

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
May 31, 2015

Gateway Mine
Peabody Midwest Mining, LLC
Coulterville, Randolph County, Illinois
ID No. 11-02408

Accident Investigators

Brandon Naas
Coal Mine Safety and Health Inspector

John Butcher
Coal Mine Safety and Health Inspector (Electrical)

Ronald Medina
Mechanical Engineer MSHA Technical Support

Originating Office
Mine Safety and Health Administration
District 8
2300 Willow Street
Vincennes, Indiana 47591
Ronald W. Burns, District Manager

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OVERVIEW

On Sunday, May 31, 2015, at approximately 8:05 p.m., Glen A. Campbell a 59-year-old mine examiner, was fatally injured when he impacted the coal rib on the Main South travelway at crosscut 193 (survey point 339.76). The victim was driving a 2-seat diesel mantrip to examine a set of seals. The victim was located along the east coal rib, and the mantrip was found with the right front corner contacting the west rib just inby the location of the victim.

The accident occurred because the mine operator did not have effective policies, programs, procedures, or controls in place to ensure safe travel of self-propelled vehicles on outby travelways of the mine.

GENERAL INFORMATION

The Gateway Mine is operated by Peabody Midwest Mining, LLC. Coal is mined from the Herrin No. 6 coal seam, which averages 7 feet in height and has a depth-of-cover of approximately 265 feet. At the time of the accident, the mine employed

153 personnel. The mine works five days per week, operates three production shifts each day, and produces an average of 12,800 tons of raw material per day.

The mine has a slope which is used to transport coal to the surface via a belt conveyor system. The mine also uses a shaft to transport men and material in and out of the mine. At the time of the accident, the mine was ventilated with one exhausting main fan. Air enters the mine by the slope and the South Airshaft. The mine operates three mining sections which utilize continuous mining machines and battery ramcars for development. At the time of the accident only two sections were in active status with the third in a non-producing status.

The mine liberates 396,223 cubic feet of methane in a 24-hour period and is on a 15-day spot inspection schedule in accordance with Section 103(i) of the Mine Act. The principal officers at this mine at the time of the accident were:

Gary Wilhelm Operations Manager
Nick Androvandi Superintendent
Bruce Waldman Safety Manager
Nick Boeckmann Mine Manager

At the time of the accident, a regular (E01) safety and health inspection was in progress. The previous E01 inspection was completed on March 31, 2015. The Non-Fatal Days Lost (NFDL) injury incidence rate for the Gateway Mine in 2014 was 3.68, compared to the National NFDL rate of 3.29 for mines of this type.

DESCRIPTION OF THE ACCIDENT

The mine tracking system records indicate that Glen Campbell (victim) entered the mine via the man/material shaft at 6:49 p.m., on Sunday May 31, 2015, to conduct a pre-shift examination for the 3rd (owl) shift. Campbell drove the diesel mantrip inby the 1st East travelway (secondary escapeway) inby towards the 1st Main South travelway.

Campbell traveled inby the 1st Main South travelway to crosscut 165 and turned onto the 2nd Main South travelway traveling inby to crosscut 105. Campbell then contacted the mine tracking attendant and informed him he was heading into the return air course where the 3rd East seals were located at 7:00 p.m. This is documented on the examiner tracking record. Campbell then started his pre-shift examination on foot at the 7th panel East seals traveling outby examining the 6th, 5th, 4th, 3rd, 2nd, and 1st East panel seals. Campbell then exited the return air course and notified the tracking personnel at 7:50 p.m. that he was out of the return air course.

Once out of the return air course, Campbell was picked up by Chad Genisio, Mine Examiner, at approximately 7:55 p.m. at crosscut 76 along 1st Main South.

Genisio and Campbell traveled inby in a diesel mantrip to crosscut 165. At crosscut 165 on the 1st Main South, Genisio then turned onto the 2nd Main South travelway and traveled inby to crosscut 105 where Campbell's personnel carrier was located. Campbell then entered the diesel mantrip No. 124 and followed Genisio outby the 2nd Main South travelway to crosscut 165 on the 1st Main South. Genisio then turned outby, and Campbell turned inby to go pre-shift the Old No. 1 seals.

