

FAI-2019-14

**UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION**

REPORT OF INVESTIGATION

**Surface
Phosphate**

**Powered Haulage
August 02, 2019**

Kilroy LLC. (X739)

at

**J R Simplot Company
Smoky Canyon Mine
Afton, Wyoming
ID No. 10-01590**

Accident Investigators

**Clayton B. Johnson, Lead Investigator
Mine Safety and Health Inspector**

**Brad Breland
Assistant District Manager**

**Originating Office
Mine Safety and Health Administration
Rocky Mountain District
P.O Box 25367, DFC
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Dustan W. Crelly, Acting District Manager**

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OVERVIEW

Brandon J. Astle, a 39-year-old contract Equipment Operator with 16 years of total mining experience, died on August 2, 2019, when the fuel/lube truck he was driving overturned. While descending the haul road, the victim called over the radio and reported that the truck's brakes did not work. The truck traveled approximately one mile down a seven percent grade haul road, struck a berm on a runaway truck ramp, and overturned.

The accident occurred because: 1) the contractor did not maintain the braking systems on the fuel/lube truck; 2) the contractor did not inspect the fuel/lube truck prior to placing it in service; and 3) the contractor did not ensure employees wear seatbelts at all times when operating equipment.

GENERAL INFORMATION

J.R. Simplot Company (Simplot) owns and operates the Smoky Canyon Mine in Afton, Wyoming. Smoky Canyon Mine operates two, 12-hour shifts, seven days a week and employs 230 miners. Smoky Canyon Mine drills and blasts the phosphate and uses hydraulic shovels to load haul trucks. The trucks then haul the phosphate rock to the mill where it is processed into a slurry. A pipe line transfers the slurry to another plant for processing into fertilizer. Chad Gentry, General Manager, is in charge of health and safety at the mine.

The Mine Safety and Health Administration (MSHA) completed its last regular inspection of the operation on October 30, 2018. The fuel/lube truck was not at the mine site during the last

regular inspection. The non-fatal days lost (NFDL) incident rate for the Smoky Canyon Mine for 2018 was zero, compared to the national average of 1.35.

The principal officers for Smoky Canyon Mine at the time of the accident were:

Garrett LoftoPresident & CEO
Scott Simplot Director

Kilroy LLC (Kilroy) is a construction company specializing in underground and surface infrastructure construction, located in Afton, Wyoming. Simplot contracted Kilroy to reclaim previously mined-out areas. Kilroy employs an average of 8 people at the Smoky Canyon Mine.

DESCRIPTION OF THE ACCIDENT

On August 2, 2019, at 6:00 a.m., Astle and other members of the Kilroy crew arrived at the Smoky Canyon’s mine office. The crew proceeded to the laydown yard to continue their work reclaiming areas mined by Simplot (see Appendix A). The laydown yard is located in Caribou County, Idaho. At 6:30 a.m., Astle started the fuel/lube truck, located in the laydown yard to get a load of fuel. At 8:00 a.m., he parked the fuel/lube truck at the laydown yard after fueling equipment and started operating a haul truck.

At 11:30 a.m., Astle was at the fueling area waiting to get loaded with material when the front-end loader started leaking oil. Astle got out of his haul truck and assisted opening the engine doors of the front-end loader and assisted with the repair of the oil leak. Colter Perry, Foreman, assigned Astle to retrieve the fuel/lube truck, still located in the laydown yard, to provide oil to the front-end loader. Astle drove this haul truck to the laydown yard to retrieve the fuel/lube truck and then proceeded to the fueling area.

