FAI-7033338-1

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

REPORT OF INVESTIGATION

Surface
(Coal)

Fatal Machinery Accident
February 26, 2023

LMS Excavating LLC (A7147)
Freeburn, Pike County, Kentucky

at

Grapevine South Surface Mine
Appalachian Resource West Virginia, LLC
Matewan, Mingo County, West Virginia
ID No. 46-08930

Accident Investigators

James Grimmett
Mine Safety and Health Inspector

Paul Milum
Mine Safety and Health Inspector

Originating Office
Mine Safety and Health Administration
Pineville District
4499 Appalachian Highway
Pineville, West Virginia
Brian Dotson, District Manager

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OVERVIEW

On February 26, 2023, at 1:08 p.m., Billy Mapes, a 73 year-old contract bulldozer operator with approximately 53 years of mining experience, died when he was ejected from the operator's cab of the bulldozer he was operating. The bulldozer traveled over the edge of Haul Road 3 and rolled 375 feet down an embankment before coming to rest.

The accident occurred because: 1) the mine operator did not conduct an examination of the working area, and 2) the contractor did not ensure that the bulldozer operator wore a seat belt while operating the bulldozer.

GENERAL INFORMATION

Appalachian Resource West Virginia, LLC owns and operates the Grapevine South Surface Mine. This is a surface coal mine located in Matewan, Mingo County, West Virginia. The mine employs 48 miners and operates two ten-hour shifts, six days per week. The surface mine extracts coal using mountain top removal and contour mining methods, and by using a highwall mining machine. The mine operator discontinued regular use of Haul Road 3 in 2018 after commissioning a new mine access road and entrance. During September of 2020, the mine

operator contracted LMS Excavating LLC (LMS) to conduct various reclamation and surface work throughout mine property on a recurring basis.

The principal management officials at Grapevine South Surface Mine at the time of the accident were:

Glenn Messer	Mine Superintendent
Jason Sullivan	Mine Foreman
Roger Slone	Safety Manager

The principal management official at LMS at the time of the accident was:

Randall Mapes	Owner/Operator

The Mine Safety and Health Administration (MSHA) completed the last regular safety and health inspection at this mine on September 30, 2022. The 2022 non-fatal days lost incident rate for Grapevine South Surface Mine was 3.17, compared to the national average of 0.68 for mines of this type.

DESCRIPTION OF THE ACCIDENT

On February 26, 2023, at 7:25 a.m., Randall Mapes and LMS employees B. Mapes; Randy Mapes, Parts Runner; and Dustin Mounts, General Laborer, arrived at the mine and laid straw on recently seeded areas. Randall Mapes and the three LMS employees exited the main mine entrance at 12:30 p.m. At 12:56 p.m., Randy Mapes drove B. Mapes to the gate of Haul Road 3. The two decided to meet at the filter cake cells at the end of Haul Road 3 where the bulldozer was to be parked for the night (see Appendix A). According to interviews, B. Mapes got in the bulldozer and began traveling toward the filter cake cells. Based on the examination of the accident scene, approximately one-half mile into his route, B. Mapes encountered a barricade consisting of large rocks. The mine operator installed the barricade to prevent unauthorized access onto this portion of the road because of an earlier embankment failure.

Based on the examination of the accident scene, investigators determined that B. Mapes used the bulldozer to reposition the large rocks, allowing him to tram the bulldozer into the barricaded area. Once inside the barricaded area, B. Mapes pushed the rocks back into position with the bulldozer and trammed in reverse with blade down to repair the damage to the road. The bulldozer backed over the edge of the road where a previous embankment failure (see page 4) had occurred and rolled down the hill. B. Mapes was ejected and later found 149 feet uphill from where the bulldozer came to rest at the bottom of the hill (see Appendix B).

At approximately 3:10 p.m., Donnie Scarberry, Security Guard for P and P Construction (Mine Security), observed the bulldozer at the bottom of the hill, drove to the guard shack, and informed Tiffany Hurley, Security Guard for P and P Construction. Hurley instructed Scarberry to contact Kevin Sellards, Security Supervisor for P and P Construction. Sellards arrived at the scene, saw the bulldozer, and drove to the guard shack. At approximately 3:30 p.m., Sellards encountered Ronny Gillman, Security Guard for Asset Protection (Gas Line Company Security)

and explained what he saw. Gillman drove to the accident scene, examined the area around the bulldozer, and shut off the bulldozer's engine. After walking up the hill, Gillman discovered B. Mapes and checked for a pulse but could not detect one. Sellards and Randy Mapes left the guard shack and met Gillman, who informed them of B. Mapes' condition. 911 was called at 3:57 p.m.

