MAI-2018-09

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION
Metal and Nonmetal Mine Safety and Health

REPORT OF INVESTIGATION

Surface Nonmetal Mine
(Crushed, Broken Trap Rock)

Fatal Powered Haulage Accident
August 22, 2018

Birdsboro Materials
Haines & Kibblehouse Inc.
Birdsboro, Berks County, Pennsylvania
Mine ID No. 36-08803

Investigators

Rodney L. Rice
Supervisory Mine Safety and Health Inspector

David L. Stimmel
Mine Safety and Health Inspector

Originating Office
Mine Safety and Health Administration
Northeastern District
178 Thorn Hill Road, Suite 100
Warrendale, Pennsylvania 15086
Peter J. Montali. District Manager

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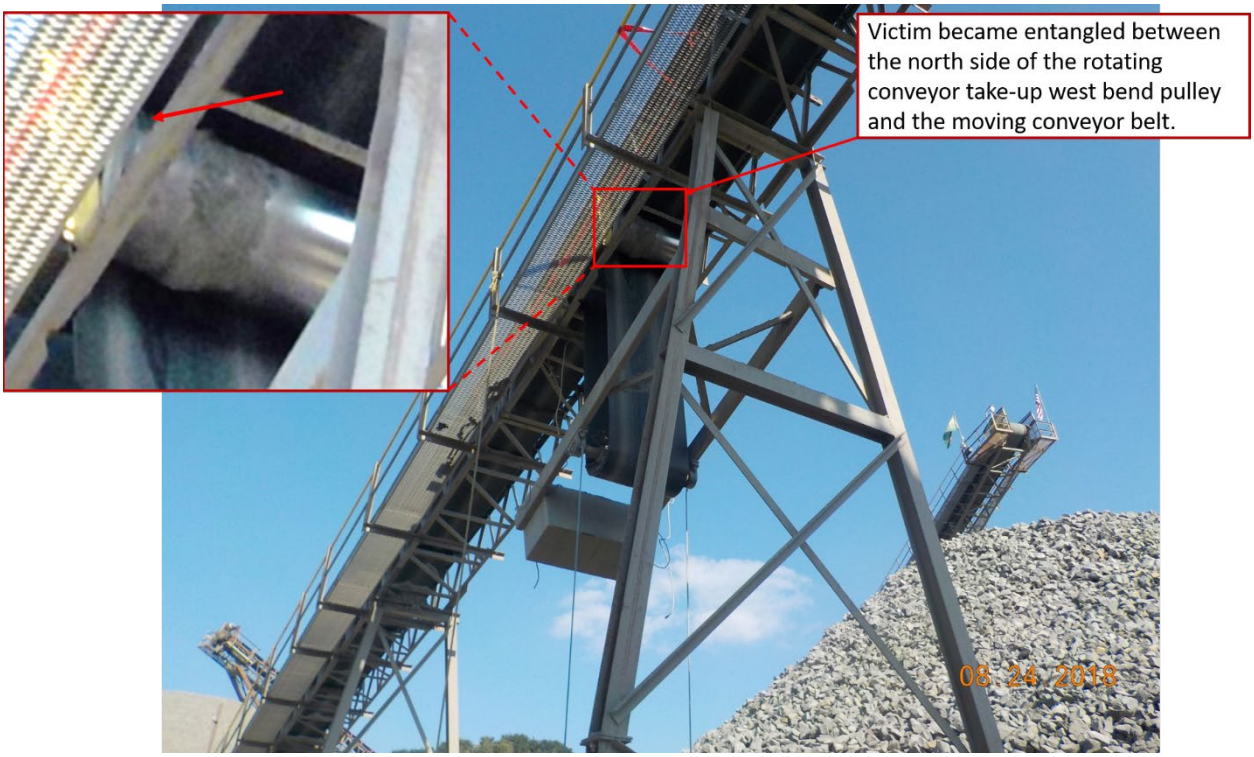

OVERVIEW

On August 22, 2018, Brent D. Cosner, a 29-year old Groundman with 1 year of experience, died while attempting to clean a buildup of material from a rotating conveyor bend pulley. Cosner was standing on an aerial lift and manually scraping the conveyor bend pulley with a 15-inch pry bar, when he became entangled between the bend pulley and the moving conveyor belt.

The accident occurred because the conveyor was not de-energized, locked out or blocked against hazardous motion before the victim attempted to clean the bend pulley. Mine management did not provide appropriate task training to the victim on the hazards associated with the work being performed.