At approximately 8:05 p.m. Campbell struck the east coal rib with his diesel mantrip at crosscut 193 (survey point 339.76). Campbell was found lying on the east rib just inby the corner at crosscut 193 by Brandon Halstead, Mine Examiner, at 8:07 p.m. The company No. 124 diesel mantrip was located inby. The right front corner was in contact with the west ribline between crosscut 193 and crosscut 194 (see Appendix A).

Halstead found Campbell lying on the mine floor, unresponsive with no detectable pulse or respiration, and immediately started cardiopulmonary resuscitation (CPR). CPR was discontinued when it was determined that chest compressions might harm Campbell. Halstead then called Nick Boeckmann, Mine Manager, on the radio, and said that they needed an emergency medical technician (EMT) and an ambulance. Boeckmann, located on the surface, had Mike Phillips, Hoistman, call an ambulance, and Boeckmann traveled underground. MedStar Ambulance, Inc. received the accident call at 8:12 p.m. Genisio who heard the call on the radio traveled to the accident site to assist Halstead. Boeckmann traveled into the mine to the No. 2 Unit and retrieved the backboard and first aid equipment. Boeckmann then traveled to the accident location, and pulled into crosscut 193 on the West side and backed his diesel mantrip to Campbell's location.

Once at the accident scene, Halstead, Genisio, and Boeckmann put Campbell on a backboard and loaded him in a mantrip and started out of the mine. Boeckmann drove, with Halstead in the back of the diesel mantrip with Campbell. Genisio followed in diesel mantrip No. 118. Campbell was brought to the surface where Medstar ambulance service was on site along with Randy Dudenbostel, Randolph County Coroner. Campbell was pronounced dead at the scene at 8:56 p.m. by Dudenbostel.

INVESTIGATION OF THE ACCIDENT

Bruce Waldman, Safety Manager for Gateway Mine, notified MSHA by calling the MSHA Call Center at 8:32 p.m. on May 31, 2015, to report the accident. The nature of the injuries should have caused the mine management to know the accident was reportable to MSHA in accordance with 30 CFR § 50.10. MSHA issued a non-contributory citation for failure to notify MSHA immediately, at once, without delay, and within 15 minutes.

At 8:44 p.m., the MSHA Call Center contacted George Heacock, Supervisory Coal Mine Safety and Health Inspector, to convey that an accident had occurred. Heacock contacted Michael Rennie, Supervisory Coal Mine Safety and Health Inspector, at the Marion, Illinois Field Office, to notify him of the accident.

Rennie had already been notified at 8:40 p.m. by Waldman, Safety Manager at the Gateway Mine, informing him that a mine examiner was found in the travelway and was unresponsive. Rennie verbally issued a 103(j) order at 8:40 p.m. to ensure the safety of the miners. Rennie directed coal mine safety and health inspectors Brandon Naas and John Butcher to investigate the accident. Rennie and Naas traveled to the mine where they met Butcher at the mine site.

The accident investigation was conducted in cooperation with the Illinois Department of Natural Resources, Office of Mines and Minerals (IDNR), and Peabody Midwest Mining, LLC personnel. Appendix B lists the persons participating in the accident investigation.

The accident investigation team traveled underground for the initial on-scene investigation and arrived at the accident scene at approximately 12:45 a.m. on June 1, 2015. Preliminary interview statements were obtained from persons having knowledge of the facts and circumstances concerning the accident prior to traveling underground.

On June 2, 2015, Denzil Hughes, MSHA Training Specialist Supervisor, reviewed training records.

Formal interviews were conducted on June 8, 2015, at the IDNR building located in Benton, Illinois. Those interviewed are listed in Appendix C.

On June 2, 2015, Ron Medina, Mechanical Engineer, and Gary Rethage, Mechanical Engineer, both from MSHA Technical Support, collaborated with other investigators to evaluate the diesel mantrip involved in the accident. On July 7, 2015, Ron Medina, collaborated with other investigators to remove and examine the transmission in the mantrip involved in the accident.

