CAI-2005-08

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

COAL MINE SAFETY AND HEALTH
REPORT OF INVESTIGATION

Underground Coal Mine

Fatal Powered Haulage Accident
June 10, 2005

Tusky # 1
Tusky Coal, LLC
Dennison, Tuscarawas County, Ohio
I.D. No. 33-04509

Accident Investigators

James C. Preece
Coal Mine Safety and Health Inspector

Joseph F. Facello
Coal Mine Safety and Health Inspector

Originating Office
Mine Safety and Health Administration
District 3
604 Cheat Road
Morgantown, West Virginia 26508

Amended October 28, 2005

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OVERVIEW

On Friday, June 10, 2005, at approximately 4:45 p.m., a 24-year old roof bolter operator, with 5 years mining experience, 40 weeks at this mine, and acting as a utility man, sustained fatal crushing injuries when he was caught under the front end of a Joy 21 shuttle car. The shuttle car was traveling the No. 3 entry toward the feeder when the operator saw a light in the 1st crosscut inby the feeder. The shuttle car operator stopped momentarily to avoid a trailing cable along the right side rib line. He then diverted his attention to the left rib line in order to watch his own cable as he trammed toward the feeder. Once at the feeder, he ran the conveyor chain to unload the shuttle car. During the unloading process the chain stalled. He raised the shuttle car boom and restarted the conveyor which ran sluggishly. He dismounted the shuttle car, and discovered the victim's body under the shuttle car.

The accident occurred because the operator's mine safety program did not ensure the safety of persons working near self-propelled equipment.

GENERAL INFORMATION

The Tusky #1 Mine, I.D. 33-04509, is operated by Tusky Coal, LLC. The mine is located near Urichsville, Tuscarawas County, Ohio, and is accessed by 6 drift openings into the Middle Kittanning coal seam. Coal is extracted from one advancing continuous mining machine section and transported from the working faces by shuttle cars to belt conveyors which carry the coal to the surface. The mine employees 45 people working two productions shifts and one maintenance shift, 6 days per week, producing an average of 1450 tons of coal per day.

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

John A. McNab	President Operations
Stephen Stewart	Mine Foreman

The Mine Safety and Health Administration (MSHA) completed its last regular safety and health inspection on March 31, 2005. Another inspection was ongoing at the time of the accident. The Non-Fatal Days Lost (NFDL) incident rate during the previous quarter was 17.77 for this mine, compared to a national NFDL rate of 4.64 for underground mines.

DESCRIPTION OF ACCIDENT

The afternoon shift on Friday, June 10, 2005, began with a safety meeting conducted in the mine office at 3:00 p.m. Cable handling was the topic. The crew then went underground arriving on the 1 Left Butt off 1 Left Sub-Mains (MMU 001) working section at 3:30 p.m.

The working section consisted of six entries with the intake in No. 1 entry and the return in No. 6 entry. The conveyor belt was located in the No. 3 entry and common with Nos. 2, 4, and 5 entries. Additionally, three rooms were being mined off the entries on the intake side.

The dayshift crew was mining coal with the continuous mining machine located in the face of No.3 room off the section entries as the afternoon shift crew arrived. The crews changed out and mining finished in the No. 3 room. Shortly thereafter, the continuous mining machine was moved into the face of the No. 2 entry and mining continued. Matt Beaver, Section Foreman, Doug McGlaughlin, Mechanic, and James E. Wright (victim), Utility Man, proceeded to a crosscut between the Nos. 5 and 6 entries to fix a broken water line.

After the water line was repaired, Wright and Beaver mounted a battery powered personnel carrier and trammed to the face of No. 6 entry to put up a sightline. Afterward, they rode from No. 6 to No. 2 entry checking the faces as they went. Once at the face of the No. 2 entry, they stopped and talked briefly with the Continuous Mining Machine Operator, John Pyles. As they were talking, Nate Daniels, operating the No.2 Shuttle Car, arrived behind the continuous mining machine. Daniels informed Wright that he needed to scoop the No. 4 entry.

As Daniels' shuttle car was being loaded, Wright crawled outby toward the section battery scoop which was located in the first crosscut inby the feeder. He stopped briefly in the No. 2 entry to talk to Joel Possage, No. 1 Shuttle Car Operator. After a brief exchange, Wright continued outby and turned into the 4th crosscut inby the feeder from the Nos. 2 to 3 entries (Appendix A shows the victims position just prior to the accident).