GENERAL INFORMATION

Haines & Kibblehouse Inc. owns and operates Birdsboro Materials, a surface trap rock mine, located in Birdsboro, Berks County, Pennsylvania. John B. Haines IV, President, is the principal official and Jason A. Galli, Superintendent, is in charge of health and safety at the mine. The mine operates seven days a week with two 12-hour shifts per day. The mine's total employment is 30 miners.

Birdsboro Materials drills and blasts trap rock from a multi-bench quarry and uses wheeled loaders to load haul trucks, which feed the processing operation. The material is crushed, screened, and separated into various sizes. The mine sells the finished product to the construction industry.

The Mine Safety and Health Administration (MSHA) completed its last regular inspection of the operation on January 22, 2018.

DESCRIPTION OF ACCIDENT

On August 22, 2018, Brent D. Cosner (victim) began work at 5:45 p.m. He met with Christopher J. Magill, Night Shift Foreman, who verbally provided a list of tasks to be completed at the secondary plant. At approximately 6:00 p.m., Cosner began using a high pressure hose to wash out accumulated material from underneath the Trio crusher. He then shoveled spillage away from the Red No. 2 conveyor and used a high pressure hose to wash out material from underneath the 8-foot by 24-foot screen deck. Prior to taking his lunch break, Cosner stopped for approximately 30 minutes to help Magill remove screens from the portable power screen near the secondary plant.

Matthew D. Bachman, Secondary Plant Operator (Night Shift), observed Cosner with a grease gun walking along the No. 7 1B transfer conveyor catwalk. Magill and Bachman believed Cosner was completing one of his assigned tasks, which included greasing the plant equipment. At approximately 11:30 p.m., Paul D. Pavelick, Front-end Loader Operator (Night Shift), observed someone moving the mobile aerial lift toward the No. 3 tunnel conveyor belt. From his vantage point, Pavelick could not determine who was moving the lift. At approximately 11:45 p.m., Cosner used the aerial lift to access the take-up assembly of the No. 3 tunnel belt conveyor and became entangled between the rotating smooth drum take-up west bend pulley and the moving conveyor belt. There were no eyewitnesses to the accident since the other four miners were performing their assigned duties in different locations of the mine: Magill was working at the primary plant; Bachman was at the 1B stockpile checking the product for oversized stones; Pavelick was operating a front-end loader repairing haul roads on the south side of the mine away from the plant; and Christopher M. Flounders, Wash Plant Operator (Night Shift), was at the wash plant.

Bachman, the closest miner to the No. 3 tunnel belt conveyor (approximately 500 feet away), heard two loud screams and immediately ran toward them. When he arrived at the No. 3 tunnel conveyor, he observed a person caught in the take-up bend pulley with the conveyor belt still in operation. Bachman ran to the electrical room and de-energized the secondary plant. Bachman

called Magill, who immediately ran to the area, and both men ran up the conveyor catwalk to the take-up area. Moments later, Flounders arrived at the scene and ran up the catwalk to provide assistance. Magill yelled to Cosner and reached through the conveyor structure and shook him, but he was unresponsive. At 11:54 p.m., Bachman placed a call to 911. At approximately 11:59 p.m., Jonathan Huber, Emergency Medical Technician from the Southern Berks EMS, arrived at the scene. Huber checked for vital signs but found none. Cosner was transported to Reading Hospital and Medical Center in Reading, Pennsylvania, where he was pronounced dead. The final Autopsy Pathology Report stated the primary cause of the victim's death was asphyxia due to mechanical compression of the thorax with other significant contributing factors of blunt force head trauma and methamphetamine intoxication.

INVESTIGATION OF THE ACCIDENT

Jason A. Galli, Superintendent, called the Department of Labor's National Contact Center (DOLNCC) at 12:41 a.m. on August 23, 2018, and notified MSHA of the accident. DOLNCC notified Victor C. Lescznske, Supervisory Special Investigator, via the Northeastern District's emergency cell phone. MSHA issued an order under provisions of Section 103(k) of the Mine Act to ensure safety of the miners

MSHA's accident investigation team traveled to the mine, conducted a physical inspection of the accident site, interviewed miners, and reviewed conditions and work procedures relevant to the accident. MSHA conducted the investigation with the assistance of mine management and miners.