At 4:12 p.m., paramedics from STAT EMS ambulance service arrived, assessed B. Mapes' condition, and notified Huntington Medical Command in Huntington, West Virginia to report a death in the field. Joshua Mena, Medical Command Physician, pronounced B. Mapes dead at 4:46 p.m.

INVESTIGATION OF THE ACCIDENT

On February 26, 2023, at 4:22 p.m., Slone contacted the Department of Labor National Contact Center (DOLNCC) to report the accident. The DOLNCC contacted Tracy Calloway, Staff Assistant. Calloway notified Brian Dotson, District Manager, and Clark Blackburn, Assistant District Manager. Blackburn contacted Kenneth Butcher, Supervisory Mine Safety and Health Inspector, who sent Paul Milum, Mine Safety and Health Inspector, to the mine. At 5:17 p.m., Milum arrived at the mine and issued an order under the provisions of section 103(k) of the Mine Act to ensure the safety of the miners and preservation of evidence. Calloway assigned James Grimmett, Mine Safety and Health Inspector, as the lead investigator.

MSHA personnel met with West Virginia Office of Miners' Health, Safety, and Training (WVOMHST) personnel to discuss the investigation. MSHA's accident investigation team, in conjunction with WVOMHST, conducted an examination of the accident scene, interviewed miners, management officials, and contractors, and reviewed conditions and work procedures relevant to the accident. See Appendix C for a list of persons who participated in the investigation.

DISCUSSION

Location of the Accident

The accident occurred on Haul Road 3. The mine operator installed a security gate on Haul Road 3 near the intersection of the county road to prevent unauthorized access.

Weather

The weather at the time of the accident was 52 degrees Fahrenheit with overcast skies. Investigators determined that weather did not contribute to the accident.

Equipment Involved

The bulldozer involved in the accident was a 2018 John Deere model 850K WLT. The contractor leased the bulldozer in November 2022. The width of the bulldozer was nine feet, ten inches, and the length was 18 feet, ten inches. The bulldozer was equipped with a JD Link GPS tracking system which provided a real time record of the operation of the machine. Based on this record for the day of the accident, investigators determined that the bulldozer started at 12:56 p.m., and communication with the bulldozer was discontinued at 1:08 p.m. Due to the extensive

damage incurred during the accident, the bulldozer could not be examined in its entirety. Investigators found the seat belt unlatched and retracted. When tested, the seat belt functioned properly. Investigators determined B. Mapes was not wearing the seat belt, which contributed to the severity of the accident.

Haul Road 3

In February 2019, an embankment failure occurred along Haul Road 3 which extended from the outside berm of the road down to the creek below, approximately 400 feet. During the embankment failure, a portion of the original road, including the berm, broke off, resulting in a sharp drop off on the outside edge of the road (see Appendix D). Additionally, the embankment failure reduced the width of the road from approximately 20 feet to as narrow as 11 feet. The mine operator placed large rocks approximately 50 feet before and after the broken section of the road to act as a barricade.

Based on interviews, Randall Mapes received a key to the security gate on Haul Road 3 from Jeremy Morgan, Environmental Manager, last year and both had been on Haul Road 3 on February 3, 2023, discussing ongoing projects. Additionally, the mine operator allowed the contractor to move the barricade on February 6, 7, 8, 2023, and on the day of the accident to perform work and travel through the area where the road was damaged. Randall Mapes worked and traveled through this area on February 6, 7, and 8, 2023. The contractor had access to deliver the bulldozer on mine property closer to the filter cake cells by using the county road, which would have prevented the bulldozer from operating along the embankment failure area. The mine operator and the contractor did not repair Haul Road 3 or replace the berm on the outside edge of the road.

Training and Experience

B. Mapes had approximately 53 years of mining experience, including three years with LMS and 53 years operating bulldozers. B. Mapes received site-specific hazard awareness training for the Grapevine South Surface Mine on January 4, 2022, annual refresher training on February 22, 2022, and task training to operate the John Deere model 850K WLT bulldozer on February 26, 2023. Investigators determined that all training was conducted in accordance with MSHA Part 48 training regulations.

Examinations

The contractor could not provide records to indicate that a pre-operational inspection of the bulldozer had been conducted on the day of the accident. Investigators did not observe any defects on the bulldozer that would have contributed to the accident. On February 26, 2023, Randall Mapes conducted an on-shift examination. The examination records identified the areas examined as “Grapevine South Old Side,” and included “Grapevine South Haul Road.” The records of this examination did not include any hazardous conditions or actions taken to correct them. Randall Mapes told investigators that he did not examine the area where the accident occurred during the on-shift examination. The mine operator did not conduct an examination to ensure the stability of the road where equipment was operated near the embankment failure on Haul Road 3, which contributed to the accident.