After servicing the front-end loader, Astle left the fueling area to return the fuel/lube truck to the laydown yard. Brandon Hammond, Equipment Operator, heard Astle call out over the company radio saying he “had lost power and brakes”. Hammond instructed Astle to pull the emergency brake and try to reach the runaway truck ramp. At 12:02 p.m., Tiffany Worton, Laboratory Technician/Surveyor, placed a call over the company radio stating there had been an accident at the runaway truck ramp. Worton and DeeJay Merritt, Equipment Operator, arrived at the accident site and observed the fuel/truck beyond the runaway truck ramp berm on its driver’s side. Initially, they did not see Astle, who was lying on the front seat, so they searched the scene around the truck for Astle. Jed Miller, Simplot’s First Responder, and Perry had arrived at the accident site shortly after Worton and Merritt. Miller, along with other first responders, extinguished a small engine fire, and located Astle inside truck. Astle was unresponsive and Miller was not able to detect any vital signs.

At 12:34 p.m., Simplot’s emergency rescue team removed Astle, who was still unresponsive, from the truck and took him to the mine ambulance. At 12:40 p.m., Air Idaho Rescue arrived, assessed Astle, and pronounced him dead at the scene at 12:43 p.m.

INVESTIGATION OF THE ACCIDENT

At 12:29 p.m., Scott Wilcox, Simplot's Maintenance Supervisor, called the Department of Labor National Contact Center (DOLNCC). DOLNCC contacted Peter Del Duca, Acting Assistant District Manager, and he dispatched Mark Shadden, Mine Safety and Health Inspector to the mine. Upon arrival at the mine, Shadden issued an order under provisions of Section 103(k) of the Mine Act to ensure the safety of the miners and began the investigation.

At 12:30 p.m., on August 3, 2019, Clayton B. Johnson, Mine Safety and Health Inspector (Accident Investigator), arrived on the scene to continue the investigation. MSHA's accident investigation team conducted a physical examination of the accident, interviewed miners, and reviewed conditions and work procedures relevant to the accident. Jonathon Hall P.E., Mechanical Engineer with MSHA's Approval and Certification Center, also assisted in examining and testing the fuel/lube truck from August 8-9, 2019. See Appendix B for a list of persons participating in the investigation.

DISCUSSION

Location of the Accident

The accident occurred on the Smoky Canyon Mine's main haul road approximately a mile north of the laydown yard. The haul road has an average grade of seven percent.

Weather

The weather at the time of the accident was mostly clear, with a high temperature of 62° F. Investigators did not consider weather to be a factor in the accident.

Pre-operational Inspections of Fuel/Lube Truck

MSHA Investigators did not find any pre-operational inspection reports inside the fuel/lube truck. During interviews, the investigators learned the equipment operator did not conduct pre-operational examinations of the truck. The contractor used the truck three to four times a week for short periods of time. The contractor typically parked the truck in the laydown yard, where other drivers would travel to it to get fuel for their mobile equipment.

Equipment Involved

The fuel/lube truck was a Peterbilt Model 359-K, manufactured in 1982. The fuel/lube truck assembly had tandem rear drive axles and a gross vehicle weight rating (GVWR) of 52,000 lbs. The truck was equipped with a dispensing diesel fuel/lube tank and engine oil, antifreeze, and grease in containers.

Investigators found the fuel/lube truck's transmission in neutral. Of the ten tires, only the right front tire showed damage, which investigators determined was caused by the accident. The other tires did not have any exposed belts, missing tread, or damage. The seat belt functioned properly and appeared to be in good condition. However, the first responders said the victim was not wearing his seat belt.

Brake System Design

The fuel/lube truck has three axles. This truck was equipped with a typical over the road air brake system utilizing S-cam shoe-type brakes. The investigators took several measurements of the thickness of the brake shoe linings, applied air pressure to measure brake pushrod displacement (stroke), and visually examined shoe linings and drums for damage and wear. Investigators found the truck's braking systems were defective. The strokes on three brakes were over the allowed maximum and the brake drums on two axles were beyond the maximum allowed diameter.

Training and Experience

Astle had over 16 years mining experience. Mike Tromble, a representative of MSHA's Educational Field and Small Mine Services (EFSMS), conducted a review of the contractor's training plan and records. EFSMS determined Astle received the required new miner and annual refresher training according to 30 CFR Part 48. However, investigators did not find records indicating Astle received the task training for this fuel/lube truck.

