FAI-6925257-1

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

REPORT OF INVESTIGATION

Surface
(Crushed and Broken Stone)

Fatal Slip or Fall of Person Accident
June 8, 2023

N Attleboro Plant
Boro Sand & Stone Corp
North Attleboro, Bristol County, Massachusetts
ID No. 19-00290

Accident Investigators

Brian Righi
Supervisory Mine Safety and Health Inspector

Brandt Berryann
Mine Safety and Health Inspector

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

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OVERVIEW

On June 8, 2023, at 4:06 p.m., David Ayick, a 60 year-old miner with 28 years of mining experience, died when he fell approximately 16 feet from a belt conveyor while performing maintenance work.

The accident occurred because the mine operator did not: 1) ensure the Eriez Magnet Belt Conveyor was de-energized and blocked against hazardous motion before the miner performed maintenance, and 2) provide safe access to the Eriez Magnet Belt Conveyor.

GENERAL INFORMATION

Boro Sand & Stone Corp owns and operates the N Attleboro Plant. This mine is a surface crushed and broken stone mine located in North Attleboro, Bristol County, Massachusetts. N Attleboro Plant employs three miners and operates one eight-hour shift, five days per week. Haul trucks bring raw material to the mine from offsite locations. The mine operator crushes, processes, and stockpiles the material for sale to the construction industry.

The principal management officials at N Attleboro Plant at the time of the accident were:

Thomas Walsh	President/Owner
Richard Walker	Supervisor

The Mine Safety and Health Administration (MSHA) completed the last regular safety and health inspection at this mine on March 23, 2023. The 2022 non-fatal days lost incident rate for N Attleboro Plant was zero, compared to the national average of 1.34 for mines of type.

DESCRIPTION OF THE ACCIDENT

On June 8, 2023, Ayick began his shift at 7:00 a.m. and performed his regular duty of operating the process plant at the N Attleboro Mine. At 4:06 p.m., Ayick shut down part of the process plant to perform maintenance on the Eriez Magnet Belt Conveyor. Shutting down the plant is not a normal part of his duties. According to surveillance video footage, Ayick walked up the Return Belt Conveyor catwalk, climbed onto the Return Belt Conveyor, and then onto the No. 2 Belt Conveyor. Ayick proceeded down the inclined No. 2 Belt Conveyor and climbed on top of the Eriez Magnet Belt Conveyor, which automatically cycled on and caused Ayick to fall approximately 16 feet to the ground below.

Tomas Sepulveda, Truck Driver, was walking towards the plant when he heard Ayick yell. Sepulveda observed Ayick falling from the Eriez Magnet Belt Conveyor and that the Eriez Magnet Belt Conveyor was running. Sepulveda traveled to Ayick and found him unresponsive. Sepulveda attempted to call Richard Walker, Supervisor, by telephone, but was unsuccessful, and then called 911 at 4:07 p.m. Sepulveda called Walker again to inform him of the accident and request assistance. Sepulveda administered cardiopulmonary resuscitation until North Attleboro Emergency Medical Services arrived and assumed care. A medical helicopter transported Ayick to Rhode Island Hospital. On June 9, 2023, Renee Stonebridge, M.D., pronounced Ayick dead at 7:20 p.m.

INVESTIGATION OF THE ACCIDENT

On June 8, 2023, at 5:12 p.m., John Zahner, Sr., Safety Consultant, called the Department of Labor National Contact Center (DOLNCC) to report a possible fatal accident. The DOLNCC contacted Cody Sheldon, Supervisory Special Investigator, informing him of the accident. Sheldon contacted Kevin Abel, Assistant District Manager, who sent Adrian Scallion, Mine Safety and Health Inspector, to the mine. At approximately 10:00 p.m., Scallion 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 preserve evidence. Abel sent Brian Righi, Supervisory Mine Safety and Health Inspector, to the mine and assigned him as the lead accident investigator. Righi sent Brandt Berryann, Mine Safety and Health Inspector, to the mine to assist in the accident investigation.