DISCUSSION

Location of Accident

The accident occurred at the take-up assembly of the No. 3 tunnel belt conveyor located at the secondary plant. The victim was entangled between the rotating west bend pulley and the moving conveyor belt.

Weather

Weather reports on the day of the accident indicated clear skies with an average temperature of 68˚F and a relative humidity of 84 percent. Investigators did not consider weather to be a factor in the accident

Equipment Involved

Aerial Lift: The aerial lift used by the victim was a Model JLG 600S telescopic boom lift manufactured by JLG Industries, Inc. in 2004. With the boom extended, the maximum working height is 66 feet with a continuous 360˚ swing. The personnel basket included a 3-foot by 8-foot solid working platform completely surrounded by a handrail, mid-rail and toe boards. The victim accessed the basket through a slide bar, side entry, inward swinging, self-closing gate. The platform capacity is rated as 500 pounds. At the time of the accident, the aerial lift basket was

positioned approximately 36 feet above the ground. The victim was not wearing fall protection and was found entangled and suspended outside of the perimeter of the working platform handrails.

No. 3 Tunnel Belt Conveyor: The conveyor system was designed, manufactured and installed by Kemper Equipment Inc. at another mining operation owned by the operator in 2004. In 2005, the operator relocated and installed the conveyor system at its present location. The overall structure is 270 feet long with a 36-inch wide belt. The conveyor take-up section consists of two smooth drum bend pulleys (east and west) and a weighted, 16-inch diameter face winged take-up pulley. The victim was found entangled between the rotating west bend pulley and the moving conveyor belt.

The victim used the aerial lift to access the No. 3 tunnel belt conveyor take-up assembly to clean the west side bend pulley with a 15-inch pry bar. The victim did not de-energize, lock out, and block the conveyor against motion prior to performing this task.

During the investigation, mine management stated the proper way to clean a buildup of material from a take-up bend pulley while the conveyor is in operation is to use a high pressure water hose from the conveyor catwalk and spray through the associated guarding. Reportedly, a hose is pulled up to the adjacent catwalk using a rope and tied to the handrail prior to directing the spray toward the conveyor component. Investigators identified a water hose located within 23 feet of the accident location. Mine management could not provide documentation the victim was task trained in this remote cleaning procedure.

TRAINING AND EXPERIENCE

Brent D. Cosner worked at Birdsboro Materials for 1 year, 17 weeks and 5 days. A representative of MSHA's Educational Field and Small Mines Services (EFSMS) staff conducted a review of the mine operator's training plan and records. In April 2017, Cosner completed 17 hours of training as part of his new miner training and completed an additional 1.5 hours later that year. In December 2017, he received 8 hours of annual refresher training. The investigators found no documentation indicating he received task training to be a groundman or laborer and no training in the operation of the secondary plant and conveyor maintenance. All of this task training would have covered critical components of his regular job duties. Cosner did, however, receive task training to operate an aerial lift, a backhoe and a skid steer loader in 2017 and 2018. EFSMS determined Mr. Cosner did not receive all of the required training according to 30 CFR Part 46, including 24-hour new miner training (30 CFR § 46.5) and task training (30 CFR § 46.7(a)).

The accident investigation team reviewed all of the miners' training records and noted discrepancies in the records. Many of the miners were assigned work duties prior to receiving required Part 46 training. MSHA issued noncontributory citations during an E16 Spot Inspection for these violations.

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 corresponding corrective actions implemented to prevent a recurrence.

Root Cause: Management did not establish policies and procedures to ensure proper cleaning of the conveyor components at the mine, including the take-up bend pulleys on the No. 3 tunnel belt conveyor.

Corrective Action: Management installed self-cleaning wing bend pulleys and two belt scrapers to remove build-up on the return side of the belts prior to reaching the bend pulleys. The mine operator established and implemented a written policy outlining the proper procedures for cleaning conveyor components. All miners responsible for cleaning conveyor components were trained in the new policy and procedures.

Root Cause: The No. 3 Tunnel Belt Conveyor was not de-energized, locked out, or blocked against hazardous motion prior to the victim performing a maintenance task (manually cleaning the take-up bend pulley).

Corrective Action: Management had a maintenance checklist for employees' use prior to performing maintenance tasks on plant machinery, which included the requirement to lock out and tag out the various components. After the accident, management instituted a formal Repair Order Lock Out / Tag Out policy and trained all miners in its requirements, which included blocking critical components.