ROOT CAUSE ANALYSIS

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

Root Cause: The Contractor did not ensure all braking components on the fuel/lube truck were in functional condition.

Corrective Action: The Contractor revised policies and procedures for ensuring all braking components are in working order on their fleet of equipment. The Contractor has trained their equipment operators on how to check braking components on the equipment they operate and the Contractor's mechanics now have scheduled brake examinations.

Root Cause: The Contractor's policies, procedures and controls were not adequate to ensure pre-operational inspection of all mobile equipment before use.

Corrective Action: The Contractor revised policies and procedures for ensuring all mobile equipment get a pre-operational inspection. The Contractor retrained the workforce on the revised policies and procedures.

Root Cause: The Contractor did not enforce its written policies, procedures, and controls for ensuring mobile equipment operators wear seatbelts while operating mobile equipment.

Corrective Action: The Contractor retrained its workforce at the mine in the requirements and use of wearing seatbelts while operating mobile equipment.

CONCLUSION

Brandon J. Astle, a 39-year-old contract Equipment Operator with 16 years of total mining experience, died on August 2, 2019, when the fuel/lube truck he was driving overturned. While descending the haul road, the victim called over the radio and reported that the truck's brakes did not work. The truck traveled approximately one mile down a seven percent grade haul road, struck a berm on a runaway truck ramp, and overturned. The accident occurred because: 1) the contractor did not maintain the braking systems on the fuel/lube; 2) the contractor did not inspect the fuel/truck prior to placing it in service; and 3) the contractor did not ensure employees wear seatbelts at all times when operating equipment.

Approved: _____ Date: _____

Dustan W. Crelly
Acting District Manager

ENFORCEMENT ACTIONS

- 1) A 103(k) Order No. 9309770 was issued on August 2, 2019.

The mine has experienced a fatal powered haulage accident on the main haul road. This order is issued to ensure the safety of any persons at the mine until an examination or investigation is made to determine the main haul road and the accident scene are safe. Only those persons selected from company officials, state officials, the miners' representative and other persons who are deemed by MSHA to have information relevant to the investigation may remain in the immediate area.

- 2) A 104(a) Citation No. 9470080 was issued to Kilroy LLC. for violation of 30 CFR § 56.14100(a) on November 14, 2019.

A fatal accident occurred at this operation on August 2, 2019 when a miner operating a Peterbilt Fuel/Lube Truck struck a berm on a runaway truck ramp and overturned. The contractor could not produce pre-operational equipment exams and stated this truck has fallen "through the cracks" because exams were not being conducted on this truck. No pre-operational equipment examinations had been performed on the truck for at least two months. The fuel/lube truck was used at least two to three times per week.

- 3) A 104(a) Citation No. 9470081 was issued to Kilroy LLC. for violation of 30 CFR § 56.14101(a)(3) on November 14, 2019.

