*This presentation is for illustrative and **general** educational purposes only and is not intended to substitute for the official MSHA Investigation Report analysis nor is it intended to provide the sole foundation, if any, for any related enforcement actions.*

GENERAL INFORMATION

Coal Mine Fatal Accident 2005-18

Operator:	Reading Anthracite Company
Mine:	Wadesville - P33
Accident Date:	December 6, 2005
Classification:	Powered Haulage
Location:	Dist. 1, Schuylkill County, PA
Mine Type:	Surface Mine
Production:	1,130 tons coal/day

ACCIDENT DESCRIPTION

The victim was assigned to operate a front-end loader to transport stemming material. He found that the stemming stockpile was empty and drove the front-end loader to the blasting area and told the blasting foreman. The foreman asked him to drive a truck hauling stemming material from the preparation plant to the blasting area.

Even though a snowfall of approximately 2.5 inches occurred two days prior to the accident, the haul road was found in a safe condition.

ACCIDENT DESCRIPTION

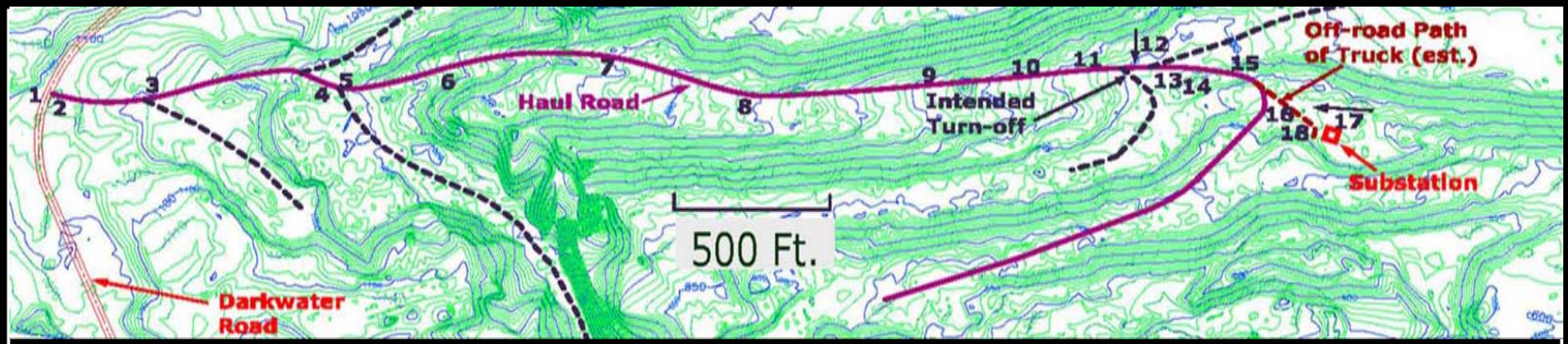
The foreman requested the mechanics to start a haul truck to transport stemming material. The mechanics started a Euclid R-85 haul truck, Company No. 671. This truck was used primarily to haul stemming material but had not been operated for four to six weeks.

Later that day, the Euclid R-85 haul truck was loaded with the fifth load of stemming material. Another front-end loader operator told the victim that this would be the last load of the day. The victim did not see any oil leaks or puddles of oil when the truck left the loading area.

ACCIDENT DESCRIPTION

A Caterpillar haul truck driver, arrived at the rock refuse dump and saw the Euclid R-85 haul truck on its side. The victim, who received fatal injuries, was inside the operator's cab. The truck's engine was still running and the rear tires were spinning. As rescue operators were attempting to enter the truck, the engine stopped.

DISCUSSION



The pit was accessed via an unpaved haul road. This haul road was approximately 4,000 feet long and ranged in width from 50 to 75 feet. The haul road surface was reasonably smooth and clear of snow. Although portions of the haul road were frozen, they were not icy. Left side tire marks were visible on a rock refuse bank approximately 600 feet from the accident scene. This area of the haul road had a variable grade of 9.6 to 14 percent.

The victim found in the cab, positioned between the seat and the hand railing with his back against the handrail. The victim was not wearing the seat belt. When checked, the seat belt fastening mechanism worked properly. The driver's cab door was open and bent toward the dump body. The driver's side walkway and handrail were pushed in toward the cab, striking the victim. The transmission shift lever was in sixth gear and the retarder lever was in the on position.

DISCUSSION

The truck involved in the accident was a 1975 Euclid R-85 haul truck. The net vehicle weight (light weight) of the truck was 117,100 pounds. The estimated weight of the load at the time of the accident was 170,000 pounds (85 tons). The gross vehicle weight of the truck was 287,100 pounds.

DISCUSSION

The truck was equipped with drum brakes on all four wheels, none of which were properly maintained. The brake system was air over hydraulic. The check valve in the air system to prevent air going from the dry air tank to the wet air tank was defective. The brake shoe lining, brake drum, and all related brake parts of the left front wheel were contaminated with brake fluid and grease. The brake fluid and grease compromised the braking ability of the left front brake shoe lining and the brake drum. The main hydraulic line fitting on the right front brake was completely blocked with a piece of rubber from the inner lining of the brake hose. This blockage rendered the right front brake inoperable. Measurements on both rear brake drums were beyond the wear limits recommended by the manufacturer's specifications. The maximum allowable wear of the brake drums was 30.250 inches. Measurements taken on the rear brake drums ranged from 30.403 to 30.525 inches.

