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GENERAL INFORMATION

# Coal Mine Fatal Accident 2004-10

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|---|---|
| Operator: | Colony Bay Coal Company, Inc. |
| Mine: | Colony Bay Surface Mine |
| Accident Date: | February 10, 2004 |
| Classification: | Powered Haulage |
| Location: | District 4, Boone County, WV |
| Mine Type: | Surface |
| Employment: | 38 |

OVERVIEW

# Coal Mine Fatal Accident 2004-10

## Powered Haulage

- At 6:30 p.m., on Tuesday, February 10, 2004, Robert Littreal, a 54-year old truck driver with more than 22 years of mining experience received serious injuries while descending the main access road in a 1993 Chevrolet (Kodiak) service truck.
- While making the decent, the truck braking system failed. The brake system failure resulted in the truck traveling approximately 680 feet down a 10% grade, hitting a 24-inch pipe and berm beside a sediment pond, traveling an additional 75 feet up the pond access road and sliding into the pond.
- The service truck landed on the driver's side in approximately ten feet of water, causing the driver to be submerged 2 to 3 minutes before being rescued. The driver died on February 26, 2004.

# ACCIDENT DESCRIPTION

- During the second shift, the victim was assigned to cut a piece of metal off of an excavator.
- During the cutting operation, a hydraulic hose was burned and needed to be replaced.
- The victim and another miner made several trips in a mechanics truck from the excavator to the shop in order to locate and make the correct hose and fitting.
- Afterwards, the miner stayed at the shop to complete the hose and fitting, while the victim started down the main access road in the service truck to refill the excavator with hydraulic fluid.
- The repair work had caused fluid to be lost.

# ACCIDENT DESCRIPTION

- Shortly before 6:30 p.m., two miners were sitting in a rock truck when the victim yelled over the CB radio, and asked if anyone was coming up the hill.
- When a miner answered “No”, he replied, "I've lost my brakes. I'm going to ride it out.“
- The two miners saw the service truck coming at a high rate of speed.
- From their vantage point it appeared that the truck turned sharply to the right at the sediment pond, hit the berm, traveled the pond road, and slid into the sediment pond.
- The service truck landed on the driver's side in approximately ten feet of water.

# EQUIPMENT

- The truck involved in the accident was a 1993 Chevrolet (Kodiak) tandem drive axle truck. It is designated as company truck number 365.
- The service truck was not equipped with an engine or transmission retarder to assist in downhill braking.
- The Allison 5-speed transmission had five forward speeds and one reverse speed. Six different positions: 1st, 2nd, 2nd - 4th, 2nd - 5th, neutral; and reverse could be selected.
- The transmission automatically up shifts whenever an engine overspeed condition exists, regardless of the transmission selector position.
- When tested manually the transmission selector operated properly in all positions.

# EQUIPMENT

- An examination of the braking system showed that the system was not being maintained.
- All four of the tandem drive axle (rear) brake drums were worn beyond the manufacturer's maximum allowable wear limit. Brake shoe linings on all three of the left side brakes showed physical characteristics of excessive heat conditions.
- The push rod lengths on the tandem drive axle (rear) brakes were longer on the right side than those on the left side of the truck. This would cause a brake imbalance – all other factors being equal.
- Operating the truck with compromised service brakes affected the victim's ability to control the truck on the downhill grade.
- The condition of brake system components was the result of poor maintenance and ineffective pre-operational checks. Service manuals which would outline proper brake maintenance procedures were not available on mine property to instruct maintenance personnel.

# EXAMINATION

- Records for the past 30 days were examined and no completed pre-operational checklist forms could be found for the service truck.
- Each of the defects contributed to the accident and would have been present during the pre-operational examination at the beginning of the shift.
- A preoperational examination record book was recovered from within the truck, however it was found to be illegible due to submersion beneath the water.
- During interviews it could not be determined if other persons had operated the truck prior to the accident. This was largely due to the operating schedule of the truck.
- The truck is operated on an irregular basis, only one to two times per week.

# SAFETY PROGRAM

- The company had a comprehensive safety program (required by 30 CFR, Part 77.1708).
- Copies of the safety program were not distributed to each employee and posted in conspicuous places throughout the mine.
- The employees interviewed did not understand what the safety program was or the relevant program requirements.

# ROOT CAUSE ANALYSIS

*Causal Factor:* The service truck was not equipped with adequate brakes. Management failed to monitor policies and work procedures to ensure the 1993 Chevrolet (Kodiak) tandem drive axle truck was provided with adequate brakes.

*Corrective Action:* Management proposed that truck braking systems should be maintained to the original equipment specifications and designed a maintenance plan that incorporates the manufacturer's brake system specifications.

# ROOT CAUSE ANALYSIS

*Causal Factor*: The defective truck brakes were not identified before the truck was placed into service due to management's failure to enforce established work procedures of performing adequate pre-operational checks.

*Corrective Action:* Following the accident, management proposed that all truck braking systems should be maintained to the original equipment specifications and designed a maintenance plan that incorporates the manufacturer's brake system specifications.

# CONCLUSION

The accident occurred because the brakes on the service truck failed. The operator failed to provide an adequate preoperational examination of the truck which would have identified multiple brake system safety defects. Work procedures specified in the safety program to ensure that equipment was in safe operating condition were not adequately monitored by mine management.

# ENFORCEMENT ACTIONS

104(d) (1) Citation for a violation of 30 CFR, Part 77.1605(b). The 1993 Chevrolet (Kodiak) Tandem Drive Axle Truck, Model C7H, company truck number 365, being operated on the elevated access road to the Colony Bay Surface Mine was not equipped with adequate brakes. The following safety defects were observed:

Brake System:
1. Right side, steering axle air canister, push rod, with no air applied, was at full stroke.
2. Right side, steering axle, brake shoe lining had excessive wear with exposed rivet heads.
3. Left rear tandem drive axle, brake shoe lining was off set in the drum with tapered wear on the bottom shoe (worn into rivets on the wheel side).
4. All four of the tandem drive axle's drum diameters were oversized or worn beyond the manufacturer's allowable wear.
5. The right front tandem drive axle and the left rear tandem drive axle would turn freely with the park brake applied.

# ENFORCEMENT ACTIONS

104(d) (1) Order for a violation of 30 CFR, Part 77.1606(a). The 1993 Chevrolet (Kodaik) Tandem Drive Axle Truck, Model C7H, company truck number 365, being operated on the elevated access road to the Colony Bay Surface Mine was not provided with an adequate inspection before the truck was placed in operation. The following safety defects were observed:

Brake System:
1. Right side, air canister, push rod, with no air applied, was at full stroke.
2. Right side, steering axle, brake lining worn with exposed rivets.
3. Left side, rear drive tandem, brake lining offset in the drum and the bottom of the shoe had tapered wear (worn into the rivets on the wheel side).
4. Right rear, front drive tandem axle and the left rear, rear drive tandem axle would turn freely with the park brake applied.

# BEST PRACTICES

- Maintain equipment braking systems.
- Conduct pre-operational checks to identify any defects that may affect the safe operation of equipment before it is placed into service.
- Know the trucks capabilities, operating ranges, load limits and safety features.
- Routinely monitor work habits and examine work areas to ensure that safe work procedures are being followed