Root Cause: Management did not provide all of the required 30 CFR Part 46 training to the victim who was hired as a new miner.

Corrective Action: To address training deficiencies found and cited during the E16 Spot Inspection, the operator has revised the training plan and provided additional training to employees, as needed.

CONCLUSION

Brent D. Cosner died while attempting to manually clean a buildup of material from a conveyor take-up bend pulley. The accident occurred because the conveyor was not de-energized, locked out or blocked against hazardous motion prior to cleaning the pulley. Mine management did not provide appropriate task training to the victim so he understood the hazards associated with the work being performed.

ENFORCEMENT ACTIONS

Order No. 4724341 – Issued on August 23, 2018, under the provisions of section 103(k) of the Mine Act.

> *A fatal accident occurred at this operation on August 23, 2018 when a miner became entangled in the #3 tunnel belt take up roller. This order is issued to assure the safety of all persons at this operation. It prohibits all activity at the plant until MSHA has determined it is safe to resume normal operations in the area. The mine operator shall obtain prior approval from an authorized representative for all actions to recover and/or restore operations to the affected area. Note: The gravity and negligence sections are not completed nor is a termination due date established. This order was initially issued orally to the mine operator at 1:10 a.m. and has been reduced to writing.*

Citation No. 9411370 – Issued December 4, 2018, under the provisions of Section 104(a) of the Mine Act for a violation of 56.14202:

> *A fatal accident occurred at this operation on August 22, 2018, when a miner (victim) was attempting to manually clean the take-up west bend pulley on the No. 3 tunnel belt conveyor at the secondary plant while the conveyor was energized and in motion. The victim was using a 15-inch long flat pry bar in an attempt to clean an accumulation of material from the bend pulley while the conveyor was operating. During this activity, the victim became entangled between the rotating bend pulley and the moving conveyor belt, and died as a result of his injuries.*

Citation No. 9411371 – Issued December 4, 2018, under the provisions of Section 104(a) of the Mine Act for a violation of 56.14105:

> *A fatal accident occurred at this operation on August 22, 2018, when a miner (victim) was attempting to manually clean the take-up west bend pulley on the No. 3 tunnel belt conveyor at the secondary plant. Prior to the victim's attempt to manually clean the pulley, the No. 3 tunnel belt conveyor was not de-energized nor blocked against hazardous motion. The victim was using a 15-inch long flat pry bar in an attempt to clean an accumulation of material from the bend pulley while the conveyor was operating. During the activity, the victim became entangled between the rotating bend pulley and the moving conveyor belt, and died as a result of his injuries.*

Citation No. 9411372 – Issued December 4, 2018, under the provisions of Section 104(d)(1) of the Mine Act for a violation of 46.7(a):

Mine management did not provide task training to the victim in order to perform his assigned duties safely, including procedures to clean conveyor take-up pulleys. A fatal accident occurred at this operation on August 22, 2018, when the victim was attempting to manually clean the take-up west bend pulley on the No. 3 tunnel belt conveyor at the secondary plant while the conveyor was energized and in motion. Management engaged in aggravated conduct constituting more than ordinary negligence. This violation is an unwarrantable failure to comply with a mandatory standard.

Approved By: /s/ Peter J. Montali Date: 12/11/2018

Peter J. Montali
District Manager

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

Haines & Kibblehouse Inc.

Stephen M. Nelson	Vice President / Risk and Safety Manager
Jason A. Galli*	Superintendent
Joseph J. Knouse*	Safety Director
Timothy J. Fisher*	Day Shift Foreman
Matthew D. Bachman*	Secondary Plant Operator (Night Shift)
Christopher M. Flounders*	Wash Plant Operator (Night Shift)
Rodney L. Kriens*	Secondary Plant Operator (Day Shift)
Christopher J. Magill*	Night Shift Foreman
Paul D. Pavelick*	Front-end Loader Operator (Night Shift)

Fowler Hirtzel McNulty & Spaulding,

LLP Cody L. Kauffman, Esq.*	Counsel for Haines & Kibblehouse Inc.

