

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

REPORT OF INVESTIGATION

Surface Mine
(Crushed and Broken Sandstone)

Fatal Machinery Accident
October 19, 2020

Mobile
Rubble Inc.
Lyons, Larimer County, Colorado
ID 05-04470

Accident Investigator

Thaddeus J. Sichmeller
Supervisory Mine Safety and Health Inspector

Originating Office
Mine Safety and Health Administration
Western Region
Denver District
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Dustan Crelly, District Manager

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OVERVIEW

On October 19, 2020, at approximately 11:30 a.m., John C. Castle, a 58-year-old Plant Operator with eight weeks of mining experience and who had not received new miner training, died when an excavator bucket struck him. Castle was working on a screen plant when the excavator operator swung the excavator bucket and pinned him against the screen plant's feed hopper.

The accident occurred because mine management did not: 1) have policies or procedures to ensure equipment movement was conducted in a safe manner, which included following the equipment manufacturer's recommendations, 2) provide new miner training for the victim and 3) notify MSHA of commencement of mining.

GENERAL INFORMATION

Rubble Inc. (Rubble) is a joint venture operation located in Lyons, Larimer County, Colorado. Rubble is a joint venture between Carmen Rinaldis, President of Rubble Inc. and Rick E. Virgil, President of Bedrock Flagstone. Bedrock Flagstone mined flagstone in a quarry until 2006. On the day of the accident, Virgil and Castle were going to remove the winged section of the screen plant to prepare it for sale.

Rubble employs two miners and operates intermittently with no fixed schedule. Miners extract sandstone from a stockpile of dimensional stone waste. They crush and screen sandstone for sale to the construction industry.

The principal officers for Rubble Inc. at the time of the accident were:

Carmen A. Rinaldis
Rick E. Virgil

President of Rubble Inc.
President of Bedrock Flagstone

The mine operator did not notify the Mine Safety and Health Administration (MSHA) when mining activities began in April 2020; therefore, MSHA had not inspected this operation prior to the accident. Because Rubble did not report operator hours in 2019, the mine does not have a non-fatal days lost (NFDL) incident rate. The national NFDL incident rate for mines of this type in 2019 was 1.47.

DESCRIPTION OF THE ACCIDENT

On October 19, 2020, at 9:00 a.m., Castle and Virgil arrived at the mine and discussed the daily activities. Virgil directed Castle to make repairs to the winged section of the screen plant's feed hopper. Virgil was going to operate the excavator to level a pad for a portable crusher. After the discussion, both miners began their tasks.

At about 11:30 a.m., Virgil decided to check Castle's progress since he could not see Castle from the operator's cab of the excavator. Virgil swung the excavator bucket over the screen plant just above the feed hopper, striking Castle and crushing him between the excavator bucket and the winged section of the feed hopper. Virgil swung the excavator bucket away from Castle, and Castle fell onto the material feed belt of the screen plant. Virgil parked the excavator bucket, exited the excavator, and ran to Castle. Castle was unresponsive.

Virgil drove his truck to the top of the quarry to find cellular service and called 911. Virgil then drove to the access road and waited for Emergency Medical Services (EMS) to direct them to the site. EMS arrived on the scene at 12:00 p.m. James A Wilkerson, IV, Larimer County Coroner, pronounced Castle dead at the scene from blunt force trauma.

INVESTIGATION OF THE ACCIDENT

On October 19, 2020, at 7:04 p.m., a concerned citizen notified Lee Hughes, Supervisory Mine Safety and Health Inspector, of a possible accident at the mine. Upon investigation, Hughes determined that a fatal accident had occurred and MSHA had not been notified. Hughes issued an order under the provisions of Section 103(k) of the Mine Act to ensure the safety of the miners. Hughes contacted Dustan Crelly, District Manager, and Crelly dispatched Thaddeus J. Sichmeller, Supervisory Mine Safety and Health Inspector, to investigate the accident.

On October 21, 2020, at 8:00 a.m., Sichmeller arrived on the scene to conduct the investigation. MSHA's accident investigation team conducted a physical examination of the accident site, conducted interviews, and reviewed conditions and work procedures relevant to the accident. See Appendix A for a list of persons who participated in the investigation.

DISCUSSION

Location of the accident

The mine is located six miles from Lyons, Colorado. The victim was standing on the east side of the screen plant's feed hopper.

Weather

The weather at the time of the accident was mostly clear, with temperatures in the mid 40-degree range. Investigators determined that weather was likely not a factor in the accident.