DISCUSSION

Accident Scene

The victim was traveling in a diesel mantrip in an outby area of the mine when it struck a coal rib. There were no eye-witnesses to the accident.

The accident occurred on the 1st Main South travelway, which is the secondary escapeway and a main haulage road for the mine. The specific location of the accident was between survey points 339.76 and 338.46 in the number 4 entry. The 1st Main South travelway at the accident scene was in good condition, with no

bottom irregularities. The entry was 19 ½ feet wide, with deposits of rock dust along each side of the travelway.

When investigators arrived at the accident scene, Campbell had been removed from the mine and transported to the Sparta Hospital. The diesel mantrip involved in the accident was observed in contact with the west rib. Tire tracks were observed leading up to the accident scene, but could not be determined to be the victim's tracks due to other diesel mantrips in the area during rescue and recovery. Damp and wet material in the form of rock dust and mud were found at the east coal rib corner at crosscut 193, which had come from the frame of diesel mantrip No. 124 during the impact of the coal rib (see Appendix A). Marks on the east coal rib at crosscut 193 aligned with the marks on the front bumper, and on the operator's side front fender of the diesel mantrip. The mantrip was equipped with a seat belt, but the victim was not wearing it at the time of the accident.

Company No. 124 Diesel Mantrip

The rubber-tired, two-seat, diesel-powered, Model WLCDUV4244 Utility Vehicle, Serial No. 126, was manufactured by Wallace Auto Parts & Services, Inc., and shipped in March of 1991. The utility vehicle weighed approximately 5,000 lbs. empty, and was 6 feet and 5 inches wide, 14 feet long, and 4 feet and 11 inches high. It was equipped with a 13-inch steering wheel (outside diameter) with accelerator and service brake controls in automotive orientation. The operator faced the forward direction of travel and was located on the left side of the operator's compartment. The rear portion of the vehicle consisted of a bed for carrying supplies.

Examination & Evaluation on the Company's No. 124 Diesel Mantrip

The accident impact force caused motor mount damage that allowed the engine to move forward and the engine fan to puncture the radiator. This also allowed the driveshaft to pull out of the front spline at the transmission and drop to the ground. The front left area of the utility vehicle was damaged in the impact. The inside of the operator's cab was not damaged. The windshield was cracked in multiple places but it could not be determined if these cracks existed before the accident.

The vehicle was powered by a 56 horsepower at 3,000 rpm, Isuzu C240 diesel engine, MSHA Approval No. 7E-B085-0. The engine was bolted to an Aisin-Warner Model 03-55, 3-speed, non-lockup automatic transmission. This is an automotive-type transmission. The rest of the drivetrain consisted of a drive shaft and a Dana automotive-type rear axle with a 7.17 gear ratio that drove the rear wheels. The utility vehicle was equipped with 225/75 R16 tires on the steering axle, a 245/75 R16 tire on the left-side drive axle and a 225/75 R16 tire on the right-side drive axle.

As built by Aisin-Warner, the Model 03-55 transmission was a 3-speed transmission. The gear ratios for the transmission were 2.45:1 in first, 1.45:1 in second, and 1.00:1 in third. To limit the top speed of the vehicle, Wallace modified the transmission to block it from shifting into third gear before the vehicle was shipped in 1991.

The transmission was removed from the vehicle and the valve body was examined. Mine records show that the most recent rebuild of the transmission occurred on January 22, 2015. In the original design, Wallace utilized a spacer clip in the transmission valve body that mechanically prevented the valve spool movement necessary to shift into 3rd gear. The spacer clip was not present in the rebuilt transmission found on the machine so the transmission had the capability to shift into 3rd. This would allow the vehicle to travel 45% faster than it would travel in 2nd gear as originally designed. For example, based on an engine speed of 2,800 rpm, the given transmission and differential gear ratios, a 10% slip factor through the non-lockup torque converter, and the 13 1/2 inch rolling radius measured for the 225/75 R16 right-rear tire and the 14 3/8 inch rolling radius measured for the left-rear 245/75 R16 tire; the speed of the vehicle in second gear was calculated to be 20.1 mph and the speed in third was calculated to be 29.2 mph.