On June 9, 2023, Righi and Berryann arrived at the mine site. MSHA's accident investigation team conducted an examination of the accident scene, interviewed miners, mine management, and reviewed conditions and work procedures relevant to the accident. Brandon Boring, General Engineer for MSHA Technical Support, assisted in obtaining the surveillance video footage. See Appendix A for a list of persons who participated in the investigation.

DISCUSSION

Location of the Accident
The accident occurred at the Eriez Magnet Belt Conveyor (see Appendix B).

Weather
The weather at the time of the accident was fair, 63 degrees Fahrenheit, with light fog. Investigators determined that weather did not contribute to the accident.

Equipment Involved
The belt conveyor involved in the accident was an Eriez Magnet Belt Conveyor Model Number SE323 that was installed over 20 years prior to the accident. This conveyor is used to remove ferrous metal from the material feed during processing. The 30-inch-wide belt conveyor was approximately 16 feet above ground level and installed with a 15-degree horizontal slope to match the inclination of the No. 2 Belt Conveyor located directly beneath it. The Eriez Magnet Belt Conveyor was controlled by a timer and cycled on automatically at preset intervals of ten minutes, without warning, to transfer ferrous metals to the collection area below.

The mine operator did not provide a safe means of access for the Eriez Magnet Belt Conveyor for the miners to perform maintenance, repairs, and adjustments. There was no written procedure for performing maintenance and repairs on the Eriez Magnet Belt Conveyor. Mine management stated miners could access the magnet belt using a ladder and fall protection tied off to a cable on an I-beam. However, investigators did not find a cable on the I-beam for miners to tie off to. There was a personnel lift available; however, the personnel lift was not usable to access the Eriez Magnet Belt Conveyor according to management. Investigators determined this contributed to the accident.

The disconnect panel for the Eriez Magnet Belt Conveyor, located in the electrical room, had the mine's lock-out, tag-out procedure posted on it (see Appendices C and D), and a lock and tag was available for use. Investigators determined that Ayick shut down the Return Belt Conveyor and the No. 2 Belt Conveyor but did not shut down the Eriez Magnet Belt Conveyor and did not lock-out and tag-out the disconnect. The mine operator did not ensure the belt conveyor was de-energized and blocked against hazardous motion before Ayick performed maintenance, which contributed to the accident.

Examinations
Richard Walker, Supervisor, performed the workplace examination on the day of the accident. Investigators determined that the examination was adequate and did not contribute to the accident.

Training and Experience
Ayick had 28 years of mining experience, all at the N Attleboro Plant. Ayick received lock-out, tag-out training as part of the annual refresher training. There is no evidence that Ayick received training on how to safely access the Eriez Magnet Belt Conveyor. However, mine management stated that Ayick was not assigned to this task, they were not aware he was going to perform this

task and did not know if or how this task was performed in the past. Investigators determined the lack of training did not contribute 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 implemented the corresponding corrective actions to prevent a recurrence.

1. Root Cause: The mine operator did not ensure the Eriez Magnet Belt Conveyor was de-energized and blocked against hazardous motion before the miner performed maintenance.

   Corrective Action: The mine operator retrained all miners in 1) blocking machinery and tools against hazardous motion during maintenance and repairs, and 2) lock-out tag-out procedures.

2. Root Cause: The mine operator did not provide safe access to the Eriez Magnet Belt Conveyor.

   Corrective Action: The mine operator developed and implemented a new written procedure to provide safe access for performing maintenance, repairs, and adjustments to the Eriez Magnet Belt Conveyor. The mine operator installed new work platforms and provided ladders to access the areas while performing maintenance and repairs. The mine operator trained miners on the use of this safe access.

CONCLUSION

On June 8, 2023, at 4:06 p.m., David Ayick, a 60 year-old miner with 28 years of mining experience, died when he fell approximately 16 feet from a belt conveyor while performing maintenance work.

The accident occurred because the mine operator did not: 1) ensure the Eriez Magnet Belt Conveyor was de-energized and blocked against hazardous motion before the miner performed maintenance, and 2) provide safe access to the Eriez Magnet Belt Conveyor.

