

UNITED STATES  
DEPARTMENT OF LABOR  
MINE SAFETY AND HEALTH ADMINISTRATION

REPORT OF INVESTIGATION

Surface  
(Sand and Gravel)

Fatal Powered Haulage Accident  
April 15, 2024

Riverbend Sand and Gravel  
Martin Marietta Materials Inc  
Brighton, Weld County, CO  
ID No. 05-04841

Accident Investigators

Thaddeus Sichmeller  
Supervisory Mine Safety and Health Specialist

Peter Del Duca  
Assistant District Manager

Originating Office  
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## OVERVIEW

On April 15, 2024, at 11:47 a.m., Tanguy Gore, a 50 year-old field service mechanic with over 26 years of mining experience, died after being pinned and crushed between the head pulley end of the tail section and middle section of a collapsible belt conveyor (conveyor).

The accident occurred because the mine operator did not: 1) secure a raised component to prevent accidental lowering, 2) ensure the miner stayed clear of a suspended load, and 3) task train miners.

## GENERAL INFORMATION

Martin Marietta Materials Inc owns and operates the Riverbend Sand and Gravel mine. This mine is a surface sand and gravel mine located in Brighton, Weld County, Colorado. The mine employs 29 miners and operates two ten-hour shifts, five days per week. The mine uses front-end loaders to extract sand and gravel from the single-bench quarry, and belt conveyors transport the material for crushing and sizing. The mine operator sells the finished product to the construction industry.

The principal management official at Riverbend Sand and Gravel at the time of the accident was:

Russel Brynjulson

Plant Manager

The Mine Safety and Health Administration (MSHA) completed the last regular safety and health inspection at this mine on February 8, 2024. The 2023 non-fatal days lost incident rate was 6.49, compared to the national average of 0.93 for mines of this type.

## DESCRIPTION OF THE ACCIDENT

On April 15, 2024, at 5:30 a.m., Gore; Thomas Cvetic, Heavy Equipment Operator; and Shane Segelke, Leadman, started their day. According to interviews, Chad Shepherd, Foreman, conducted the morning safety meeting and discussed the tasks for the day, including the teardown and relocation of the conveyor in the East Pit. After finishing their first task at 9:30 a.m., Gore and Segelke proceeded over to the East Pit and began getting ready for the conveyor move.

According to interviews, Segelke performed the SLAM'D (Stop, Look, Analyze, Manage, Disruption) Hazard Awareness and Control procedure and completed the SLAM'D form for the conveyor move. At 10:15 a.m., Gore radioed Cvetic to assist with the teardown and to bring a front-end loader and step ladder. Cvetic arrived with the front-end loader. The plan was for Segelke to operate the excavator to pick up the tail section of the conveyor while Gore and Cvetic worked on the ground to remove the blocks that kept the conveyor sections in place.

According to interviews and video surveillance footage, at 10:55 a.m., Segelke reviewed the SLAM'D form with Cvetic and Gore and proceeded to get the excavator. Gore and Cvetic started by removing the transfer box and the return rollers from the middle section. At 11:24 a.m., Segelke returned with the excavator, attached a lifting chain to the tail section of the conveyor, and began operating the excavator. Gore and Cvetic removed the bolts for the blocks that prevented the tail section from collapsing into the middle section, but the blocks remained in place due to the weight of the conveyor. Cvetic attached the lifting chain from the tail section to the bucket of the excavator and then walked back towards Gore. At 11:47 a.m., Segelke raised the excavator bucket upward. Gore positioned himself between the tail section and the middle section of the conveyor and removed the blocks with a hammer from inside the conveyor rails. The tail section rapidly slid down the rails, pinning and crushing Gore between the tail and middle sections of the conveyor.

Cvetic rushed over to Gore and attempted to talk to him but did not get a response. Cvetic called Segelke in the excavator and stated that they needed help because the conveyor had fallen, and Gore was under the fallen section. Segelke called Shepherd via cell phone, who immediately came down to the area. Shepherd attempted to talk to Gore and received no response. Shepherd also tried to get a pulse but felt no pulse. Shepherd then called over the radio to call 911. Patricia Martinez, Office Manager, called 911 at 11:56 a.m. Meanwhile, Segelke remained in the excavator, trying to keep as much pressure as he could off Gore, and Shepherd directed Cvetic to get the front-end loader to help lift the conveyor. Cvetic got into the front-end loader and tried to lift the conveyor but was unable to, so he kept the front-end loader in place to hold as

much weight as he could. Emergency Medical Services arrived at the mine at 12:10 p.m. and Cyndie O'Brian, Investigating Coroner, pronounced Gore deceased at 12:18 p.m.

