CAI-2017-11

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

COAL MINE SAFETY AND HEALTH

REPORT OF INVESTIGATION

Surface Area of Underground Coal Mine

Fatal Falling, Rolling, or Sliding Rock or Material of any kind Accident
August 3, 2017

Deserado Mine
Blue Mountain Energy Inc.
Rangely, Colorado
ID No. 05-03505

Accident Investigators

Tain Curtis
Coal Mine Safety and Health Inspector (Roof Control)

Rufus Taylor
Coal Mine Safety and Health Inspector

Originating Office
Mine Safety and Health Administration
District 9
P.O. Box 25367, Denver, Colorado 80225
Richard A. Gates, District Manager

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OVERVIEW

On Thursday, August 3, 2017, at approximately 1:30 a.m., Jason Stevens, a 32-year-old surface preparation plant mechanic with 12 years of mining experience, received fatal injuries while he was dismantling a 1,400 pound water box associated with the rotary filter. The water box fell and struck Stevens, pinning him to the floor.

The accident occurred because the mine operator did not ensure that the water box being dismantled was securely blocked against motion during the process.

GENERAL INFORMATION

The Deserado Mine is an underground bituminous coal mine, with a preparation plant on the surface area of the mine. It is operated by Blue Mountain Energy Inc. and miners are represented by the United Mine Workers of America. The mining complex has been in operation since 1979. The mine is located in Rio Blanco County, near Rangely, Colorado. Coal is extracted from the B coal seam with two continuous mining machine sections, and a longwall retreat mining section. Coal is transported to the preparation plant via belt conveyors, and then transported to the nearby Bonanza power plant where it is utilized for power generation. Deserado employs 159 miners and produced 1,335,131 tons of coal in 2016. In the first two quarters of 2017, it produced 1,234,886 tons of coal.

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

Dwight Blackwell……Mine Manager
Dave Olsen……Mine Superintendent
Danny Clark……..…Human Resources Manager
Shad Peters……..Safety Manager
Bill Lepro……..….Surface Superintendent

The last regular safety and health inspection (E01) conducted by the Mine Safety and Health Administration (MSHA) was completed on June 29, 2017. An E01 inspection was ongoing at Deserado at the time of the fatality. The Non-Fatal Days Lost (NFDL) injury incidence rate for the mine in 2016 was 0.00, compared to the national average of 3.38 for mines of this type. Prior to the fatality, the mine went 504 days without a lost time accident.

DESCRIPTION OF ACCIDENT

On Wednesday, August 2, 2017, at the beginning of the afternoon shift at 3:30 p.m., Stan Peterson, Prep Plant Shift Foreman, assigned Stevens the task of dismantling the rotary filter located between the 2nd and 3rd floors of the preparation plant. Stevens previously worked on the project on July 27 and 31, and on August 1, 2017. Stevens was working alone on the project. Four crew members saw Stevens at the filter location or spoke with him during their lunch break. Peterson was the last to see Stevens prior to the accident. He spoke to Stevens sometime between 9:30 p.m. and 10:00 p.m., while Stevens was going for a drink of water.

At 1:20 a.m., August 3, 2017, Peterson traveled to where Stevens was working to tell him the shift had ended. Peterson discovered the water box attached to the filter had fallen on Stevens, pinning him underneath. Stevens did not respond when Peterson touched his legs. Peterson went to the 3rd floor and at 1:28 a.m. made an emergency radio call to Dennis Tripplet, AMS Operator and Security Guard, to inform him of the accident. Tripplet called 911 and notified the miners in the shower room to go help at the accident scene.

