

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

REPORT OF INVESTIGATION

Surface
(Crushed, Broken Stone)

Fatal Powered Haulage Accident
July 30, 2019

Hinesburg Sand & Gravel Company Inc.
Home Pit and Mill
Hinesburg, Chittenden County, Vermont
ID No. 43-00110

Investigator

Matthew H. Mattison
Mine Safety and Health Inspector

Originating Office
Mine Safety and Health Administration
Northeastern District
Thorn Hill Industrial Park
178 Thorn Hill Road, Suite 100
Warrendale, Pennsylvania 15086-7573
Peter J. Montali, District Manager

Table of Contents

OVERVIEW	1
GENERAL INFORMATION	2
DESCRIPTION OF ACCIDENT	2
INVESTIGATION OF ACCIDENT.....	3
DISCUSSION	3
Location of Accident	3
Road Conditions	3
Weather.....	3
Equipment Involved.....	3
Training and Experience.....	3
ROOT CAUSE ANALYSIS	4
CONCLUSION	4
ENFORCEMENT ACTIONS	5
Appendix A	6
Appendix B	7
Appendix C	8



OVERVIEW

Francis E. Tatro, a 69-year-old front-end loader operator with over 37 years of total mining experience, died from aspiration pneumonia on January 8, 2020. Tatro suffered injuries and hospitalization as a result of an accident on July 30, 2019. Tatro was operating a front-end loader when the front-end loader's bucket contacted the ground, causing the front-end loader to abruptly stop. The force of the impact resulted in Tatro, who was not wearing a seat belt, striking the front window, which caused serious injury, including paralysis to the arms and legs.

The accident and the resulting fatality occurred because: the mine operator did not make certain that the front-end loader operator wore the provided seatbelt and maintained control of the equipment while it was in motion.

GENERAL INFORMATION

Hinesburg Sand & Gravel Company Inc. owns and operates the Home Pit and Mill, a sand and gravel operation, in Hinesburg, Chittenden County, Vermont. Home Pit and Mill employs 15 miners and operates one eleven-hour shift, five days a week. Home Pit and Mill excavates bank run material with front-end loaders. Haul trucks are used to transport material to the onsite processing plant where it is crushed, sized, and sold as construction sand and gravel to a variety of commercial users.

The principal officer at this mine at the time of the accident was:

Timothy M. Casey.....President

The Mine Safety and Health Administration (MSHA) completed the last regular safety and health inspection of this mine on June 26, 2019. The 2018 non-fatal day's lost (NFDL) incident rate for Home Pit and Mill was 0.00, compared to the national average of 1.35.

DESCRIPTION OF ACCIDENT

On July 30, 2019, Francis E. Tatro started work at 6:30 a.m., performing his normally assigned task operating the Caterpillar 966K front-end loader to load customer trucks. At approximately 1:45 p.m., Tatro was traveling along Meadow Road towards a customer truck on the other end of the pit. While driving, Tatro was shaking leftover material out of the bucket when the bucket struck the ground, causing the front-end loader to abruptly stop. Tatro was not wearing a seat belt and his momentum threw his body forward into the windshield.

Jamie Fisher, a Customer Truck Driver, witnessed the accident as he was travelling west toward the scale house. As he approached the front-end loader, he observed Tatro slumped over the dash. Fisher proceeded to the nearby maintenance shop to notify personnel of the accident and ask for assistance.

David Orvis, Mechanic, and Percy Jennings, Plant Foreman, were working in the maintenance shop, located approximately 750 feet from the accident scene. They heard a loud bang, which they described as a tire blowing out, shortly before Fisher arrived at the shop and informed them that Tatro just had an accident. Orvis retrieved the trauma bag and traveled with Jennings to the front-end loader. Upon arriving at the accident scene, Orvis climbed into the cab where he found Tatro slumped over the dash, conscious but not alert. Orvis performed a patient assessment, determined Tatro could not move his arms or legs, and immediately asked to have someone call 911. Jennings contacted Michael Bogue, Dispatcher, by radio and instructed him to call 911.

Bogue called 911 at 1:52 p.m., and requested medical assistance. Emergency medical crews arrived on the mine site at 2:06 p.m., and extricated Tatro from the front-end loader cab. At 2:29 p.m., an ambulance transported Tatro to the hospital where he underwent several months of treatment. On January 8, 2020, Tatro succumbed to aspiration pneumonia, which is believed to have been from the injury at the mine.