## INVESTIGATION OF THE ACCIDENT

On April 15, at 12:04 p.m., Aaron Fuller, Rocky Mountain Division Safety Manager, called the Department of Labor National Contact Center (DOLNCC) to report the accident. At 12:14 p.m., the DOLNCC contacted Lee Hughes, Supervisory Special Investigator. Hughes contacted Dennis Bellfi, Supervisory Mine Safety and Health Inspector, who sent Scott Lawson, Mine Safety and Health Inspector, to the mine. Hughes sent Thaddeus Sichmeller, Supervisory Mine Safety and Health Specialist, to the mine and assigned him as the lead accident investigator.

At 1:21 p.m., Lawson arrived at the mine and issued an order under the provisions of Section 103(k) of the Mine Act to ensure the safety of the miners and the preservation of evidence. On April 16, 2024, Sichmeller and Peter Del Duca, Assistant District Manager, continued the investigation by conducting an examination of the accident scene, interviewing miners and mine management, and reviewing conditions and work practices relevant to the accident. See Appendix A for a list of persons who participated in the investigation.

## DISCUSSION

### Location of the Accident

The accident occurred in the East Pit.

### Weather

The weather at the time of the accident was 76 degrees Fahrenheit with clear skies. Investigators determined that the weather did not contribute to the accident.

### Equipment Involved

The collapsible belt conveyor involved in the accident is a Fisher Industries 225-foot Overland Conveyor, Company Number FC-2. When set up, the tail section slides into place along rails in the middle section and is held in place by two blocks that are bolted in place (see Appendices B, C, and D). The blocks have a notch to facilitate removal with a pry bar from outside the conveyor assembly. Investigators determined that there were no defects on the conveyor that contributed to the accident.

### Procedures for Collapsing the Conveyor

Investigators determined that the mine operator did not have a standard procedure for the setup or teardown of the conveyor, and miners performed these tasks differently. Each miner interviewed told investigators a different procedure for collapsing the conveyor. Investigators learned miners sometimes used an excavator to pull the tail section with enough force so that when the blocks holding the tail section in place during regular operation are removed, the tail section will not lower. Investigators determined that this was an unsafe procedure because even if there was enough tension on the tail section, miners removing the blocks were not clear of a suspended load.

On the day of the accident, investigators determined that a different procedure was used. While the tail section of the conveyor was being raised by the excavator, the tail section was not pulled with sufficient force to keep it from lowering. Also, no support, blocking, or equipment was used to prevent the tail section from sliding on the rails and lowering while Gore was positioned between the conveyor sections (see Appendix E). Investigators also determined that the blocks were knocked out with a hammer from inside the conveyor rails instead of being removed with a pry bar or similar tool from a safe location outside the conveyor rails. Additionally, the belt tensioner was still engaged, leaving tension on the belt.

The procedure that Segelke wrote on the SLAM'D form was, "Gather tools and equipment, fold up 225' conveyor, move conveyor out of E-2 and into G-1, set up both 225' conveyors in G-1." The rest of the form, including a question about the task involving pinch/crush and suspended load hazards, was not filled out. Investigators determined that the mine operator did not secure the tail section to prevent accidental lowering and did not ensure Gore stayed clear of the suspended load, which contributed to the accident.

#### Examinations

Segelke completed the workplace examination on the day of the accident. The investigation team reviewed workplace examination records and determined that the examinations were adequate and did not contribute to the accident because the hazard that caused the accident did not exist when the examination was conducted.