Daniels came out of the face of No. 2 entry with a load of coal and headed toward the feeder. He turned the shuttle car into the third crosscut inby the feeder from the Nos. 2 to 3 entries. As he attempted to turn into the crosscut, he had to stop and back up to re-align the shuttle car in order to make the turn. Possage trammed his shuttle car to the continuous mining machine when Daniels cleared the crosscut.

Meanwhile, Daniels was tramming through the crosscut and entered the No. 3 entry. Visibility was limited due to the mining height and the coal load in the shuttle car. Daniels could see a light to his right in the first crosscut inby the feeder and assumed it was Wright. He was also aware that the trailing cable for the No. 3 Shuttle Car, operated by Mathew Gene Burnworth, was lying along the right rib line (facing outby) and that Burnworth's shuttle car was parked in the second crosscut inby the feeder between Nos. 2 and 3 entries. As he began tramming in the No. 3 entry toward the feeder, he abruptly stopped between the first and second crosscuts inby the feeder in order to avoid Burnworth's cable which was lying along the right side rib line. When he stopped, the front bumper of his shuttle car was in close proximity to the intersection of the first crosscut inby the feeder. Daniels then directed his attention to the left rib line because he was back lashing his trailing cable (Appendix B shows the back lashed cable and the position of the victim just after the accident). He continued to the feeder, stopped and began unloading his shuttle car. During the unloading process, the conveyor chain stalled. Daniels raised the shuttle car boom and restarted the conveyor which ran sluggishly. He finished unloading, dismounted the shuttle car and crawled to the front to check the chain. He saw that Wright was under the front of the shuttle car and he called to his fellow crewmembers for help.

Possage had arrived at the feeder with a load of coal when he heard Daniels calling for help. Possage crawled to the feeder and shut down the conveyor belt and feeder. When Burnworth arrived at the feeder with a load of coal, Daniels informed him of

the accident. Burnworth then crawled back to the continuous mining machine and informed Beaver that an accident had occurred. The crew members were advised by Pyles to go to the surface.

Pyles and Beaver waited on the section until Stephen Stewart, Mine Foreman, Rudy C. Romchak, Ohio Department of Natural Resources (ODNR) Safety Inspector and Kevin Renner, Tuscarawas County Deputy Sheriff, arrived on the section. They then brought Wright to the surface where he was pronounced dead.

INVESTIGATION OF THE ACCIDENT

On Friday, June 10, 2005, at approximately 5:05 p.m., William A. McGilton, Supervisory Coal Mine Safety and Health Inspector at the St. Clairsville, Ohio Field Office, received a phone call from John McNab, President, Tusky Coal LLC, informing him that a fatality has occurred at the Tusky #1 Mine. McGilton issued a 103(k) Order, to assure the safety of persons in the affected area until an investigation of the accident could be conducted and informed McNab that MSHA personnel would be sent to the mine to investigate the accident.

An investigation was initiated by James C. Preece and Joseph F. Facello, Coal Mine Safety and Health Inspectors. Formal interviews were conducted with persons who had knowledge of the accident in the mine office. Additional information was gathered on the surface and an investigation was conducted at the accident scene by MSHA, ODNR Division of Mineral Resources Management, and Tusky Coal, LLC representatives. An inspection of the accident scene and operational checks on the Joy 21 shuttle car were conducted. Photographs, measurements and testimony were obtained. A copy of the written 103 (k) Order was served to all interested parties.

A list of the persons who participated in the accident investigation is located in Appendix C.

DISCUSSION

Mining Equipment

Joy 21 SC-2 Shuttle Car

The machine involved in the accident was a rubber tired, electrically operated Joy Shuttle Car, Model 21SC2-56AKKE, Company No. 2, with MSHA approval Schedule 2G-3188A-O. This Shuttle Car was powered by 480 volts alternating current supplied by a trailing cable.

The shuttle car measured 27 feet, six inches in length and nine feet, four inches in width. The operator's compartment was located mid-machine, standard side. The operator sits in the compartment with his body facing in the direction of travel. The distance from the mine floor to the bottom of the shuttle car was eight inches. The distance from the top of the machine to the mine roof (in the entry where the accident occurred) averaged five inches.

A record of the weekly electrical and permissibility examinations did not indicate any defects or deficiencies. A visual examination and a permissibility examination were conducted during the investigation and revealed no defects or deficiencies. Operational tests were also conducted. No defects or deficiencies pertaining to tramming, brakes, steering, hydraulic system, de-energization device, or lights were revealed.

