overturned haulage truck and a missing truck driver, Russell called Max Haney, Safety Director for the Wildcat Hills Mine, who notified the 911 command center of the accident at approximately 6:00 p.m. Haney then exited the mine office and traveled to the accident scene.

Bunner and Mattingly traveled separately in their personal vehicles from the auger pit area to the accident scene. They began digging in the spilled coal from the overturned truck attempting to locate Scott. Bunner drove back to the auger pit area to get shovels to assist in the digging. When he returned, Brantley, Townsend, Burnett, and Russell had uncovered Scott. Scott's legs were pinned under the top edge of the truck bed and he could not be moved. Bunner checked and was unable to detect vital signs. Bunner and Burnett began administering CPR to the victim. After arriving at the accident scene, Haney assisted Burnett in administering CPR to the victim.

Bunner climbed into the truck from the passenger side and shut off the truck engine. Townsend traveled to another area of the Wildcat Hills Mine and returned to the accident scene in approximately 15 minutes with a track hoe. The track hoe was used to lift the truck bed off the victim's legs. When the truck bed was raised, the victim was removed and repositioned on his back to better administer CPR.

The Saline County Ambulance Service arrived at the accident scene at approximately 6:10 p.m. and took over administering CPR to the victim. The ambulance crew consisted of Bill Wynn, Paramedic, and David Douthett, EMT. They continued CPR with no response from the victim. The victim was transported to Ferrell Hospital in Eldorado, Illinois, where he was pronounced dead at 7:02 p.m.



## **INVESTIGATION OF THE ACCIDENT**

On April 9, 2003 at approximately 6:50 p.m., David L. Whitcomb, Assistant District Manager for the District 8 Mine Safety and Health Administration Vincennes, Indiana District office, was notified by Max Haney, Safety Director for the Wildcat Hills Mine, Black Beauty Coal Company, that an accident had occurred at the Cottage Grove Auger Mine. Whitcomb notified Steven R. Kattenbraker, Field Office Supervisor for the District 8 Mine Safety and Health Administration Benton, Illinois.

Steven M. Miller, Coal Mine Safety and Health Inspector, and Wolfgang M.J. Kaak, Coal Mine Safety and Health Specialist, were dispatched from the Benton, Illinois Field Office at approximately 7:25 p.m. to the mine to secure the accident site. Upon arriving at the mine, a 103(k) Order to was issued to ensure the safety of the miners. The inspection team was briefed concerning the circumstances surrounding the accident. The accident team contacted representatives of mine management from both the Cottage Grove Auger Mine and the Wildcat Hills Mine. Preliminary interviews were conducted and the accident investigation team then traveled to the accident site. Entities that were present during the accident site investigation consisted of officials from the Illinois Department of Natural Resources, Office of Mines and Minerals, and mine management from Midwest Auger Company and Black Beauty Coal Company. Additional interviews were conducted with those individuals who had actual knowledge of the facts surrounding the accident.

A formal hearing was held on Friday April 11, 2003, at the Wildcat Hills Mine conference room. In this hearing, interviews were conducted of the individuals who were determined to have actual knowledge of the facts surrounding the accident.

Appendix A is a list of persons who participated in the investigation. Appendix B is a list of persons interviewed on a non-confidential basis, or who provided information relevant to the investigation. Appendix C depicts a drawing of the accident site.

Roger G. Jewell, Coal Mine Safety and Health Specialist, and James Hackworth, Education and Training Specialist from the Education Field Services group, arrived on April 14, 2003 and also assisted in the investigation.

## **DISCUSSION**

### **Human Factors**

The toxicology report from the Saline Count Coroner indicated that there were not sufficient levels of any substance to cause impairment at the time of the accident.

### **Environmental Factors**

The accident occurred on the secondary inclined haulage road from Pit No. 2 to the stockpile area located at the top of the incline haulage road. The road surface consisted of compacted spoil material. During the day of the accident intermittent rain and sleet occurred, causing the haulage roadway surface to become slippery.

### **Physical Factors**

Investigation of the accident scene revealed that the truck traveled backward down the 11.6 percent grade for a distance of 100 feet and the left rear wheels started climbing the berm on the left side. The truck came back onto the roadway and traveled another 50 feet when the right rear wheels rolled upon the overburden material and overturned. The truck was loaded with approximately 14 tons of coal. Approximately 150 feet up the incline from where the truck overturned, a soft area existed due to wet weather conditions on the day of the accident. When the truck reached this area, it either stalled or lost traction. The truck overturned on its left side with no visible damage to the inside of the cab.