INVESTIGATION OF ACCIDENT

On July 30, 2019, at 2:56 p.m., Timothy M. Casey called the Department of Labor National Contact Center (DOLNCC) to provide notice of the accident. The DOLNCC notified Dennis A. Yesko, Assistant District Manager, who contacted James R. Logan, Supervisory Mine Safety and Health Inspector. Logan dispatched Matthew H. Mattison, Mine Safety and Health Inspector, who traveled to the mine site.

On July 31, 2019, at 7:06 a.m., Mattison arrived on scene to conduct an investigation of the accident. Mattison conducted a physical examination of the accident scene, interviewed the owner and two mine employees, reviewed training documentation, and examined work procedures relevant to the accident. MSHA conducted the investigation with the assistance of mine management and mine employees. See Appendix A for a list of persons who participated in the investigation.

DISCUSSION

Location of Accident

The accident occurred on the south side of the plant on Meadow Road between the scale house and the east pit (see Appendix B).

Road Conditions

The location where the accident occurred on Meadow Road was wide with no visibility issues. Aside from where the bucket dug into the ground (see Appendix C), the roadway surface was a smooth, well-graded sand and gravel surface, and the slope measured approximately five degrees (see Appendix B). Investigators determined that road conditions were not a factor in the accident.

Weather

The weather at the time of the accident was fair with an average temperature of 90° F. Investigators did not consider the weather to be a factor in the accident.

Equipment Involved

The equipment involved in the accident was a Caterpillar 966K front-end loader, product identification number CAT0966KLTFS00533. The seat belt functioned when tested.

Training and Experience

Tatro had over 37 years of mining experience, all with Hinesburg Sand & Gravel Company. Investigators determined there were no contributory training deficiencies.

ROOT CAUSE ANALYSIS

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

Root Cause: Fatal injuries occurred because the operator of the front-end loader did not wear the required seatbelt supplied in the Caterpillar 966K front-end loader.

Corrective Action: Mine management reinstructed miners on their seat belt policy and the provisions of 30 CFR § 56.14130 (g) - Roll-over protective structures (ROPS) and seat belts, including the use of seat belts while operating mobile equipment.

Root Cause: The accident occurred because the operator inadvertently struck ground with the front-end loader bucket causing the front-end loader to come to an abrupt stop.

Corrective Action: Mine management reinstructed miners on the provisions of 30 CFR § 56.9101 including providing new instruction on not removing extraneous material from front-end loader buckets when the machine is in motion.

CONCLUSION

Francis E. Tatro died from aspiration pneumonia on January 8, 2020. Tatro suffered injuries that required hospitalization as a result of an accident on July 30, 2019. While Tatro was operating a front-end loader, the front-end loader's bucket contacted the ground, causing the front-end loader to abruptly stop. The force of the impact with the ground resulted in Tatro, who was not wearing a seat belt, striking the front window, which caused serious injury, including paralysis to the arms and legs.

The accident and the resulting fatality occurred because: the mine operator did not make certain that the front-end loader operator wore the provided seatbelt and maintain control of the equipment while it was in motion.

Approved By:

Peter J. Montali
District Manager

Date

ENFORCEMENT ACTIONS

- 1) A 104 (a) Citation Number 9460871 was issued to Hinesburg Sand & Gravel on July 31, 2019.

An accident occurred on July 30, 2019 when the front-end loader operator of the Caterpillar 966K front-end loader was not wearing the required seatbelt. The front-end loader came to an abrupt stop with the unrestrained operator striking the windshield. The operator sustained head and neck injuries that required surgery to repair the damage. These injuries are the result of not wearing the provided seatbelt.

- 2) A 104 (a) Citation Number 9460872 was issued to Hinesburg Sand & Gravel on July 31, 2019.

An accident occurred on July 30, 2019 when the operator of the Caterpillar 966K front-end loader did not maintain control. The front-end loader operator was attempting to clear the bucket while traveling the roadway when the bucket inadvertently stuck ground causing the front-end loader to come to an abrupt stop. The operator sustained head and neck injuries that required surgery to repair the damage. These injuries are the result of not maintaining control of the machine.

Appendix A

Persons Participating in the Investigation

Hinesburg Sand & Gravel Company Inc.

Timothy M. Casey.....President
Percy Jennings.....Plant Foreman
David Orvis.....Mechanic

Customer Trucking Company

Jamie Fisher.....R & J Trucking

Mine Safety and Health Administration

Matthew H. Mattison.....Mine Safety and Health Inspector

Appendix B

Location of the front-end loader at the time of accident



Appendix C

Photo of bucket dug into ground



Damage to front window (outside) and hydraulics



Damage to front window (inside)