Peterson along with Richard Morgan, Prep Plant Operator and Emergency Medical Technician, and Brandon Chandler, Preparation Plant Operator, arrived and examined Stevens. Morgan did not detect a pulse and discovered that Stevens was cool to the touch. Peterson, Morgan, and Chandler used come-alongs and chains to lift the water box off of Stevens. Derick Atwood, Haul Truck Operator, and Chandler brought a stretcher and placed Stevens onto it. They took Stevens to the first floor to wait for the ambulance. At 2:30 a.m., the Rangely District Hospital Ambulance arrived and examined Stevens. The ambulance crew contacted the county coroner. Roy Kinney, Rio Blanco County Coroner arrived and pronounced Stevens dead at 3:23 a.m. on August 3, 2017.

INVESTIGATION OF ACCIDENT

On August 3, 2017, at 1:38 a.m., Tripplet called the Department of Labor (DOL) National Contact Center and reported a serious accident. The Contact Center notified Matthew Lemons, District 9 Coal Mine Safety and Health Roof Control Supervisor, of the accident at 1:53 a.m. Lemons notified Peter Saint, District 9 Coal Mine Safety and Health Electrical Supervisor.

Saint verbally issued a 103(j) order to Tripplet at 4:20 a.m. Tripplet notified Tony Gabossi, Shift Foreman, of the order and the accident scene was secured.

Saint and Rufus Taylor, District 9 Coal Mine Safety and Health Inspector, arrived at the mine at 6:35 a.m. Upon arrival Taylor modified the 103(j) order to a 103(k) order to ensure the safety of all persons at the site, including those involved in the accident investigation. Saint and Taylor initiated the accident investigation by taking photographs and measurements of the scene and investigating the physical evidence of the accident. Deserado personnel who were present at the accident scene were interviewed.

Tain Curtis, Coal Mine Safety and Health Inspector/Roof Control Specialist/Accident Investigator, was notified of the accident on August 3, 2017 at 3:34 a.m. Curtis arrived at the mine at 8:30 a.m. James Preece, MSHA Assistant District Manager, was also notified of the accident and arrived at the mine at approximately 8:30 a.m. Curtis and Preece continued the investigation of the accident scene and took digital photographs, relevant measurements, and sketches of the scene.

On August 3, 2017, Fred Sanchez, Supervisory Educational Field and Small Mine Services Training Specialist, traveled to the mine and conducted a thorough review of training and examination records.

Investigators completed the investigation of the scene of the accident on August 3, 2017. The investigation was conducted in conjunction with Deserado company representatives and United Mine Workers of America representatives. MSHA conducted formal interviews on August 7 and 14, 2017 at the mine. The list of persons participating and those interviewed are listed in Appendix A.

DISCUSSION

Dismantling

The Deserado Mine had begun a major overhaul of its preparation plant. Prior to the dismantling project, the water box, which is associated with the rotary filter system, supplied water and coal slurry to the coal filter. During this project, Stevens had been directed to dismantle the filter in the inactive section of the preparation plant. Because he was an

experienced miner, mine management allowed Stevens to decide how he would dismantle the filter and structure, and he worked alone.

On the day of the accident, Stevens was planning to continue dismantling the filter. He had previously removed the filter assembly but the water box still needed to be dismantled. He used a plasma cutter to cut the metal water box into smaller manageable pieces, and then lowered them from the 3rd floor to the 2nd floor. Stevens had made cuts along the trough underneath the filter housing to allow the water box to separate. He left 1-inch wide strips of metal on both ends in an apparent attempt to hold the water box in place as it was being dismantled. The east end of the water box was attached to the filter tub. Stevens had made a cut in this area to separate the water box from the filter tub. After the cuts were made, the box was only supported on the east end by a 1-inch wide strip of metal that tapered down to ¾ inches wide. The accident occurred when the water box shifted and fell on top of Stevens (see Appendix B). Adequate blocking material had not been installed to support the water box.

Investigators determined from the location of Stevens' body that he had positioned himself under the water box. The east end of the water box fell approximately 29 inches, pinning Stevens' upper body to the floor. The mine's engineering department estimated that the water box weighed about 1,400 pounds.