Ron Medina, Mechanical Engineer from Technical Support, arrived on April 11, 2003. The truck was placed upright and the inspection, testing and evaluation of the entire truck initiated. The inspection and testing revealed that the service braking brake did not have the capability to stop and hold the loaded truck on either an 11% or 16% grade. An air leak in the brake air line hose that was connected to the left steering axle brake chamber caused a rapid loss of pressure in the entire service brake system when the service brake was applied.

The 1970 blue Mack tandem-axle end dump truck, Chassis No. DM685SX, Serial No. 5250, was equipped with a six cylinder, Mack, 237 horsepower, diesel engine, and a ten forward speed transmission. The truck had three axles: a steering axle and two drive axles. It was not equipped with a compression release engine braking system (Jake Brake) or hydraulic retarder. The dump body was 16.5 feet long, 7 feet wide, and 4.5 feet high. Based on the volume of spilled coal and coal remaining in the dump body, the load at the time of the accident was estimated to be 14 tons. Mine personnel reported this was a typical load.

Cottage Grove Auger mine personnel stated that the engine was running and the rear wheels were not turning when the truck was approached, indicating that the transmission was in neutral. When the truck was inspected, the parking brake control was in the brake applied position, the hand-operated brake lever on the steering column was in the "released" position, the manual transmission gearshift lever was in the neutral position, the high-low gear selector was in "low", and the dry road/slippery road switch was in the slippery road position. The left front steering

axle brake air line contained a hole approximately ¼ inch long that had black electrical tape applied over the hole. The loss of air pressure actuated the spring-activated emergency-parking brake. However, the pushrods were out of adjustment, which prevented the springs from applying enough force to hold the truck stationary on the inclined roadway. No seat belts were provided for the truck.

### **Training Records**

An examination of Scott's training records revealed that there were no violations of 30 CFR Part 48 that contributed to the accident.

### **Root Cause Analysis**

A root cause analysis was conducted. Causal factors were identified that could have averted the accident entirely or mitigated the severity of the accident.

Causal factor: An adequate pre-operational examination of the truck was not conducted prior to placing it in operation.

Corrective actions: Management should establish and implement pre-operational inspection guidelines to be followed when inspecting haulage equipment. Employees should be properly trained in these guidelines. When defects affecting the safety of equipment are found, they should be corrected before it is used.

Causal factor: The brake system provided for the truck was inadequate and would neither stop nor hold the truck on the grade.

Corrective actions: Management should establish and implement proper brake testing guidelines for the haulage equipment. All equipment operators should be trained accordingly.

Causal factor: Seat belts were not provided in the truck.

Corrective actions: Management should install seat belts and issue policy that seat belts be worn at all times by equipment operators. Management should strictly enforce this policy.

## **CONCLUSION**

The cause of the accident was failure to maintain the Mack haulage truck in safe operating condition. Neither the service brakes nor the parking brake would stop and hold the truck on the grade. No seat belts were provided for the truck at the time of the accident.

Adam Ross Scott received fatal injuries on April 9, 2003, after jumping from the 1970 Mack truck he was operating. Scott was traveling up the inclined roadway when the truck either stalled or lost traction and the truck started rolling back down the roadway. Scott applied the service brakes in an attempt to stop the truck. Scott traveled back down the inclined roadway approximately 150 feet where he apparently jumped from the truck. As he attempted to get away from the truck, it overturned and pinned him under the load of coal.

Approved by:

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JAMES K. OAKES  
District Manager

## **ENFORCEMENT ACTIONS**

Order No. 7576793 was issued to Midwest Auger on April 9, 2003 and was terminated on May 2, 2003, under the provisions of Section 103(k) of the Mine Act.

The mine has experienced a fatal truck haulage accident in the Cottage Grove Auger, Pit No. 2. This order is being issued to assure the safety of any person in this area until an examination or investigation is made of the area and the equipment in this area. Only those persons selected from company officials, state officials, the miners' representatives and other persons who are deemed by MSHA to have information relevant to the investigation may enter or remain in the affected area. The affected area includes the haulage ramps for Pit No. 2 and all equipment located in Pit No. 2.

Citation No. 7577842 was issued to Midwest Auger as a 104 (d) (1) Citation citing a violation of 30 CFR 77.1605(b).