For comparison, another Wallace Model WLCDUV4244 utility vehicle at the Gateway Mine was brought to the surface and the travel speed was measured. This second utility vehicle had the same drivetrain as the vehicle involved in the accident and also was capable of shifting into 3rd gear. The maximum travel speed in 3rd gear was approximately 28 to 30 mph when time tested over a 300 ft. course.

The utility vehicle was equipped with a foot pedal controlled, dual circuit - split front to rear, service brake system with automotive-type disc brakes on the steering axle and self-adjusting automotive-type drum brakes on the drive axle.

The utility vehicle was also equipped with a Mico Model 03-536-628 spring-applied, hydraulic release drive-line parking brake. Hydraulic release pressure was provided by a hand-operated pump located next to the operator.

The mantrip involved in the accident was brought to the surface to test the service brakes. Both master cylinder reservoirs were 1/2 to 3/4 full which was adequate to allow service brake operation. The service brake pedal was attached at the bottom of a brake arm with the arm's hinge point located 20 inches above the center of the pedal.

The hinge linkage was worn and allowed a 4 inch side-to-side movement of the service brake pedal. The hinge pin for the brake pedal arm consisted of a bolt secured with a single nut. The excessive side-to-side movement was due to the bushing being loose in the hinge point, the bolt being loose in the bushing, and the wear on the threads of the bolt. The condition of the hinge linkage components made it evident to investigators that they had been installed on this diesel mantrip for a long time. The threads on the bolt were visibly worn and this type of wear would only occur over a long period. Therefore, accident investigators concluded that this excessive movement existed during the time several required weekly examinations of this diesel mantrip were performed.

A push rod attached to the brake arm directly actuated the brake master cylinder when the operator pushed on the foot pedal. There was no power assist. The brake pedal was 3¾ inches wide by 4 inches high and had rough cut edges. The brake pedal design from the manufacturer had been modified from 6½ inches to approximately 3¾ inches reducing the size of the brake pedal surface area. For comparison, another Wallace Model WLCDUV4244 utility vehicle at the Gateway Mine was checked and it had a brake pedal that was 6½ inches wide and 4 inches high.

As previously stated, the hinge pin for the brake pedal arm consisted of a bolt secured with a single nut. The hinge pin and bolt were in place, but a second means to retain the bolt was not present as required by 30 CFR § 75.1909(b)(6). The hinge pin on the brake pedal arm securing the push rod that acted on the master cylinder was also in place, but was only secured with a single cotter pin without a second means to retain the pin as required by § 75.1909(b)(6). MSHA issued a non-contributory citation for this violation.

The engine and driveline of the utility vehicle were damaged in the accident, and the vehicle could not be operated under its own power but the front and rear axles were intact and the vehicle could be propelled with assistance. The service brake system was not damaged in the accident.

Dynamic stopping tests from a speed of approximately 5 mph showed that the utility vehicle, when empty, could achieve a 0.45g stop as measured with a Tapley Brake Test Meter. This is equivalent to the braking capability needed to hold the empty machine on a 50% grade. This feature was in compliance with 30 CFR § 75.1909(b)(7). The vehicle was empty at the time of the accident.

The wheels were removed and the brake hardware was inspected. Both steering axle rotors were 1.54 inches thick. The steering axle brake linings were 0.34 inches thick on the left side and 0.33 inches thick on the right side. The steering axle linings and rotors were dry and clean and not contaminated with oil or grease. The drums and linings on the drive axle were also dry and clean with linings 0.13 inches thick on the left side and 0.20 inches thick on the right side. This feature was in compliance with 30 CFR § 75.1914(a).

The drive axle drum brakes, as tested, could be manually adjusted, but the automatic self-adjusting feature did not function due to missing and disconnected self-adjusting cables. MSHA issued a non-contributory citation for a violation of § 75.1914(a).

According to the manufacturer, the Wallace utility vehicle was originally provided with a safety chain across the opening to the operator's compartment that could be latched closed when the vehicle was operated. This safety chain feature was missing from the utility vehicle involved in the accident.

