FAI-6932874-1

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

REPORT OF INVESTIGATION

Surface
(Crushed and Broken Limestone)

Fatal Machinery Accident
December 14, 2023

Bison No. 1
Bison Materials LLC
Bartlesville, Washington County, Oklahoma
ID No. 34-02093

Accident Investigators

Brody Haddock
Mine Safety and Health Specialist

Thomas Kelly
Mine Safety and Health Inspector

Originating Office
Mine Safety and Health Administration
Dallas District
1100 Commerce Street, Room 462
Dallas, Texas 75242
William O'Dell, District Manager

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OVERVIEW

On December 14, 2023, at approximately 7:00 a.m., Jimmie Hoppock, a 36 year-old maintenance leadman with over 11 years of mining experience, died when he was pinned between the feed chute and a handrail of the screen platform on a wash plant, after disconnecting a brace supporting the feed chute.

The accident occurred because the mine operator did not: 1) block the feed chute against hazardous motion, and 2) have a tag or other effective method of marking the defects on the feed chute hydraulic system.

GENERAL INFORMATION

Bison Materials LLC owns and operates the Bison No. 1 mine, a surface limestone mine located in Bartlesville, Washington County, Oklahoma. The mine employs 15 miners and operates one ten-hour shift per day, five days per week. The mine operator uses a front-end loader to place limestone into the feed hopper that feeds a log washer before feeding into the feed chute. The limestone passes through the feed chute for distribution onto a screen for washing and sizing. The mine operator stockpiles the limestone via stacker conveyor belts. The final product is sold and used in the construction industry.

The principal management officials at the Bison No. 1 mine at the time of the accident were:

Spencer Hopper	Managing Member
Jeremy Rogers	Superintendent
April Hopper	Safety Manager

The Mine Safety and Health Administration (MSHA) completed the last regular safety and health inspection at this mine prior to the accident on August 22, 2023. The 2022 non-fatal days lost incident rate for Bison No. 1 was zero, compared to the national average of 1.16 for mines of this type.

DESCRIPTION OF THE ACCIDENT

On December 14, 2023, at 6:11 a.m., Hoppock started his shift. At approximately 6:40 a.m., Aaron Moore, Drill Operator, saw Hoppock on the ground at the wash plant. Hoppock was near the hydraulic pump motor that operated the feed chute. At 6:53 a.m., Hoppock used his cellphone to call Joel Melendez, Leadman, to send an excavator to the wash plant.

According to information gained in interviews, it was determined Hoppock started the hydraulic pump motor in preparation to use the hydraulic system to lower the feed chute. Hoppock went to the screen platform to remove the pin from the brace that supports the feed chute using a hammer and punch (see Appendix A). Once Hoppock had knocked out the pin from the brace, the feed chute rotated backward pinning Hoppock between the feed chute and the handrail.

According to interviews, Jerry Swain, Mechanic, began his shift at 6:59 a.m. and arrived at the wash plant to continue maintenance work on the plant's hydraulic system at 7:13 a.m. Swain was bringing hydraulic oil for the pump tank. Swain found Hoppock on the screen platform, pinned between the handrail and the feed chute. Swain tried to free Hoppock but was unable to, performed first aid, and then called 911 at 7:15 a.m. During the call to 911, J. Melendez and Rosendo Melendez, Equipment Operator, arrived at the wash plant. Swain informed them of the accident. J. Melendez called Jeremy Rogers, Superintendent, at 7:20 a.m. and informed him of the accident.

At 7:25 a.m., Emergency Medical Services arrived, freed Hoppock, and took over first aid efforts. Michale Cox, Lead Emergency Medical Technician/Paramedic, pronounced Hoppock's death at 7:32 a.m.

INVESTIGATION OF THE ACCIDENT

On December 14, 2023, at 7:52 a.m., April Hopper, Safety Manager, called the Department of Labor National Contact Center (DOLNCC) to report a fatal accident. The DOLNCC contacted Nick Gutierrez, Assistant District Manager, informing him of the accident. Gutierrez contacted Brett Barrick, Assistant District Manager, who assigned Brody Haddock, Mine Safety and Health Specialist, as the lead accident investigator. At 10:34 a.m., Haddock arrived at the mine and issued an order under the provisions of Section 103(k) of the Mine Act to assure the safety of the miners and the preservation of evidence. Barrick sent Thomas Kelly, Mine Safety and Health Inspector, to assist in the accident investigation.

MSHA's accident investigation team examined the accident scene, interviewed miners and mine management, and reviewed conditions and work procedures relevant to the accident. See Appendix B for a list of persons who participated in the investigation.

DISCUSSION

Location of the Accident

The accident occurred on the screen platform of a Cedarapids screen on the wash plant (see Appendix C).

Weather

The weather at the time of the accident was 28 degrees Fahrenheit, clear, and sunny. Investigators determined that the weather did not contribute to the accident.