ROOT CAUSE ANALYSIS

The accident investigation team conducted an analysis to identify the underlying causes of the accident. The team identified the following root causes, and the mine operator and contractor implemented the corresponding corrective actions to prevent a recurrence.

1. Root Cause: The mine operator did not conduct an adequate examination of the working area.

   Corrective Action: The mine operator developed and implemented a new written procedure that requires all examiners, including contract examiners, to communicate the findings of all examinations of work areas to mine management on the day the examinations are completed prior to conducting work. The records of the examinations will be maintained in the mine office. The mine operator trained all miners and contractors on the new procedure.

2. Root Cause: The contractor did not ensure that the bulldozer operator wore a seat belt while operating the bulldozer.

   Corrective Action: The contractor developed and implemented a new written procedure that includes increased emphasis on compliance with the regulation requiring seat belts. This new procedure includes increased frequency of safety meetings to ensure compliance.

CONCLUSION

On February 26, 2023, at 1:08 p.m., Billy Mapes, a 73 year-old contract bulldozer operator with approximately 53 years of mining experience, died when he was ejected from the operator's cab of the bulldozer he was operating. The bulldozer traveled over the edge of Haul Road 3 and rolled 375 feet down an embankment before coming to rest.

The accident occurred because: 1) the mine operator did not conduct an examination of the working area, and 2) the contractor did not ensure that the bulldozer operator wore a seat belt while operating the bulldozer.

Approved By:

_____ _____

Brian Dotson Date
District Manager

ENFORCEMENT ACTIONS

1. A 103(k) order was issued to Appalachian Resources West Virginia, LLC

   A fatal accident occurred on February 26, 2023, at approximately 1:08 p.m. This order is being issued under the authority of the Federal Mine Safety and Health Act of 1977, under Section 103(k) to insure the safety of all persons at the mine, and requires the operator to obtain the approval of an authorized representative of MSHA of any plan to recover the affected area, or equipment. This order prohibits any activity in the affected area. The operator is reminded of the obligation to preserve all evidence that would aid in investigating the cause or causes of the accident in accordance with 30 CFR 50.12.

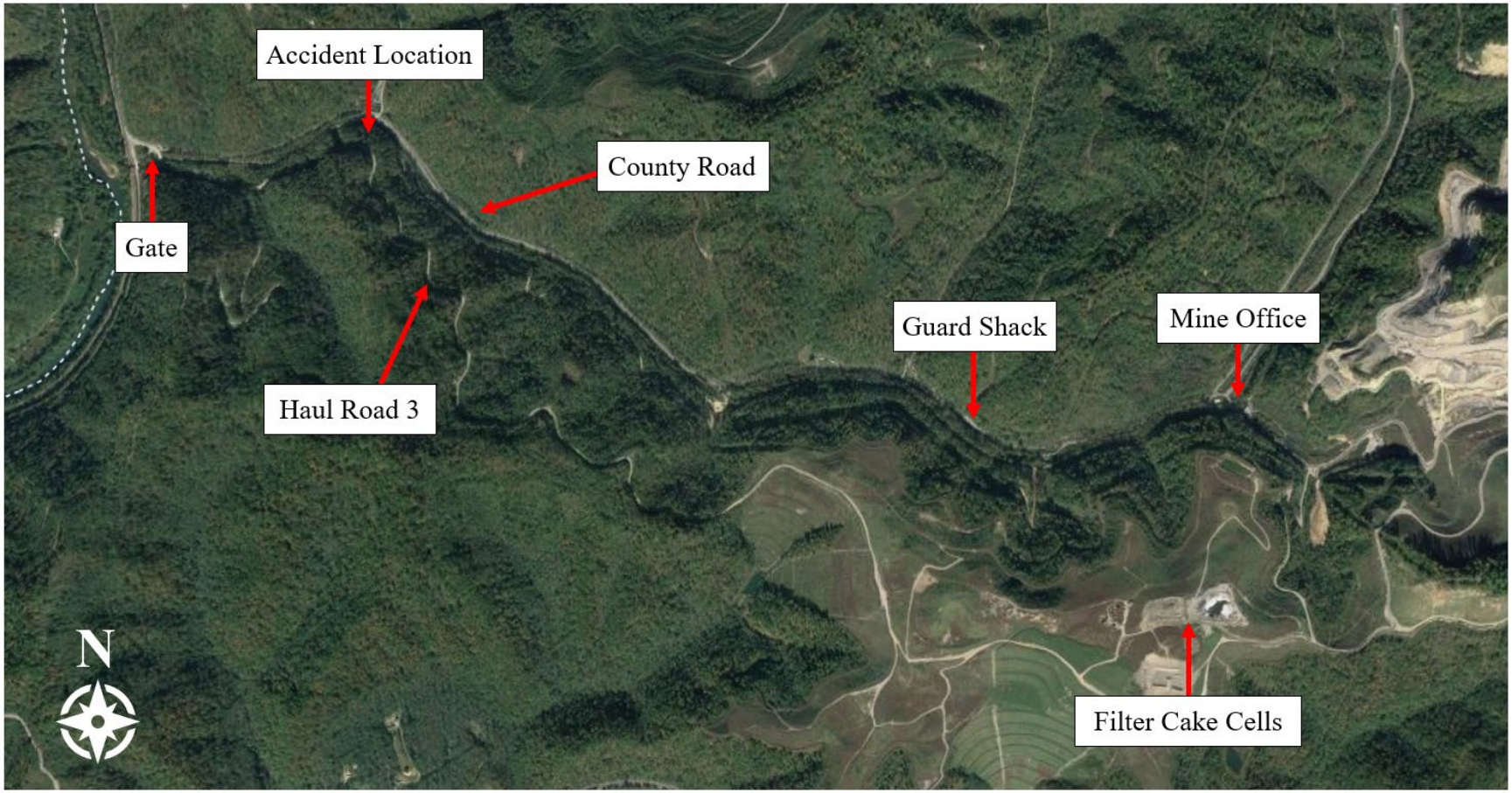
2. 104(a) citation was issued to Appalachian Resources West Virginia, LLC for a violation of 77.1713(a).