#### Training and Experience

Gore had over 26 years of mining experience, including 25 years at Riverbend Sand and Gravel, and over three years in field service maintenance. Gore received New Miner Training and Annual Refresher Training in accordance with MSHA Part 46 training regulations. The mine operator did not provide task training for tearing down the conveyor to any of the miners involved in the task on the day of the accident. According to interviews, Segelke performed the task at least 50 times and Gore performed the task even more frequently. However, the day of the accident was Segelke's first time performing the task as an excavator operator. Segelke did not receive task training after being reassigned to operate the excavator during the task. This was Cvetic's first time performing the task. The proper equipment was not in place to perform the task safely, and the three miners did not recognize the hazards and sources of energy associated with the task. Investigators determined that the lack of task training for the tearing down of the conveyor contributed 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 secure a raised component to prevent accidental lowering.

Corrective Action: The mine operator developed new written procedures for collapsing the conveyor that addresses removing belt tension, blocking the sections against the motion while removing blocks, and safe positioning of miners during the task. The mine operator trained all miners in the procedures.

2. Root Cause: The mine operator did not ensure the miner stayed clear of a suspended load.

Corrective Action: The mine operator developed new written procedures for collapsing the conveyor that addresses removing belt tension, blocking the sections against motion while removing blocks, and safe positioning of miners during the task. The mine operator trained all miners in the procedures.

3. Root Cause: The mine did not task train miners.

Corrective Action: The mine operator developed new written procedures for collapsing the conveyor that addressed removing belt tension, blocking the sections against motion while removing blocks, and safe positioning of miners during the task. The mine operator trained all miners in the procedures.

## CONCLUSION

On April 15, 2024, at 11:47 a.m., Tanguy Gore, a 50 year-old field service mechanic with 26 years of mining experience, died when he was pinned and crushed between the head pulley end of the tail section and middle section of a collapsible belt conveyor (conveyor).

The accident occurred because the mine operator did not: 1) secure a raised component to prevent accidental lowering, 2) ensure the miner stayed clear of a suspended load, and 3) task train miners.

Approved By:

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Nickolas Gutierrez  
District Manager

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Date

## ENFORCEMENT ACTIONS

1. A 103(k) order was issued to Martin Marietta Materials Inc.

A fatal accident occurred on April 15, 2024, at 11:47 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 Martin Marietta Materials Inc for a violation of 30 CFR 56.14211(c).

On April 15, 2024, a fatal accident occurred when the head pulley end of the tail section of a 225-foot collapsible belt conveyor fell, crushing a Field Service Mechanic between the tail section and the middle section. The mine operator did not secure the head pulley end to prevent accidental lowering. When the blocks that held the head pulley end in place were removed by the miner, the head pulley end collapsed. The mine operator did not ensure that procedures to collapse the conveyor included properly securing the head pulley end to prevent hazardous lowering.

3. A 104(a) citation was issued to Martin Marietta Materials Inc for a violation of 30 CFR 56.16009.

On April 15, 2024, a fatal accident occurred when the head pulley end of the tail section of a 225-foot collapsible belt conveyor fell, crushing a field service mechanic between the tail section and the middle section. An excavator and lifting chain suspended the tail end of the tail section of the conveyor while the blocks that held the head pulley end of the tail section in place were removed. The field service mechanic was positioned beneath the head pulley end of the tail section when it collapsed. The mine operator did not ensure the miner was clear of the suspended load.

4. A 104(a) citation was issued to Martin Marietta Materials Inc for a violation of 30 CFR 46.7(a)

On April 15, 2024, a fatal accident occurred when the head pulley end of the tail section of a 225-foot collapsible belt conveyor fell and crushed a field service mechanic. As the tail section was suspended and the blocks holding it in place were removed, the tail section was not secured to prevent accidental lowering and the miner did not stay clear of suspended loads. The tail section fell and collapsed into the middle section, pinning and crushing the miner between the two sections. The mine operator did not provide and ensure that the necessary task training was conducted for all miners prior to the assignment. The investigation revealed deficiencies in procedures, equipment, and hazard recognition that directly contributed to this accident.