The throttle linkage and cable operated smoothly and returned to low idle upon release. The utility vehicle was equipped with automotive-type coil springs and

shock absorbers on both axles. It was also equipped with an automotive-type power steering system. All the steering linkage was intact and the steering tires could be turned lock to lock manually when the steering wheel was turned with the engine off. The engine was operated briefly and the power steering assist feature functioned. The rear-right shock absorber was not bolted to the frame mounting bracket and was therefore not effective.

The utility vehicle was provided with 2 forward headlights, 2 side-facing headlights, and 1 rear headlight, and all the lights functioned when tested.

The driver-side seat belt was in good condition. The seat belt latched and unlatched properly when tested. The horn and the neutral start feature functioned when tested.

The mine operator failed to maintain the diesel mantrip in safe operating condition. The surface area of the service brake pedal had been reduced in size, and the hinge linkage was worn and allowed a 4 inch side-to-side movement of the service brake pedal. This side-to-side movement made depressing the brake pedal difficult. Also, safety chains which went across the operator's opening had been removed from the personnel carrier.

Data Analysis of the Company No. 102 MX4 Multi-Gas Detector

The gas detector recovered from the victim was checked to determine if a hazardous atmosphere may have caused or contributed to the fatality. Data from the Ventis™ MX4 gas detector manufactured by Industrial Scientific was retrieved by Cesar Casas, electrical engineer from the Approval and Certification Center's Electrical Safety Division. The data was analyzed by Troy Hart, Industrial Hygienist, from the Pittsburgh Safety and Health Technology Center's Physical and Toxic Agents Division. There were no hazardous concentrations of gases logged on the MX4 during the sampling period when the fatality occurred.

Traffic Rules

Standardized traffic rules, including speed limits, signals and warning signs were not established at this mine. The operator had no written policies or postings in place to address traffic rules while operating diesel powered equipment. This included no company policy to wear seatbelts. MSHA issued a non-contributory citation for a violation of § 75.1916(c).

Examinations

Adam Hampton, Maintenance/Electrician, conducted an inadequate weekly examination on the No. 124 diesel mantrip. Defects affecting safety should have been found during the examination on May 29, 2015. Defects included the service brake pedal hinge linkage, which was worn and allowed side to side travel; the missing safety chain which was to span across the operator's compartment while in motion; and the surface area of the brake pedal which had been reduced. These conditions were obvious and extensive and existed for an extended period of time.

Training and Experience

Campbell had 32 years and 22 weeks of total underground mining experience, with 9 years and 24 weeks at the Gateway Mine. Training records indicated that Campbell had received task training, as required by 30 CFR § 48.7(a)(3), on the operation of diesel-powered mantrip in December 2014. Campbell received annual refresher training on January 10, 2015. Campbell had also been task trained on Moon Rover (permissible ride), battery scoop, diesel scoop, ram-car, mini-track, and roof bolter.

Autopsy

The autopsy report revealed that the cause of death was blunt chest, abdomen, and head trauma sustained during impact.

ROOT CAUSE ANALYSIS

The accident investigation team conducted an analysis to identify the underlying cause of the accident that was correctable through reasonable management controls. Listed below are the root causes identified during the analysis and the corresponding corrective action implemented to prevent a recurrence of the accident:

1. Root Cause: The mine operator did not have effective policies, programs, procedures, or controls in place to protect miners from the hazards related to operating self-propelled diesel-powered equipment on outby travelways of the mine.

Corrective Action: Speed limits have been posted and set at 20 mph, and standardized traffic rules have been established. Reduced speed areas have been posted, and a seat belt policy has been put into place at this mine. Miners have been trained in the new standardized traffic rules.

2. Root Cause: The mine operator failed to maintain the diesel mantrip in safe operating condition. The surface area of the service brake pedal had been reduced in size, and the hinge linkage was worn and allowed a 4 inch side-to-side movement of the service brake pedal. Also safety chains which went across the operators opening had been removed from the diesel mantrip.