Accident Scene Information

The mine floor in the immediate area was slightly damp, even, and free of extraneous materials. The average mining height, in the entire section, was 42 inches and the average width was 16 feet.

Re-creation of the Accident Conditions

A re-creation of the conditions and events leading up to the accident was conducted by MSHA, ODNR Division of Mineral Resources Management, company, and labor personnel on June 21, 2005, at the accident site, with all relevant equipment repositioned. The shuttle car was trammed, fully loaded into the No. 2 entry and to the feeder. This placed the operator on the left side of the shuttle car, mid-machine and facing in the direction of travel.

The shuttle car was stopped between the first and second crosscuts inby the feeder (as indicated in testimony) to check on the location of other cables in the entry and to observe the location of his own cable as it was being back lashed. At this point, the light from a miner's cap lamp could still be seen by the operator but only if the light was still focused on the mine roof. Due to the mining height, the shuttle car operator could see light from a miner's cap light to the right and across the front of the shuttle car in the first crosscut inby the feeder, but only if the light was shining on the mine roof. However, it was necessary for the operator to remain focused on the location of that light to keep it under constant surveillance and it was also necessary for that light to be constantly focused, on the mine roof for it to be seen.

The shuttle car was then trammed to the feeder. During its travel route in the No. 3 entry, the shuttle car operator's visibility of the right side of the entry and any crosscuts to the right were severely limited by the mining height.

Communications

At the time of the accident, Daniels, the No. 2 shuttle car operator, stopped between the second and third crosscuts inby the feeder to assure that the trailing cable from another shuttle car was not in danger of being damaged. Burnworth, the No. 3 shuttle car operator, who was parked in a crosscut adjacent to Daniel's stopped position, indicated that he did not hear Daniels give an audible warning before starting up again. It is uncertain whether Wright attempted to communicate his intentions to the shuttle car operator.

Safety Program

While each shift begins with an informal meeting of current safety topics including recent observations, fatalities across the nation, outreach materials, etc., the operator did not have a formalized comprehensive safety program.

ROOT CAUSE ANALYSIS

A root cause analysis was conducted. The following factors were identified:

Causal Factor: No procedures, rules, or policies were in place to ensure that self-propelled equipment operators are certain that all persons are in the clear before starting or moving the equipment. The No. 2 shuttle car operator did not give an audible warning where persons may be endangered by the movement of the shuttle car. The shuttle car operator did not ring his equipment mounted signal bell before starting from a stopped position.

Corrective Action: Management has instituted a policy where all self-propelled equipment operators will sound an audible warning prior to starting or moving mobile equipment. A safety meeting was held instructing all underground personnel regarding the safe operation of self-propelled equipment. Management should routinely observe work habits and monitor enforcement of the newly established policies in the mine safety program.

Causal Factor: No procedures, rules, or policies were in place addressing walking, crawling, approaching, or working near self-propelled equipment.

Corrective Action: Management has instituted a policy which addresses the safe location of persons and their actions around operating self-propelled equipment. A safety meeting was held instructing all underground personnel regarding the safe location of persons and communications with the mobile haulage equipment operator. Management should routinely observe work habits and monitor enforcement of the newly established policies in the comprehensive mine safety program.

CONCLUSION

The accident occurred because the operator's mine safety program did not ensure the safety of persons working near self-propelled equipment. The shuttle car operator did not ensure, either visually or audibly, that the victim was in the clear before moving the shuttle car. The victim did not communicate his intentions to the shuttle car operator before passing in front of the self-propelled equipment.