APPENDIX A – Persons Participating in the Investigation

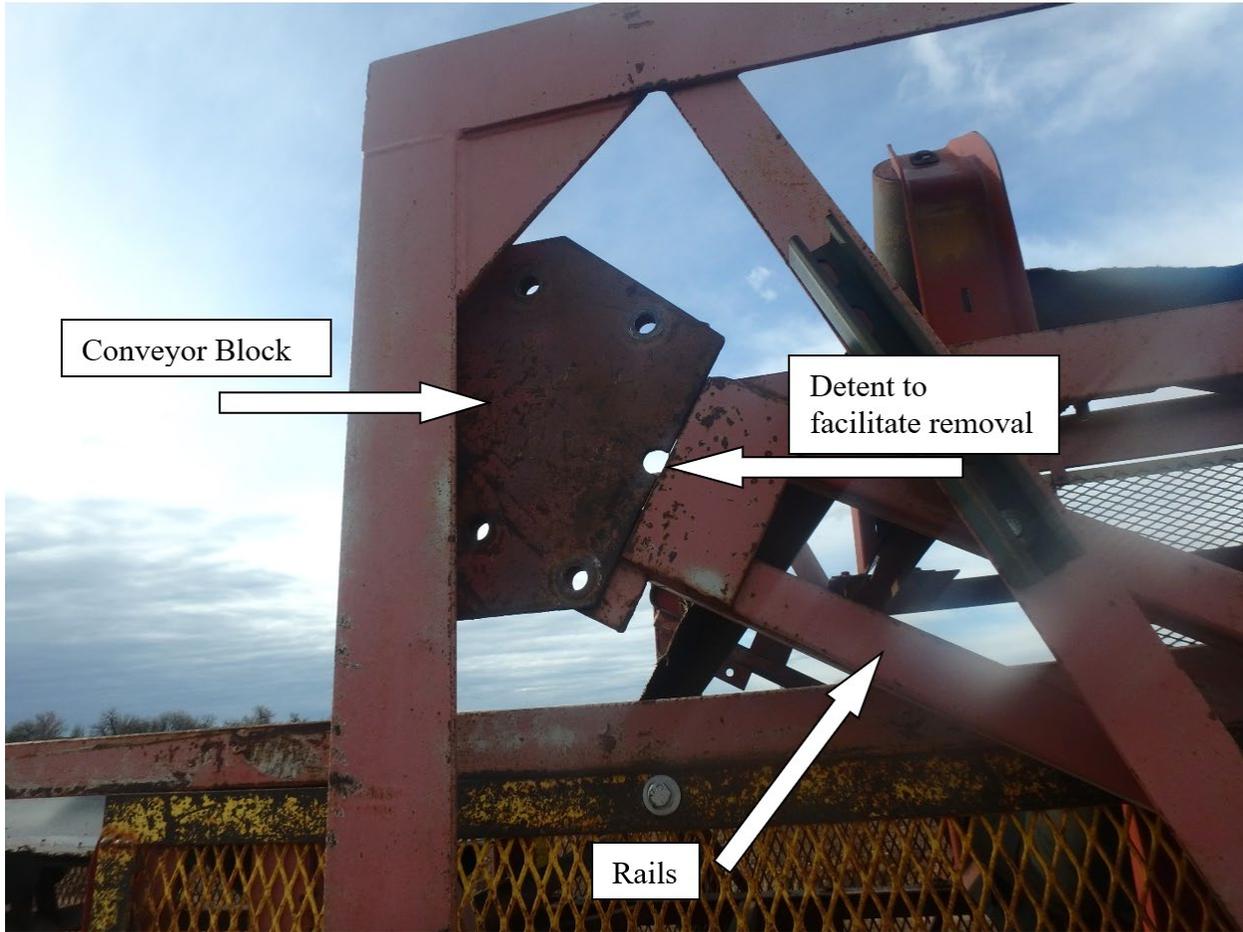
Martin Marietta Materials Inc

Michael Hunt	Vice President of Safety and Health
JR Manrique	Director of Safety West Division
Aaron Fuller	Rocky Mountain Division Safety Manager
Malcom Cox	In House Counsel Martin Marietta Inc
Patricia Martinez	Office Manager
Russel Brynjulson	Plant Manager
Chad Shepherd	Foreman
Shane Segelke	Leadman
Thomas Cvetic	Heavy Equipment Operator

Mine Safety and Health Administration

Peter Del Duca	Assistant District Manager
Lee Hughes	Supervisory Special Investigator
Thaddues Sichmeller	Supervisory Mine Safety and Health Specialist
Scott Lawson	Mine Safety and Health Inspector

APPENDIX B – Conveyor Blocks Installed



APPENDIX C – Rails with Blocks Removed



APPENDIX D – Back View of Conveyor Blocks



APPENDIX E – Location of Victim