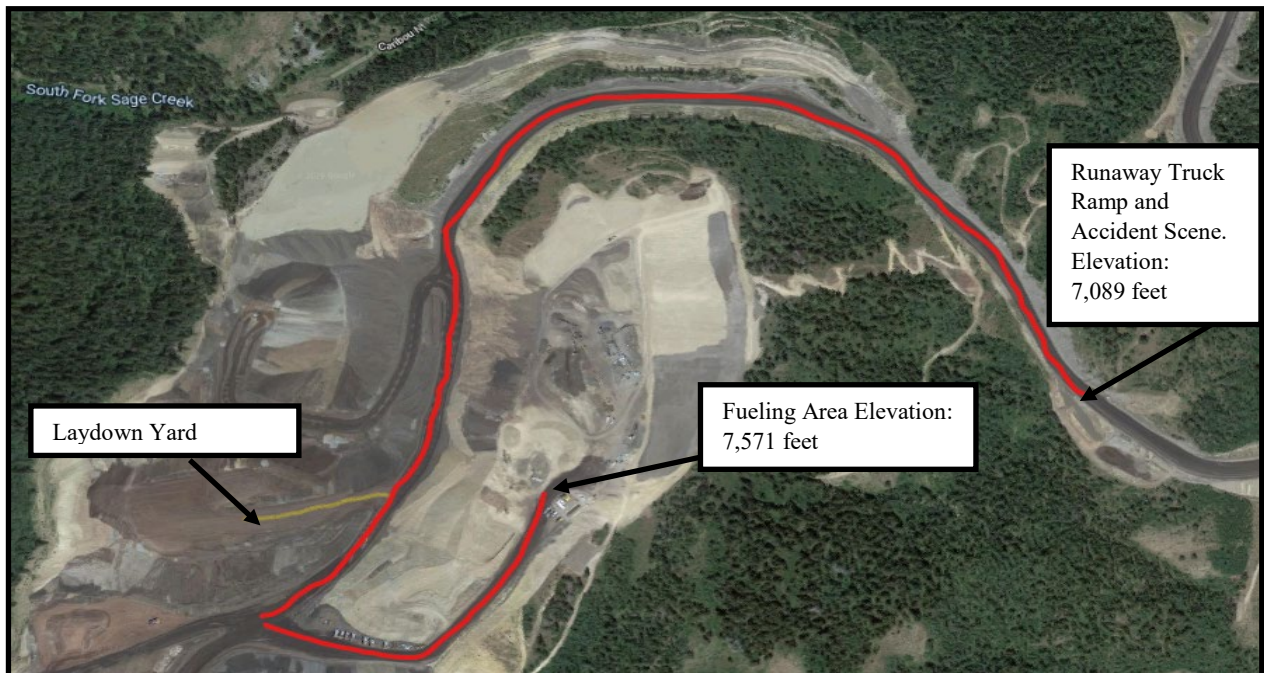
A fatal accident occurred at this operation on August 2, 2019 when a miner operating a Peterbilt fuel/lube truck struck a berm on a runaway truck ramp and overturned. The braking system provided on the fuel/lube truck was not being maintained in functional condition. Four out of the six brakes provided on the truck were out of tolerance.

- 4) A 104(a) Citation No. 9470082 was issued to Kilroy LLC. for violation of 30 CFR § 56.14131(a) on November 14, 2019.

A fatal accident occurred at this operation on August 2, 2019 when a miner operating a fuel/lube truck struck a berm on a runaway truck ramp and overturned. The miner was found not wearing his seat belt and the seat belt was found balled up behind the seat. The contractor did not ensure that the miner involved was wearing the provided seat belt.

Appendix A

Aerial view of the route the haul truck drove prior to the accident. The red line is where he traveled; the yellow line shows where he intended to travel. The distance from the laydown yard to the accident scene is approximately 6,000 feet.



Appendix B

Persons participating in the investigation

(Persons interviewed are indicated by a * next to their name)

Kilroy LLC.

Tiffany Worton* Laboratory Technician/Surveyor
Brandon Hammond* Equipment Operator
Colter Perry* Foreman
Deejay Merritt* Equipment Operator
Kilee Long* Equipment Operator
Austin Hunsaker* Equipment Operator
Chet Sanderson* Mechanic
Jeff Zelazoski Director of Construction Operations
Kevin Kilroy* Member Title/General Manager

J R Simplot Company

Alicia Duke Director, Health & Safety
Robert Roberts Safety Manager
Chad Gentry General Manager
Jed Miller* First Responder
Rob Holland* First Responder
Wade Flackiger* First Responder
Travis Bartschi* First Responder
Miles Lancaster* First Responder
Jason Erickson * First Responder
Alex Green* First Responder
Rory Griffin* First Responder
Jeff Reeves* First Responder

Mine Safety and Health Administration

Clayton B. Johnson Mine Safety and Health Inspector/Accident Investigator
Marc Shadden Mine Safety and Health Inspector
Brad Breland Assistant District Manager Rocky Mountain District
Mike Tromble Mine Safety and Health Specialist (Training)
Jonathan Hall, P.E. Mechanical Engineer with MSHA's Approval and Certification Center