_____ _____

Kevin G. Stricklin Date
District Manager

ENFORCEMENT ACTION

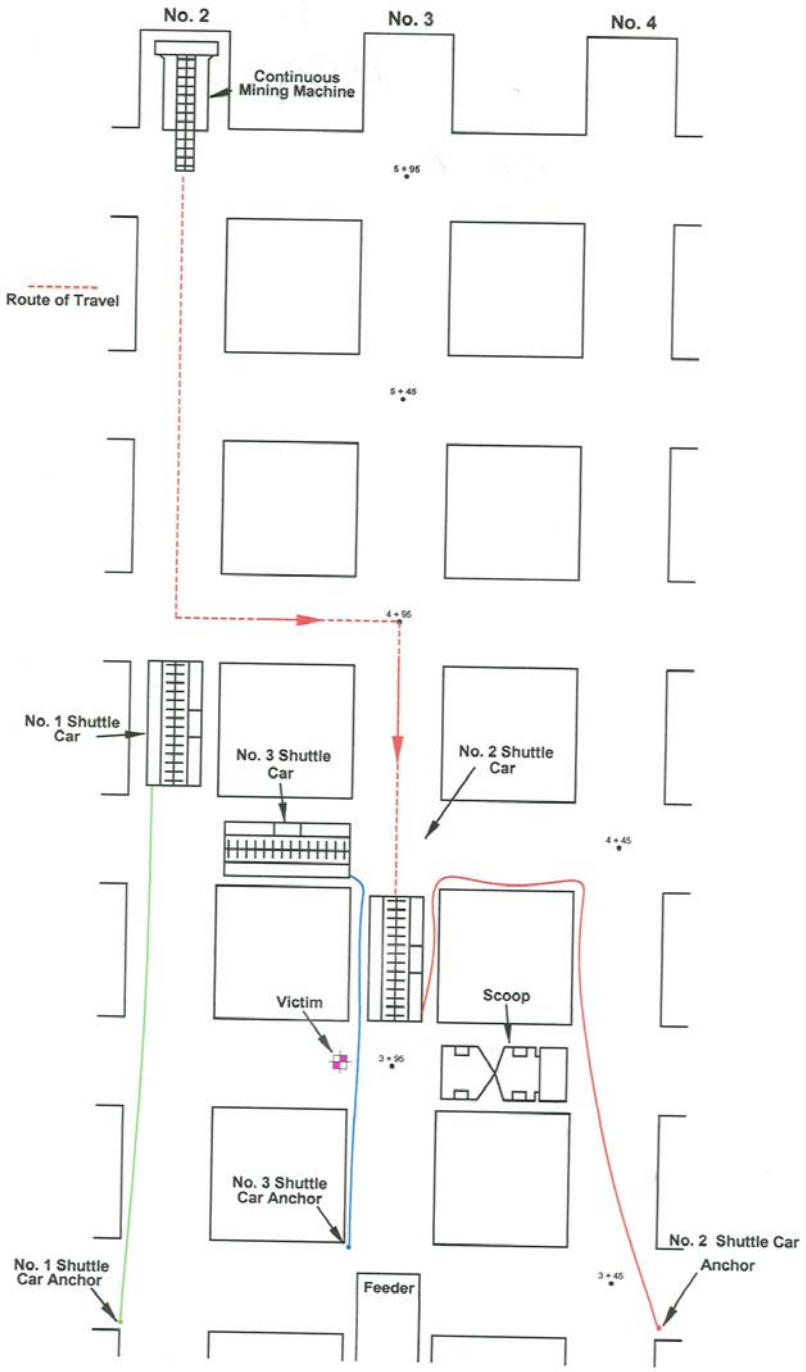
A 103 (k) Order was issued to Tusky Coal, LLC until an investigation of the accident could be completed.

A 314(b) Notice to Provide Safeguard was issued to Tusky Coal, LLC. On June 10, 2005, a fatal accident occurred in the 1 Left Butt off 1 Left Sub-Mains (MMU 001) working section. A section utility man received fatal crushing injuries when he was struck by the No. 2 Joy 21 shuttle car, which was located in the No. 3 entry and traveling towards the section feeder. The shuttle car operator had stopped the machine to verify the position of energized cables in the entry in which he was traveling. The shuttle car operator did not sound an audible alarm prior to starting or moving the shuttle car after he had stopped. Moving self propelled equipment without first sounding an audible alarm where persons may be endangered by the moving equipment and without ensuring that persons are not in a position to be harmed by the moving equipment creates a hazard of persons being struck by the equipment, which can result in death or serious injury.

This is Notice to Provide Safeguard requiring the operator(s) of all self propelled equipment to assure all persons are clear prior to moving such equipment and to sound an audible warning device whenever persons may be endangered by the movement of the equipment. The audible alarm must be distinguishable from surrounding noise and be loud enough to be heard by all persons potentially endangered.