Equipment Involved

The wash plant consists of a feed chute, screen unit, dewatering screw, and other components on a structure manufactured by Delta Design and Fabrication Inc., model number WP-400. The feed chute weighs approximately 1,200 pounds. The feed chute is supported by stilts and a removable brace. The brace is removed to lower the feed chute when necessary for repairs and maintenance and to prepare the wash plant for transport. The feed chute has one hydraulic cylinder and a Honda GX hydraulic pump to lower and raise it in a controlled manner. The controls for the hydraulic system are mounted on the frame at ground level.

According to interviews, on December 11, 2023, Hoppock began his inspection of the wash plant that included the wash plant's hydraulic system. This was in preparation for repairing damaged mounting flanges on the screen feed apron. Hoppock found worn and cracked areas in the hydraulic hoses that supplied hydraulic oil to the hydraulic cylinder on the feed chute. Hoppock removed the hoses and the hydraulic filter for replacement.

On December 13, 2023, Hoppock began repairs to the hydraulic system. Hoppock had to leave to perform maintenance on a gearbox on the scalp belt at the primary plant. Before leaving, Hoppock directed Swain to take the hydraulic hoses and oil filter to the local auto parts store for replacement. Swain purchased the new hoses and oil filter at the auto parts store. Then, Swain returned to the wash plant and installed the new hoses and oil filter.

Swain then filled the hydraulic pump tank with approximately 25 gallons of hydraulic oil with the assistance of Ubaldo Ortiz, Equipment Operator, and John Evans, Equipment Operator. Hydraulic oil was not visible in the sight glass of the hydraulic pump tank, but investigators determined the amount of hydraulic oil present in the hydraulic pump tank at the time of the accident was sufficient to operate the hydraulic system. The investigation determined that miners did not purge air in the hydraulic system after adding 25 gallons of hydraulic oil which is necessary for the hydraulic system to function properly. The air in the hydraulic system allowed the feed chute to rotate backward and pin Hoppock.

According to interviews, Swain and Evans decided to finish the job the next morning. However, they did not place a tag or other effective method of marking the equipment out of service indicating the hydraulic oil was not full in the hydraulic system, and the hydraulic system had not been purged of air. The mine operator had the means to tag equipment out of service and had instructed miners on tagging equipment out. The mine operator did not purge the air from the hydraulic system. Investigators determined that not using a tag or other effective method on the feed chute's hydraulic system contributed to the accident.

Examinations
The mine operator did not conduct a workplace examination on the day of the accident. Investigators determined the low hydraulic oil level and not purging the air from the hydraulic system would not have been identified while conducting a workplace examination. Investigators determined that the lack of an examination did not contribute to the accident.

Training and Experience
Hoppock had over 11 years of mining experience. Hoppock received eight hours of annual refresher training on March 3, 2023. The training included training on lockout-tagout. Hoppock also received task training on plant operation. Investigators determined that Hoppock received all training in accordance with MSHA Part 46 training regulations.

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 implemented the corresponding corrective actions to prevent a recurrence.

1. Root Cause: The mine operator did not block the feed chute against hazardous motion.

   Corrective Action: The mine operator developed a new procedure addressing blocking machinery against hazardous motion and retrained all miners in the new procedure requiring blocking machinery and tools against hazardous motion during maintenance and repairs.

2. Root Cause: The mine operator did not have a tag or other effective method of marking the defects on the feed chute hydraulic system.

   Corrective Action: The mine operator has trained all personnel on tagging equipment out of service when continued use of machinery will create hazards to persons.

CONCLUSION

On December 14, 2023, at approximately 7:00 a.m., Jimmie Hoppock, a 36 year-old maintenance leadman with over 11 years of mining experience, died when he was pinned between the feed chute and a handrail of the screen platform on a wash plant, after disconnecting a brace supporting the feed chute.

The accident occurred because the mine operator did not: 1) block the feed chute against hazardous motion, and 2) have a tag or other effective method of marking the defects on the feed chute hydraulic system.

Approved By:

_____ _____

William O'Dell Date
District Manager

ENFORCEMENT ACTIONS

1. A 103(k) order was issued to Bison Materials LLC.

   A fatal accident occurred on December 14, 2023, at 7:00 a.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 any person in the mine or to recover the mine or affected area. 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.