Conner Strong & Buckelew

Sean G. Walker	Senior Risk Control (Consultant)

Berks County Office of the Coroner

Kurt E. Katzenmoyer*	Deputy Coroner/ Investigator
John M. Hollenbach	Assistant Deputy Chief

Robeson Township Police Department

Mark E. Elliot*	Officer

Southern Berks EMS

Jonathan Huber*	Emergency Medical Technician

Pennsylvania Department of Environmental Protection - District Mining Operations

George A. Kissinger	Surface Mine Inspector

Mine Safety and Health Administration

Dennis A. Yesko	Assistant District Manager
Rodney L. Rice	Supervisory Mine Safety and Health Inspector
David L. Stimmel	Mine Safety and Health Inspector
Michael J. Carey	Mine Safety and Health Inspector
James W. Walker	Mine Safety and Health Inspector
Gregory J Mehalchick	Mine Safety and Health Specialist (Training)

Appendix B
Victim Information

Accident Investigation Data - Victim Information

Event Number: 6 8 1 5 0 4 1

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:
Brent D. Cosner	M	29	01 Fatal

5. Date(MM/DD/YY) and Time(24 Hr.) Of Death:	6. Date and Time Started:
a. Date: 08/23/2018 b.Time: 1:15	a. Date: 08/22/2018 b.Time: 23:45

7. Regular Job Title:	8. Work Activity when Injured:	9. Was this work activity part of regular job?
116 Laborer/Groundman	011 cleaning material from bend pulley	Yes X No

10. Experience	Years	Weeks	Days		Years	Weeks	Days		Years	Weeks	Days		Years	Weeks	Days
a. This Work Activity:	1	17	5	b. Regular Job Title:	1	17	5	c. This Mine:	1	17	5	d. Total Mining:	1	17	5

11. What Directly Inflicted Injury or Illness?	12. Nature of Injury or Illness:
080 cleaning energized bend pulley	110 Asphyxia/blunt force head/meth. Intoxica

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

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) 220182560021 17. Union Affiliation of Victim: 9999 None (No Union Affiliation)

Appendix C
Accident Scene Photos

Figure 1 - View from the Primary Control Shack to the No. 3 Tunnel Conveyor (Accident Location)

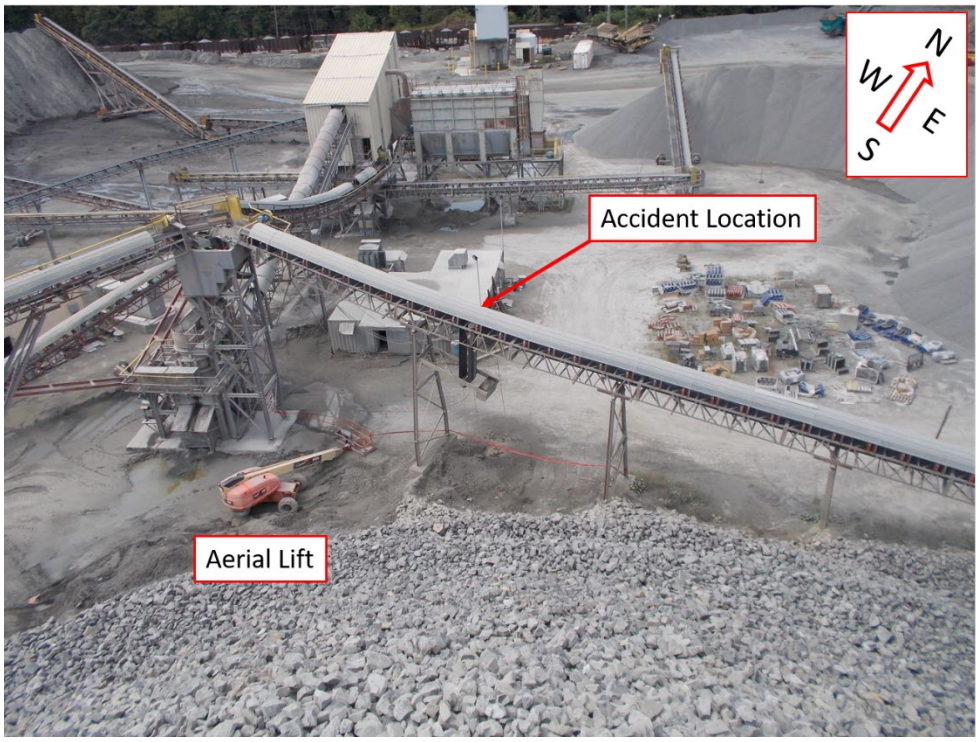

Figure 2 - View of Secondary Plant showing Accident Location and Aerial Lift used by the Victim

Figure 3 - 15-inch Pry Bar found at Accident Scene