Approved By:

_____ _____

Peter Montali Date
District Manager

ENFORCEMENT ACTIONS

1. A 103(k) order was issued to Boro Sand & Stone Corp.

   A fatal accident occurred on June 8, 2023, at 4:06 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 ensure 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 Boro Sand & Stone Corp for a violation of 30 CFR 56.14105.

   On June 8, 2023, a fatal accident occurred at this mine when a miner fell approximately 16 feet from the Eriez Magnet Belt Conveyor. The miner accessed the Eriez Magnet Belt Conveyor to perform maintenance without de-energizing, locking out, and tagging out the conveyor, which was the only effective means to block the conveyor against motion while conducting maintenance. When the miner accessed the top of the Eriez Magnet Belt Conveyor, the conveyor cycled on, throwing the miner off the belt to the ground below. The mine operator did not ensure the Eriez Magnet Belt Conveyor was de-energized and blocked against hazardous motion prior to the miner performing maintenance.

3. A 104(a) citation was issued to Boro Sand & Stone Corp for a violation of 30 CFR 56.11001.

   On June 8, 2023, a fatal accident occurred at this mine when a miner fell approximately 16 feet from the Eriez Magnet Belt Conveyor. The miner accessed the Eriez Magnet Belt Conveyor by climbing over and onto two other belt conveyors to perform maintenance. While the miner was standing on the top of the Eriez Magnet Belt Conveyor, the conveyor cycled on, throwing the miner off the belt to the ground below. The mine operator did not provide safe access to the Eriez Magnet Belt Conveyor.

APPENDIX A – Persons Participating in the Investigation

Boro Sand & Stone Corp

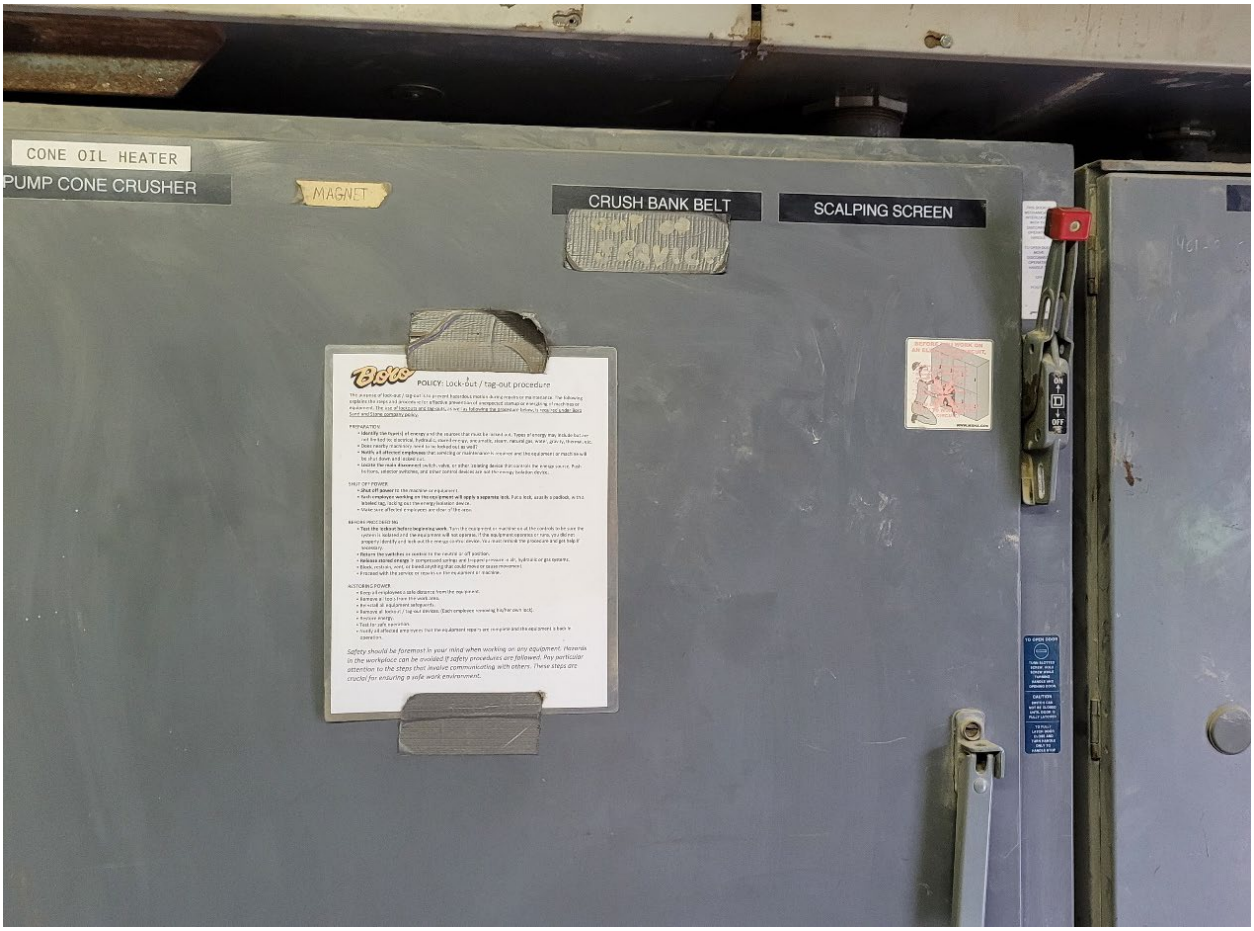
Richard Walker	Supervisor
John Zahner, Sr.	Safety Consultant
Christopher Morog	Attorney
Tomas Sepulveda	Truck Driver