The blue Mack tandem-axle end dump truck, Serial No. 5250, Model DM685SX, was not equipped with adequate brakes, which contributed to the fatal haulage accident. Neither the service brake nor the parking brake would hold the loaded truck stationary on the incline ramp where the truck was being operated. This truck was being used to haul coal from the coal auger to the stockpile area located at the top of the incline ramp.

Citation No. 7577843 was issued to Midwest Auger as a 104 (d) (1) Order citing a violation of 30 CFR 77.1605(a).

An adequate inspection was not conducted on the blue Mack tandem-axle end dump truck, Serial No. 5250, Model DM685SX, before the truck was placed in operation. During the inspection of the truck the following unsafe conditions were observed: The air brake system contained air leaks that affected the brakes performance. The front left 3/8-inch brake air line contained a hole approximately 1/4-inch long that had black electrical tape applied over the hole and the truck floor board had deteriorated to the extent that the brake pedal was not securely fastened to the floor board. The driver's side windshield wiper was not operational. Neither the service brake nor the parking brake would hold the loaded truck stationary on the incline ramp where the truck was being operated.

Citation No. 75777844 was issued to Midwest Auger on as a 104 (d) (1) Order citing a violation of 30 CFR 77.1606(c).

The blue Mack tandem-axle end dump truck, Serial No. 5250, Model No. DM685SX was placed in operation before the following equipment defects affecting safety were corrected: The air brake system contained air leaks that affected the brakes performance. The front left 3/8-inch brake air line contained a hole approximately 1/4-inch long that had black electrical tape applied over the hole and the floor board in the cab of the truck had deteriorate to the extent that the brake pedal was not securely fastened to the floor board. The driver's side windshield wipers were not operational. Neither the service brake nor the parking brake would hold the loaded truck stationary on the incline ramp where the truck was being operated.

## **APPENDIX A**

Listed below are those persons who participated and/or were present during the investigation:

### **MIDWEST AUGER COMPANY**

Lester R. Erb Jr.	Superintendent
Lester Erb III	Shift Supervisor

### **BLACK BEAUTY COAL COMPANY**

Ray Vanover	Superintendent
Max Haney	Safety Director

### **BLUEGRASS COAL COMPANY**

Aaron D. Jackson	Superintendent Willow Lake Mine
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### **ARCLAR COAL COMPANY**

Tom Patterson	Director of Safety Arclar, Big Ridge, Inc.
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### **SALINE COUNTY OFFICIALS**

Kenneth Sloan	Coroner Saline County
T.J. Storms	Office Deputy

## **ILLINOIS DEPARTMENT OF NATURAL RESOURCES**

Tony Mayville	Office of Mines and Minerals Senior Administrator of Mine Safety and Training Division
Don McBride	Office of Mines and Minerals Inspector Supervisor
Gary Roberts	Office of Mines and Minerals State Mine Inspector
Jerry Odle	Office of Mines and Minerals State Mine Inspector
Roger Spessor	Office of Mines and Minerals State Mine Inspector
Mary Bauer	Office of Mines and Minerals Executive Secretary

## **MINE SAFETY AND HEALTH ADMINISTRATION**

James K. Oakes	District Manager
Steven R. Kattenbraker	Supervisory Coal Mine Safety and Health Inspector
Steven M. Miller	Coal Mine Safety and Health Inspector
Wolfgang M. J. Kaak	Coal Mine Safety and Health Specialist (Health)
Roger G. Jewell	Coal Mine Safety and Health Specialist (Surface)
Ron Medina	Mechanical Engineer Technical Support
James Hackworth	Education and Training Specialist Eastern Operations

## **APPENDIX B**

Listed below are those persons who were interviewed or provided information that was pertinent to the investigation:

**SALINE COUNTY AMBULANCE SERVICE**

Bill Wynn	Paramedic
David Douthett	EMT

**MIDWEST AUGER COMPANY EMPLOYEES**

Larry Bunner	Shift Supervisor/Auger Operator
Clay R. Mattingly	Auger Operator Helper
Tim Bowen	Truck Driver
David Erb	Mechanic

**BLACK BEAUTY COAL COMPANY EMPLOYEES**

Shannon D. Burnett	Foreman
Bobby Townsend	Shift Lead Man
Kit Brantley	Mechanic
Tommy Russell	Shift Lead Man

**APPENDIX C**



Drawing