Securely Blocking Against Motion

When performing work under machinery or equipment that has been raised, the machinery or equipment is required to be securely blocked against motion. Instead of properly blocking the water box against motion prior to beginning to take it apart, Stevens depended on the 1-inch wide strip of metal he cut on the east end and the 3-inch wide strip on the west end to support the water box.

Examinations

Because the work area where the accident occurred is located in the surface area of an underground mine, on-shift examinations were not required and were not conducted.

Training and Experience

Stevens started his employment at the Deserado mining operation on February 28, 2011. He had six years and 20 weeks experience at the mine and had been in his current position as a surface mechanic for two years and 23 weeks. Stevens had 12 years 40 weeks of total mining experience.

Training records reviewed indicated that Stevens' training was up-to-date, and in accordance with 30 CFR § Part 48. He was task trained for blocking against motion on May 5, 2017. He was also task trained on cutting and welding on April 14, 2012, and had site-specific training on the mine operators' Safe Operating Guidelines on May 24, 2017, which also addressed blocking against motion. He received annual refresher training on March 20, 2017.

ROOT CAUSE ANALYSIS

MSHA conducted an analysis to identify the most basic causes of the accident that were correctable through reasonable management controls. A root cause was identified that, if eliminated, would have either prevented the accident or mitigated its consequences.

Listed below is the root cause identified during the investigation and the operator's implemented corrective actions to prevent a reoccurrence of this type of accident.

1. Root Cause: Mine management did not ensure that machinery or materials being worked on were securely blocked against motion prior to work being performed. The water box was cut loose from the trough and was not secured against motion. The metal strip that was left to hold the water box in place on the east end was not sufficient. This support allowed the water box to shift and fall on the victim

   Corrective Action: Mine management developed a plan for the remaining dismantling of the preparation plant trough and trained all employees to ensure safe completion of the project. Management will continue to review plans with miners to ensure blocking against motion of all material and equipment in future projects.

CONCLUSION

On Thursday, August 3, 2017, at approximately 1:30 a.m., Jason Stevens, a 32-year-old surface mechanic with 12 years of mining experience, received fatal injuries while he was dismantling a water box. The water box fell and struck Stevens and pinned him to the floor of the preparation plant.

The accident occurred because the mine operator did not ensure that the water box being dismantled was securely blocked against motion during the dismantling process.

Signed By:

_____ _____

Richard A. Gates Date
District Manager

ENFORCEMENT ACTIONS

1. A 103(j) order, 7290093, was issued verbally to Blue Mountain Energy on August 3, 2017 at 4:20 am. The order was written after MSHA arrived at the mine:

   An accident occurred at this operation between approximately 22 hundred hours on 8/2/2017 and 01:30 hours on 8/3/2017. This order is being issued, under Section 103(j) of the Federal Mine Safety and Health Act of 1977, to prevent the destruction of any evidence which would assist in investigating the cause or causes of the accident. It prohibits all activity at the Preparation Plant until MSHA has determined that it is safe to resume normal mining operations in this area. This order was initially issued orally to the mine operator at 04:20 hundred hours on 08/03/2017 and is now been reduced to writing.

2. The 103(j) order 7290093-01 was modified to a 103(k) order.

   The initial order is modified to reflect that MSHA is now proceeding under the authority of section 103(k) of the Federal Mine Safety and Health Act of 1977. This Section 103(k) order is intended to protect the safety of all persons onsite, including those involved in the investigation of the accident. The mine operator shall obtain prior approval from an Authorized Representative of the Secretary for all actions to restore operations in the affected area. Additionally, the mine operator is reminded of its existing obligations to prevent the destruction of evidence that would aid in investigating the cause or causes of the accident. Part of the modification of the K order is the affected area on Second and Third Floor.