Corrective Action: The Company's No. 124 diesel mantrip was removed from service. The mine operator developed an enhanced diesel checklist that will be used by examiners during required examinations of diesel equipment to document equipment defects. Examiners were trained in the use of the new checklist.

CONCLUSION

The victim was traveling in a diesel mantrip in an outby area of the mine when he struck a coal rib. The mine operator did not have effective policies, programs, procedures, or controls in place to protect miners from the hazards related to operating diesel mantrips in outby areas of the mine. In addition, the mine operator failed to maintain the diesel mantrip in safe operating condition. The surface area of the service brake pedal had been reduced in size and had side to side movement, which made depressing the brake pedal difficult. Also safety chains had been removed which are placed across the operator's compartment when the mantrip is being operated.

Approved By:

Ronald W. Burns

Ronald W. Burns
District Manager

12/16/2015

Date

ENFORCEMENT ACTIONS

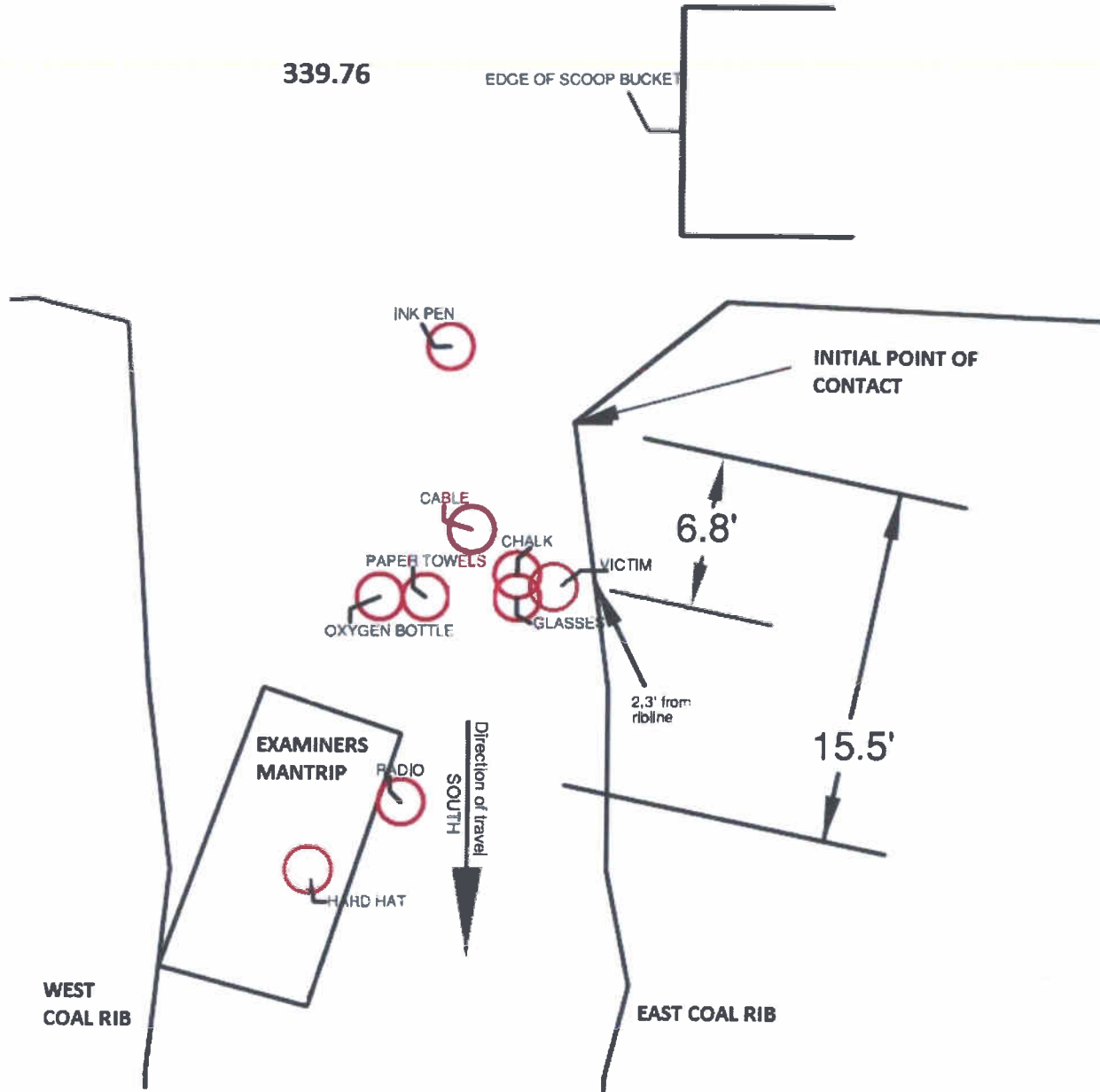
1. Section 103(j) Order No. 7583978, an accident occurred at this operation on May 31, 2015, at approximately 8:05 p.m. This order is being issued under Section 103(j) of the Federal Mine Safety and Health Act of 1977, to assure the safety of all persons at this operation. This order is also being issued to prevent the destruction of any evidence which would assist in investigating the cause or causes of the accident. It prohibits all activity at crosscut 193 in the Main South Travelway except to the extent necessary to rescue an individual or prevent or eliminate an imminent danger until MSHA has determined that it is safe to resume normal mining operations in the area. This order applies to all persons engaged in the rescue and recovery operation and any other persons on-site. This order was initially issued orally to the mine operator at 8:40 p.m. and has now been reduced to writing.
2. A 104(d)(1) citation was issued for a violation of 30 CFR § 75.1914(f). On May 31, 2015, at approximately 8:05 p.m., a miner was fatally injured while operating the company's No. 124 diesel mantrip along the 1st Main South travelway. The victim received fatal injuries when he impacted the East coal rib at crosscut 193 (survey point 339.76) while operating the diesel mantrip. An inadequate weekly examination was conducted on the company No. 124 diesel mantrip. Defects affecting safety should have been found during examination on May 29, 2015. Defects included the service brake pedal hinge linkage was worn and allowed side to side travel, the safety chain which span across the operators compartment while in motion was missing, and the surface area of the brake pedal had been reduced. These conditions were obvious and extensive, and have existed for an extended period of time. The mine operator has engaged in aggravated conduct constituting more than ordinary negligence. This violation is an unwarrantable failure to comply with a mandatory standard.
3. A 104(d)(1) order was issued for a violation of 30 CFR § 75.1914(a). On May 31, 2015, at approximately 8:05 p.m., a miner was fatally injured while operating the company's No. 124 diesel mantrip along the 1st Main South travelway. The victim received fatal injuries when he impacted the East coal rib at crosscut 193 (survey point 339.76) while operating the diesel mantrip. The company No. 124 diesel mantrip was not being maintained in safe operating condition. The brake pedal hinge linkage was worn, and would allow side to side movement. When measured, the service brake pedal would move 4 inches side to side from the brake pedal's position when not in use. The brake pedal design from the manufacture had been modified from 6 ½ inches to approximately 3 ¾ inches reducing the size of the brake pedal