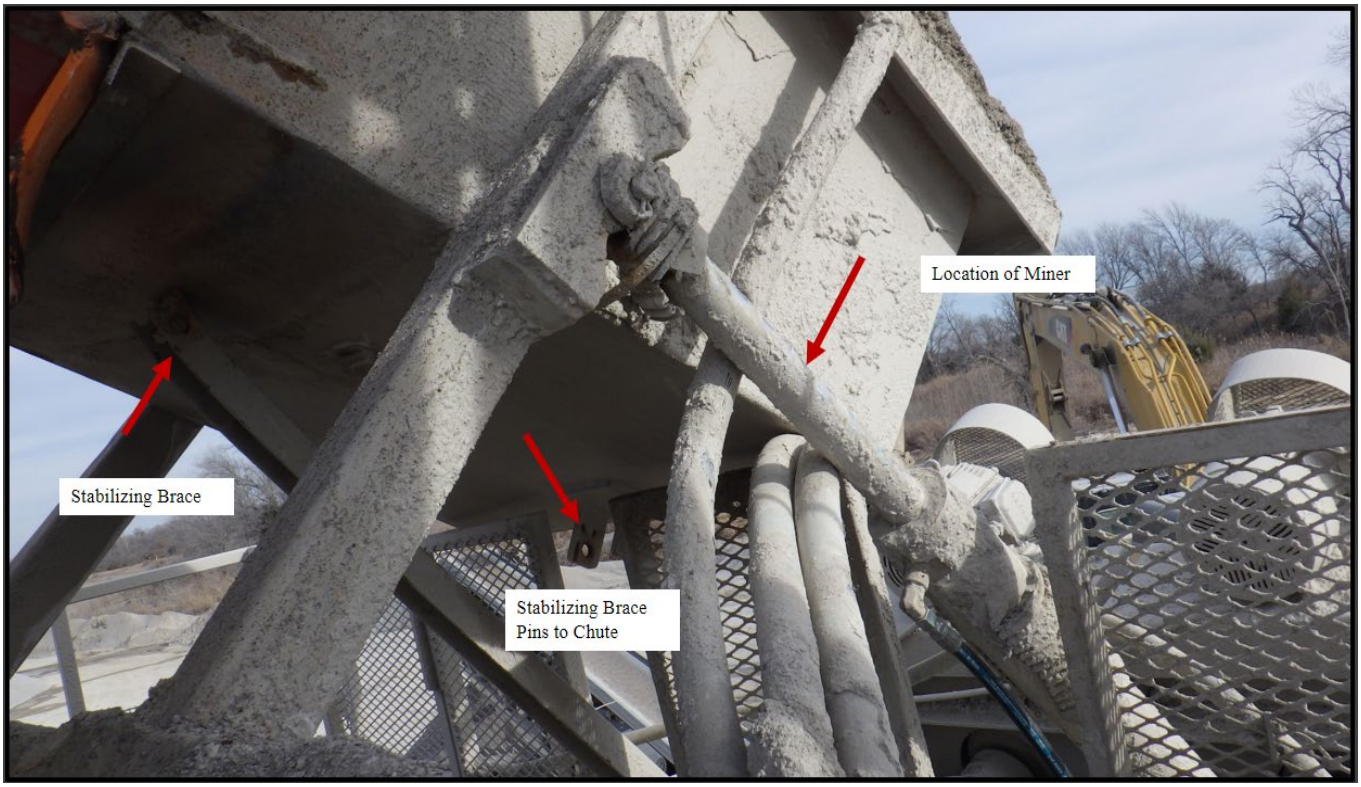
2. A 104(a) citation was issued to Bison Materials LLC for a violation of 30 CFR 56.14105.

   On December 14, 2023, a fatal accident occurred at this mine when a miner performing work on the wash plant feed chute became pinned between the feed chute and a handrail of a screen platform. Prior to removing the pin holding the feed chute's stabilizing brace in place, the mine operator did not block the wash plant feed chute against hazardous motion. The unblocked feed chute rotated backward, pinning the miner between the feed chute and the handrail, resulting in a fatal injury.

3. A 104(a) citation was issued to Bison Materials LLC for a violation of 30 CFR 56.14100(c).

   On December 14, 2023, a fatal accident occurred at this mine when a miner performing work on the wash plant feed chute became pinned between the handrail and the feed chute of the screen. The mine operator started maintenance and repair of the shaker screen feed box and chute hydraulic system before the accident but did not complete them. The mine operator did not ensure to tag out of service the wash plant and the feed chutes hydraulic system. The mine operator did not purge the air from the wash plant's feed chute's hydraulic system on the previous day. This condition exposed the miner to sudden movement of the unsupported feed chute when the miner removed the support brace.

APPENDIX A – Stabilizing Brace and Mounting Point



APPENDIX B – Persons Participating in the Investigation

Bison Materials LLC

Spencer Hopper	Managing Member
Stephanee Hopper	Chief Financial Officer
April Hopper	Safety Manager
Jeremy Rogers	Superintendent
Joel Melendez	Leadman
Jerry Swain	Mechanic
Aaron Moore	Drill Operator
John Evans	Equipment Operator
Rosendo Melendez	Equipment Operator
Ubaldo Ortiz	Equipment Operator

Mine Safety and Health Administration

Brody Haddock	Mine Safety and Health Specialist
Thomas Kelly	Mine Safety and Health Inspector

APPENDIX C – Aerial View of the Accident Location