Equipment Involved in Accident

An Extec F5 hydraulic screen plant and a John Deere 790 excavator were involved in the accident.

Miners use a John Deere 790 track excavator equipped with a digging bucket to load material into the Extec F5 screen plant. Investigators inspected the excavator and found no defects.

The excavator operator's manual states that the equipment operator must ensure bystanders are clear when operating the excavator.

Training and Experience

John C. Castle had eight weeks of experience at this mine and several years of experience as a heavy equipment operator. MSHA determined that Castle had not received new miner training. New miner training would have included instruction in the health and safety aspects of the tasks assigned, including safe work procedures.

Rick E. Virgil had operated the excavator for 12 years and he also had not received new or experienced miner training to address concerns specific to this mine or the tasks he would perform there.

Examinations

Investigators determined that the mine operator did not perform any workplace examinations.

ROOT CAUSE ANALYSIS

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

1. Root Cause: The mine operator did not have policies or procedures to ensure equipment movement was conducted in a safe manner, including following the equipment manufacturer's recommendations.

Corrective Action: The mine operator created a policy for operating equipment that prohibits operating or swinging booms and buckets over areas where persons are working.

2. Root Cause: Management did not provide notification of commencement of operations to MSHA.

Corrective Action: Management has officially notified MSHA of the commencement of operations and MSHA will continue to inspect the mine in accordance with the Mine Act.

3. Root Cause: Management did not provide new miner training for the victim

Corrective Action: Management developed a new training plan and will provide proper training going forward.

CONCLUSION

On October 19, 2020, at approximately 11:30 a.m., John C. Castle, a 58-year-old Plant Operator with eight weeks of mining experience, died when an excavator bucket struck him. Castle was working on a screen plant when the excavator operator swung the excavator bucket and pinned him against the screen plant's feed hopper.

The accident occurred because mine management did not: 1) have policies or procedures to ensure equipment movement was conducted in a safe manner, which included following the equipment manufacturer's recommendations, 2) provide new miner training for the victim and 3) notify MSHA of commencement of mining.

Approved by:

Dustan Crelly
Denver District Manager

Date

ENFORCEMENT ACTIONS

1. 103(k) Order #9346951 was issued October 20, 2020, at 4:37 p.m.

A fatal accident occurred at the BMC Stone Quarry when the bucket on the 790 Deere excavator struck a miner pinching him between the screen plant's feed hopper and the bucket. A verbal order was issued to Rick Virgil over the phone at 9:15 am on this date to protect the health and safety of other miners and to preserve the accident scene. It is now being put into writing.

2. A 104(d)(1) citation was issued to Rubble Inc. for a violation of 30 CFR § 56.9101.

A fatal accident occurred on October 19, 2020, when the mine operator was operating the excavator and did not maintain control of the bucket of the excavator while it was in motion. The operator attempted to swing the excavator bucket over the victim's work location, striking and crushing the victim between the excavator bucket and the feed hopper of a screen plant. The mine operator engaged in aggravated conduct beyond ordinary negligence by operating the equipment in an unsafe manner.

3. A 104(d)(1) order was issued to Rubble Inc. for a violation of 30 CFR § 56.1000.

The mine operator did not notify the nearest MSHA office of commencement of operations prior to mining. The mine had been in operation since April of 2020. The operator engaged in aggravated conduct beyond ordinary negligence by not notifying MSHA of commencement prior to beginning work.

4. A 104(d)(1) order was issued to Rubble Inc. for a violation of 30 CFR § 46.5.

On October 19, 2020, a miner was fatally injured when accessing the east side of the Grizzly Feed Hopper to conduct maintenance to the east side winged section. A John Deere 790 Excavator was operating just to the north side and when swinging the boom and bucket toward the Grizzly Hopper, struck and crushed the miner between the hopper section and the bucket of the excavator. The miner had not received new miner training as required by the 30 CFR. This is an unwarrantable failure to comply with a mandatory standard.

Appendix A
Persons Participating in the Investigation

Rubble Inc.

Carmen A. Rinaldis

President of Rubble Inc.

Rick E. Virgil

President of Bedrock Flagstone

Mine Safety and Health Administration

Thaddeus J Sichmeller

Supervisory Mine Safety and Health Inspector

Lee Hughes

Supervisory Mine Safety and Health Inspector

Appendix B
Victim's Location at Time of the Accident

Victim was standing in this area when he was struck with the excavator bucket.