surface area. Also the safety chain feature was missing which went across the operator's compartment that could be latched closed when the vehicle was operated. These conditions were obvious and extensive, and have existed for an extended period of time. The mine operator has engaged in aggravated conduct constituting more than ordinary negligence. This violation is an unwarrantable failure to comply with a mandatory standard.

4. A 104 (a) citation was issued for a violation of 30 CFR § 75.1916(b). On May 31, 2015, at approximately 8:05 p.m., a miner was fatally injured while operating the company's No. 124 diesel mantrip along the 1st Main South travelway. The miner did not maintain full control of the mantrip while it was in motion. The victim received fatal injuries when he impacted the East coal rib at crosscut 193 (survey point 339.76) while operating the diesel mantrip.
5. A 314(b) safeguard was issued pursuant to 30 CFR § 75.1403. On May 31, 2015, at approximately 8:05 p.m., a miner was fatally injured while operating the company's No. 124 diesel mantrip along the 1st Main South travelway. The victim received fatal injuries when the mantrip impacted the east coal rib at crosscut 193 (survey point 339.76) and he was ejected from the mantrip. The company No. 124 diesel mantrip was provided with a seat belt, but it was not being worn at the time of the accident. By not wearing seatbelts, occupants of personnel carriers may be injured or killed from impact when the personnel carrier hits coal ribs, other equipment or structures, or by being thrown from the personnel carrier and run over or thrown into coal ribs, other equipment or structures. This is a Notice to Provide Safeguard(s) requiring seat belts to be worn by occupants in all personnel carriers that are equipped with seatbelts from the manufacturer at this mine while the personnel carrier is in motion.