3. A 104(a) citation number 9027387 was issued to Blue Mountain Energy for a violation of 30 CFR § 77.404(c).

   Repairs or maintenance shall not be performed on machinery until the power is off and the machinery is blocked against motion. On August 3 at approximately 1:30 a.m., a fatal accident occurred at the Deserado Mine, ID# 05-03505, in the preparation plant, 3rd floor. A surface mechanic was dismantling the water box on the Peterson Rotary filter assembly. At 1:30 a.m. the surface foreman found the water box had fallen pinning the surface mechanic to the floor. There was no blocking in place to securely hold the water box in place.

APPENDIX A
Persons Participating in the Investigation
(Persons interviewed are indicated by a * next to their name)

Blue Mountain Energy Inc.

*Derrick Atwood…….....Haul Truck-Temporary
*Brandon Chandler…….……...……..Prep-Plant Operator Class-1
Jeff Dubbert……...…….....Director of Technical Services
*Eric Larson…….…….....AMS Operator evening shift August 2, 2017
*Bill Lepro…….....Surface Superintendent
*Julian Mendoza……..……Plant Operator Class-1, opposite shift
*Ryan Miller……...……...Prep-Plant Operator Class-3
*Richard Morgan……..Prep-Plant Operator Class-2/EMT
*Rick Morrill…….....Surface Electrician
*Shad Peters…….……Safety Manager
*Chance Peterson……..Diesel Mechanic
*Stan Peterson……..……..Preparation Plant Foreman
*Harold Putney……...Surface Prep-Plant Foreman opposite shift

Miners' Representatives

Richard Morgan……..……..Miners' Representative
Eric Popham……..…....Miners' Representative
Dusti Rose…….Miners' Representative

Mine Safety and Health Administration

Tain Curtis…….…….....Coal Mine Safety and Health Inspector/Accident Investigator
James Preece…….…….……Assistant District Manager (Enforcement)
Peter Saint……..…….....Electrical Supervisor
Fred Sanchez…….....EFSMS Supervisory Training Specialist
Rufus Taylor…….....Coal Mine Safety and Health Inspector

APPENDIX B – Photos Accident Scene

Photo #1 East end of water box

Photos of Accident Scene Cont'd.