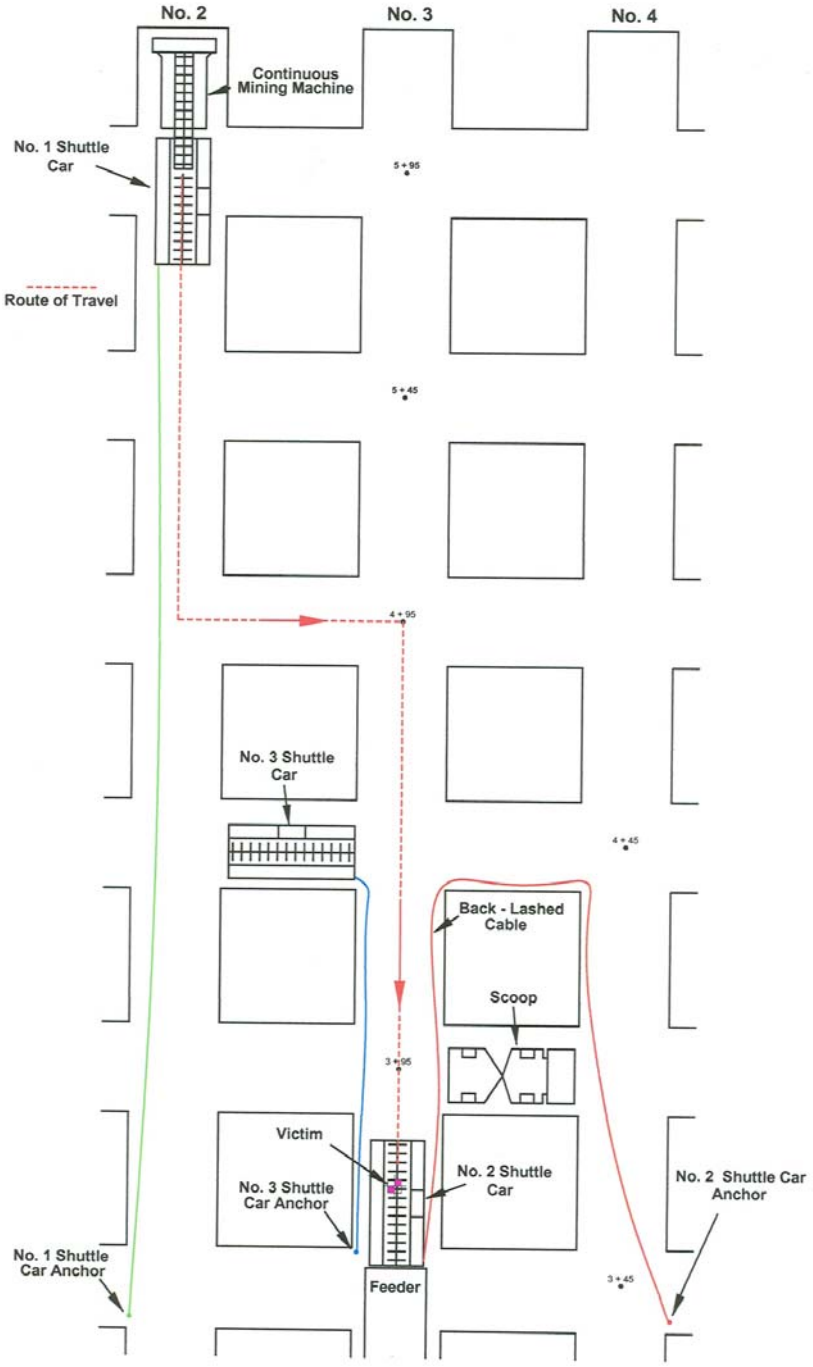
Appendix A

1 Left Butt off 1 Left Sub-Mains Just Prior to the Accident



Appendix B

1 Left Butt off 1 Left Sub-Mains Just After the Accident



APPENDIX C
Persons Participating in the Investigation

Tusky Coal, LLC

Name	Title
John McNab	President
Stephen Stewart	Mine Foreman

Ohio Department of Natural Resources
Division of Mineral Resources Management

John C. Ziants	Mine Safety Coordinator
Rudy C. Romshak	Mine Safety Inspector
Melvin Byers	Mine Safety Inspector

Tuscarawas County Coroner's Office

Catherine C. Clarke	Investigator

Mine Safety and Health Administration

Kevin Stricklin	District Manager
William A. McGilton	Supervisory Coal Mine Safety and Health Inspector
John Collins	Supervisory Coal Mine Safety and Health Inspector
Ron Wyatt	Supervisory Coal Mine Safety and Health Specialist
Jerry Vance	Training Specialist
James C. Preece	Coal Mine Safety and Health Inspector
Joseph F. Facello	Coal Mine Safety and Health Inspector
James C. Erlinger	Team Leader, Approval and Certification Center
William C. Beasley	Mechanical Engineer, Approval and Certification Center