Appendix A

Drawing of Accident Scene (Note: Images not to scale).



Appendix B

Persons Participating in the Investigation

Mine Safety and Health Administration

MaryJo Bishop	Assistant District Manager, Enforcement
Mike Rennie	Supervisory Mine Safety and Health Inspector
Brandon Naas	CMS&H Inspector, Accident Investigator
John Butcher	CMS&H Inspector, Electrical
Mike Tite	CMS&H Inspector, Electrical
Dean Cripps	Supervisory Mine Safety and Health Electrical
Ron Medina	MSHA Technical Support
Gary Rethage	MSHA Technical Support
Denzel Hughes	MSHA Training Specialist Supervisor
Cesar Casas	MSHA Technical Support
Troy Hart	MSHA Technical Support

State of Illinois Department of Natural Resources, Office of Mines and Minerals

Bill Patterson	Inspector at Large
Shawn Reese	Inspector
Tony Mayville	Office of Mines and Minerals

Management Personnel

Chuck Burggraf	Senior VP of Safety for the America's Midwest
Chad Barras	Safety Director
Gary Wilhelm	Operations Manager
Bruce Waldman	Safety Manager
Jenna Haley	Safety Supervisor
Mike Middlemas	Compliance Manager
Matt Park	Maintenance Manager

Appendix C

Persons Interviewed

Brandon Halstead
Chad Genisio
Nick Boeckmann
Blake Hampton

Mine Examiner
Mine Examiner
Mine Manager
Maintenance/Electrician

Appendix D

Victim Information

Accident Investigation Data - Victim Information

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



Event Number:

6	4	5	6	1	8	9
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Victim Information: 1																																	
1. Name of Injured/Ill Employee: <i>Glen A. Campbell</i>				2. Sex: <i>M</i>		3. Victim's Age: <i>59</i>			4. Degree of Injury: <i>01 Fatal</i>																								
5. Date(MM/DD/YY) and Time(24 Hr.) Of Death: <i>a. Date: 05/31/2015 b. Time: 20:56</i>								6. Date and Time Started: <i>a. Date: 05/31/2015 b. Time: 18:30</i>																									
7. Regular Job Title: <i>095 Examiner</i>						8. Work Activity when Injured: <i>062 Operating ride</i>						9. Was this work activity part of regular job? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																					
10. Experience																																	
a. This				Years		Weeks		Days		b. Regular		Years		Weeks		Days		c. This		Years		Weeks		Days		d. Total		Years		Weeks		Days	
Work Activity:				<i>1</i>		<i>14</i>		<i>0</i>		Job Title:		<i>1</i>		<i>14</i>		<i>0</i>		Mine:		<i>9</i>		<i>24</i>		<i>6</i>		Mining:		<i>32</i>		<i>22</i>		<i>1</i>	
11. What Directly Inflicted Injury or Illness? <i>122 Rib</i>										12. Nature of Injury or Illness: <i>170 Crushing</i>																							
13. Training Deficiencies:																																	
Hazard: <i>New/Newly-Employed Experienced Miner:</i> Annual: Task:																																	
14. Company of Employment: (if different from production operator) <i>Operator</i> Independent Contractor ID: (if applicable)																																	
15. On-site Emergency Medical Treatment:																																	
Not Applicable: First-Aid: CPR: <input checked="" type="checkbox"/> EMT: Medical Professional: None:																																	
16. Part 50 Document Control Number: (form 7000-1)										17. Union Affiliation of Victim: <i>9999</i> <i>None (No Union Affiliation)</i>																							