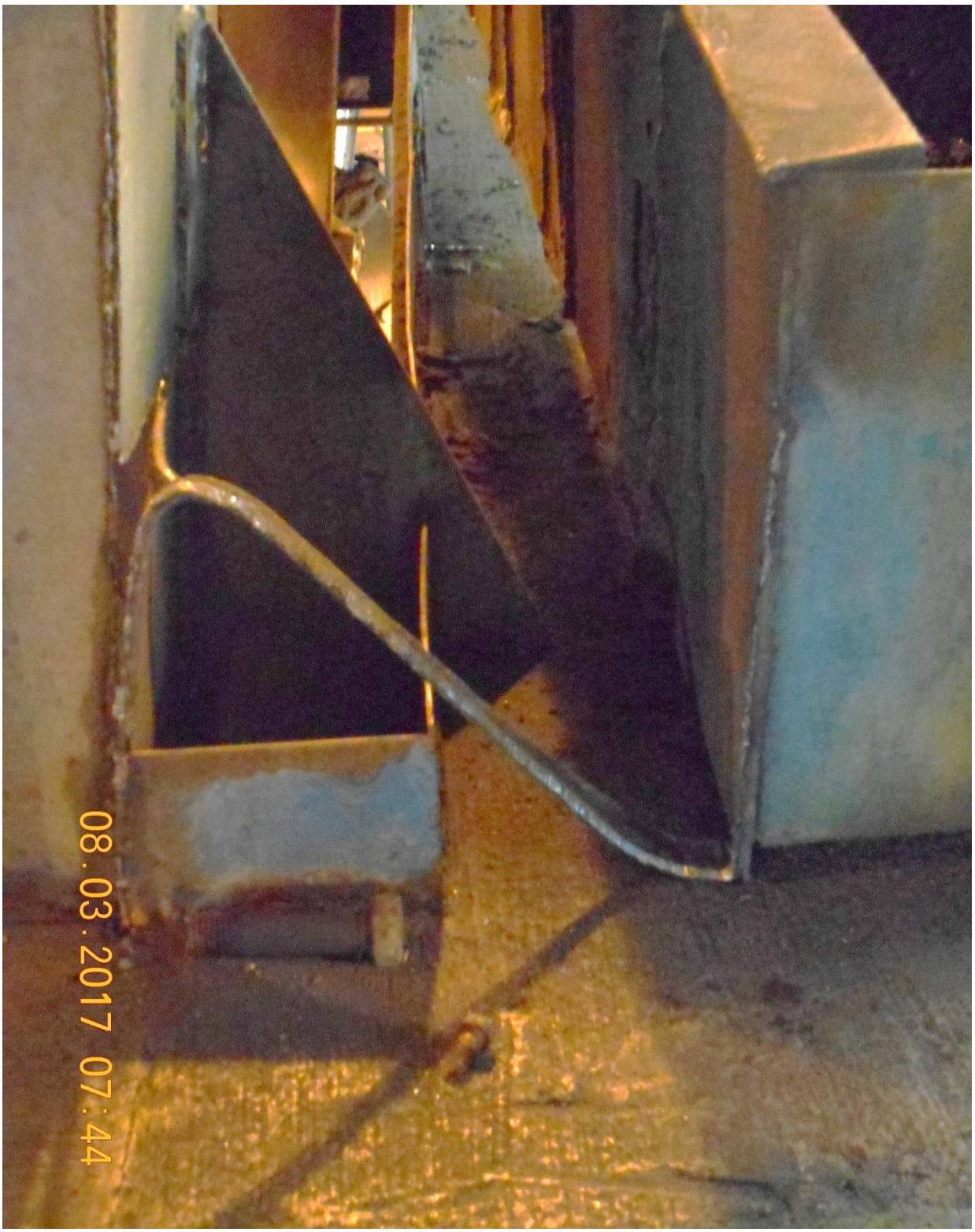

Photo #2, East end: Trough on left and water box on right, after the accident.

Photos of Accident Scene Cont'd.

Photo #1 and Photo # 2 east end

APPENDIX C
Victim Information

Accident Investigation Data - Victim Information

Event Number: 6 4 6 0 0 0 2

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

Victim Information: 1

1. Name of Injured/Ill Employee	2. Sex	3. Victim's Age	4. Degree of injury
Jason D. Stevens	*M*	*32*	*01 Fatal*

5. Date(MM/DD/YY) and Time(24 Hr.) Of Death	6. Date and Time Started:
a. Date: 08/03/2017 b.Time: 1:30	*a. Date: 08/03/2017 b.Time: 1:30*

7. Regular Job Title:	8. Work Activity when Injured:	9. Was this work activity part of regular job?
104 Surface Mechanic	*093 Cutting w/plasma cutter*	Yes | X | No

10. Experience	Years	Weeks	Days		Years	Weeks	Days		Years	Weeks	Days		Years	Weeks	Days
a. This Work Activity:	*2*	*21*	*3*	b. Regular Job Title:	*2*	*21*	*3*	c: This Mine:	*6*	*20*	*5*	d. Total Mining:	*12*	*4*	*0*

11. What Directly Inflicted Injury or Illness?	12. Nature of Injury or Illness:
127 crushed between floor and metal	*170 Crushed between Metal and floor*

13. Training Deficiencies:
Hazard: | | New/Newly-Employed Experienced Miner: | | Annual: | | Task: | |

14. Company of Employment: (If different from production operator)
Operator
Independent Contractor ID: (if applicable)

15. On-site Emergency Medical Treatment:
Not Applicable: | | First-Aid: | | CPR: | | EMT: | | Medical Professional: | | None: | X |

16. Part 50 Document Control Number: (form 7000-1)
17. Union Affiliation of Victim: *2555* *United Mine Workers of Amer.*