Mine Safety and Health Administration

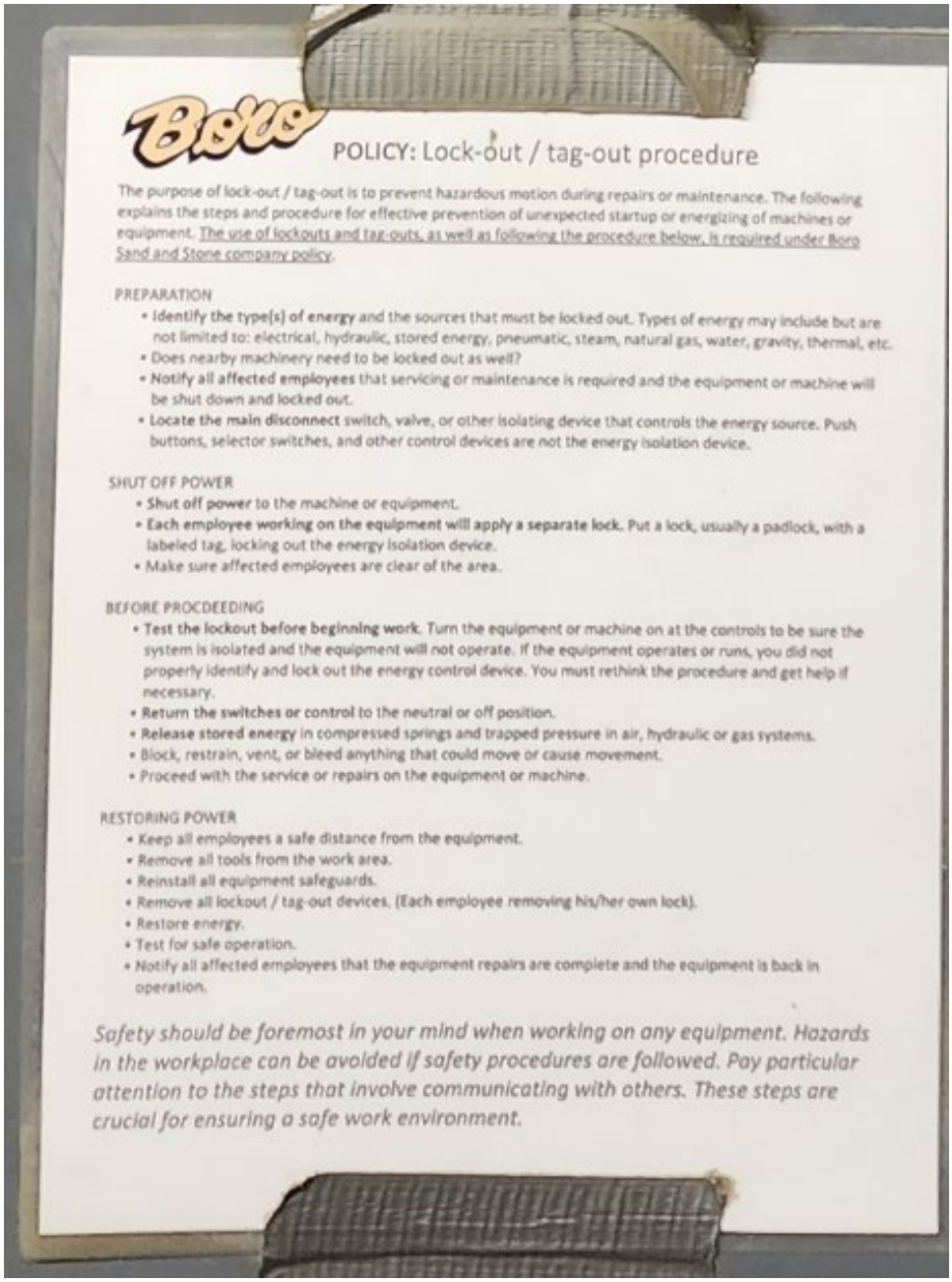
Brian Righi	Supervisory Mine Safety and Health Inspector
Brandt Berryann	Mine Safety and Health Inspector
Brandon Boring	General Engineer, Technical Support