DISCUSSION

Based on tests and the amount of oil found in the transmission, the truck's transmission would not have been engaged at the time of the accident. Most of the oil drained from the transmission through the damage hose while the truck was operating on the day of the accident, which rendered the transmission and retarder inoperable.

The truck specifications showed that it should be capable of operating on a grade of 10.5 percent. The retarder chart indicated the fully loaded truck could operate at 12 mph on a 17% grade with the transmission in second gear. The retarder control was checked with the truck engine running and the air system fully charged. Movement of the control and linkage indicates the control for the retarder was working properly.

ROOT CAUSE ANALYSIS

1. Causal Factor: The operator did not have a comprehensive maintenance program in place to ensure that equipment was properly maintained.

Corrective Action: The operator should establish and implement a comprehensive haulage equipment maintenance program, in strict compliance with the manufacturer's recommended maintenance procedures, to ensure that all mechanical/electrical components are routinely checked and maintained.

2. *Causal Factor*: Maintenance personnel were not adequately task trained to recognize and correct mechanical/electrical deficiencies.

Corrective Action: The operator should have a procedure to insure maintenance personnel and supervision are thoroughly trained to recognize and correct mechanical/electrical deficiencies as per manufacturer's recommendations.

3. *Causal Factor*: A proper pre-operational inspection designed to recognize potential mechanical/electrical hazards for haulage equipment was not conducted.

Corrective Action: The operator should implement a program to conduct a pre-operational inspection on mobile equipment as per manufacturer's recommendations. The program should identify who is responsible to conduct the inspection and who is responsible to insure the inspection was done properly before the equipment is put into operation.

ROOT CAUSE ANALYSIS

4. *Causal Factor*: Controls were not in place to allow a runaway truck to be safely stopped.

Corrective Action: The operator should develop a program to require mine haul roads, grades and turns are designed within the manufacturer's recommendations to insure the mine's equipment is capable of safely traveling on the haul roads. Runaway truck ramps should be at critical locations along the haul roads. Signs should be posted directing equipment into the escape ramps. Mine personnel should be trained in the location, proper procedures and use of these ramps.

5. *Causal Factor*: The victim was not wearing a seat belt at the time of the accident. The operator did not have procedures in place for ensuring the use of seat belts.

Corrective Action: The operator should take the necessary steps to implement and enforce a proactive seat belt program.

ENFORCEMENT ACTIONS

A 104(d)(1) citation was issued for a violation of 30 CFR 77.1605(b), which stated the following: The Euclid R-85 haul truck serial #65607, was not equipped with adequate brakes: (1) The brake on the right front wheel was nonfunctional, due to a piece of rubber from the inside of the hose which blocked a fitting that stopped the flow of brake fluid to the wheel. (2) The left front brake was contaminated with grease and oil. (3) The check valve in the air system to prevent air going from the dry air tank to the wet air tank was defective; therefore air pressure was ineffective to the rear braking of the truck. (4) The inside diameter of the both rear brake drums exceeded the manufacturers maximum recommendations, (inside diameter) by ¼-inch. The current maintenance inspection report, used by maintenance supervision to inform the mechanics of what repairs and inspections need to be done does not include scheduled brake testing/maintenance as required by the truck manufacturer.

ENFORCEMENT ACTIONS

A 104(d)(1) order was issued for a violation of 30 CFR 77.404(a), which stated the following: The Euclid R-85 haul truck serial #65607, was not maintained in a safe operating condition at the Wadesville P-33 pit. (1) The brake system on the truck was not maintained in a safe operating condition due to a piece of rubber blocking a fitting that supplied brake fluid to the right front wheel. (2) The left front brake was contaminated with grease and oil. (3) The inside diameter of both rear drums exceeded the manufacturers maximum recommendations. (4) Hydraulic hoses were not examined during scheduled maintenance and (5) The instrument panel inside the cab of the truck was not checked periodically to assure all warning lights on the panel are working properly. (6) The wires were disconnected for the light inside the operators cab to show that the transmission retarder was working and the wires were disconnected for the park brake light to show the brake is applied. Mechanics need to be trained to identify these problems when maintenance is performed and equipment shall be taken out of service immediately when serious defects arise.

A 104(d)(1) order was issued for a violation of 30 CFR 77.1710(i), which stated the following: The seat belt in the Euclid R-85 serial #65607 was not in use by the driver of the truck at the time of the fatal accident. The seat belt operated and buckled properly when it was tested. The operator has no program to ensure that miners are properly using seat belts. There is no records indicating that disciplinary action has been administered for not wearing seat belts. This condition was a major factor to the fatal accident that occurred on December 6, 2005. This order will be terminated when all employees are trained in the necessity and proper use of seat belts.

BEST PRACTICES

- Ensure traffic rules, signals, and warning signs are posted and obeyed.
- Operate mobile equipment so that you maintain control.
- Always wear a seat belt when operating mobile equipment.
- Ensure adequate pre-operational examinations are conducted on all mobile equipment and defects affecting safety are promptly corrected prior to placing it in service.
- Before beginning a task, miners should discuss the work procedures, identify all possible hazards, and ensure steps are taken to safely perform the task.
- Exercise caution and operate mobile equipment in the appropriate gear at speeds consistent with conditions and grades of the roadway.
- Always obtain Operator's Manuals and Service Manuals for all mobile equipment and ensure their use by mechanics and operators.