   A fatal accident occurred on February 26, 2023, when a contractor bulldozer operator traveled over the edge of Haul Road 3 and lost control of the bulldozer he was operating. The bulldozer rolled approximately 375 feet down an embankment. The victim was ejected 149 feet uphill from where the bulldozer came to a rest at the bottom of the hill. In February 2019, the portion of Haul Road 3 where the accident occurred experienced a major embankment failure which caused the outside bank of the road to break off, creating a near vertical drop off. The mine operator did not conduct an adequate examination of the working area to ensure that all hazardous conditions were identified, reported, and corrected to prevent miners from being exposed to existing hazards. Additionally, no examinations were conducted on February 6, 7, and 8, 2023. The mine operator had met with the contractor prior to these dates planning and directing the work to be done.

3. 104(a) citation was issued to LMS Excavating LLC for a violation of 77.1710(i).

   A fatal accident occurred on February 26, 2023, when a contractor bulldozer operator traveled over the edge of Haul Road 3 and lost control of the bulldozer he was operating. The bulldozer rolled approximately 375 feet down an embankment. The victim was ejected 149 feet uphill from where the bulldozer came to a rest at the bottom of the hill. The contractor did not ensure the bulldozer operator wore a seat belt while operating the bulldozer. This regulation requires equipment operators to wear seat belts where there is a danger of overturning, and the equipment is provided with rollover protection. The bulldozer involved in the accident has rollover protection, and the victim operated the bulldozer on an elevated mine road where there was a hazard of overturning. During post-accident testing, investigators found that the bulldozer's seat belt, located in the bulldozer's cab, to be properly maintained and available for use.

APPENDIX A – Aerial View of Grapevine South Surface Mine



APPENDIX B – Location of Bulldozer After Accident

APPENDIX C – Persons Participating in the Investigation

Appalachian Resource West Virginia, LLC

Glenn Messer	Mine Superintendent
Jeremy Morgan	Environmental Manager
Roger Slone	Safety Manager

LMS Excavating LLC

Randall Mapes	Owner/Operator
Randy Mapes	Parts Runner
Jashor Norman	Truck Driver
Dustin Mounts	General Laborer

P and P Construction

Kevin Sellards	Security Supervisor
Tiffany Hurley	Security Guard
Donnie Scarberry	Security Guard

Asset Protection

Ronny Gillman	Security Guard

West Virginia Office of Miners' Health, Safety, and Training

Benjamin Hamilton	Inspector at Large
Michael Pack	Assistant Inspector at Large
Kelly Blair	Surface Inspector
Steven Egnor	Surface Inspector
Matthew Miller	Surface Inspector

Mine Safety and Health Administration

Tracy Calloway	Staff Assistant
James Grimmett	Mine Safety and Health Inspector
Paul Milum	Mine Safety and Health Inspector

APPENDIX D – Photograph of the Accident Scene