APPENDIX B – Eriez Magnet Belt Conveyor

APPENDIX C – Power Supply for the Eriez Magnet Belt Conveyor



APPENDIX D – N Attleboro Plant Lock-Out/Tag-Out Procedure



Boro

POLICY: Lock-out / tag-out procedure

The purpose of lock-out / tag-out is to prevent hazardous motion during repairs or maintenance. The following explains the steps and procedure for effective prevention of unexpected startup or energizing of machines or equipment. The use of lockouts and tag-outs, as well as following the procedure below, is required under Boro Sand and Stone company policy.

PREPARATION

- **Identify the type(s) of energy** and the sources that must be locked out. Types of energy may include but are not limited to: electrical, hydraulic, stored energy, pneumatic, steam, natural gas, water, gravity, thermal, etc.
- Does nearby machinery need to be locked out as well?
- **Notify all affected employees** that servicing or maintenance is required and the equipment or machine will be shut down and locked out.
- **Locate the main disconnect** switch, valve, or other isolating device that controls the energy source. Push buttons, selector switches, and other control devices are not the energy isolation device.

SHUT OFF POWER

- **Shut off power** to the machine or equipment.
- **Each employee working on the equipment will apply a separate lock.** Put a lock, usually a padlock, with a labeled tag, locking out the energy isolation device.
- Make sure affected employees are clear of the area.

BEFORE PROCDEEDING

- **Test the lockout before beginning work.** Turn the equipment or machine on at the controls to be sure the system is isolated and the equipment will not operate. If the equipment operates or runs, you did not properly identify and lock out the energy control device. You must rethink the procedure and get help if necessary.
- **Return the switches or control** to the neutral or off position.
- **Release stored energy** in compressed springs and trapped pressure in air, hydraulic or gas systems.
- Block, restrain, vent, or bleed anything that could move or cause movement.
- Proceed with the service or repairs on the equipment or machine.

RESTORING POWER

- Keep all employees a safe distance from the equipment.
- Remove all tools from the work area.
- Reinstall all equipment safeguards.
- Remove all lockout / tag-out devices. (Each employee removing his/her own lock).
- Restore energy.
- Test for safe operation.
- Notify all affected employees that the equipment repairs are complete and the equipment is back in operation.

Safety should be foremost in your mind when working on any equipment. Hazards in the workplace can be avoided if safety procedures are followed. Pay particular attention to the steps that involve communicating with others. These steps are crucial for ensuring a safe work environment.