MAI-2018-6

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION
Metal and Nonmetal Mine Safety and Health

REPORT OF INVESTIGATION

Open Pit Non Metal Mine
(Sand) Non-Powered Haulage

June 23, 2018Superior Silica Sands San Antonio Plant
Superior Silica Sands, LLC
San Antonio, Texas
Mine ID No. 41-01126

Accident Investigators

Brett Barrick
Mine Safety and Health Specialist

Lance Miller
Mine Safety and Health Inspector

David Tijerina
Mine Safety and Health Inspector

Originating Office

Mine Safety and Health Administration
South Central District
1100 Commerce Street RM 462
Dallas, TX 75242
Michael A. Davis, District Manager

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OVERVIEW

Rodney Fernandez, a 46-year-old electrician, died on June 23, 2018, while trying to stop runaway railcars. The victim climbed on a set of moving railcars to set the manual handbrake. After setting the manual handbrake, according to witnesses, the victim either jumped or slipped from the moving railcars and was struck.

The accident occurred because the mine operator:

- Did not ensure that the manual handbrakes or air brakes were set on the two railcars before uncoupling and moving the train.
- Did not provide new task training to the victim for performing this type of work.

GENERAL INFORMATION

Superior Silica Sands, LLC, owns and operates the Superior Silica Sands San Antonio Plant (San Antonio Plant), an open pit mine facility located in San Antonio, Texas. The facility operates seven days a week on two, twelve-hour shifts. There are 70 miners employed at this mine. Richard J. Shearer, Chief Executive Officer, is the principal operations official.

The mine uses a hydraulic excavator to excavate raw material from an open pit. Trucks haul material to a stockpile at the pre-wash area and then load it into a feed hopper. The material is transported via conveyor to the wet screening plant where the material is separated into three commercial products/stockpiles. The finished material is loaded into over-the-road haul trucks for transport to other sites for use in construction. Additionally, approximately once a month, two railcars are loaded with sand for transport to Mexico.

The Mine Safety and Health Administration (MSHA) completed its last regular inspection of the operation on June 7, 2018.

DESCRIPTION OF ACCIDENT

On June 23, 2018, at 9:05 a.m., Rodney Fernandez, Plant Electrician, approached Chad Thomsen, Plant Manager, on the South Rail Spur where Thomsen was working to remove a railcar with defective brakes from a previous derailment. San Antonio Plant was using the railcars to store sand that would be transferred to an overland beltline using a portable conveyor positioned under the railcar. Fernandez asked Thomsen if he could assist in moving the defective railcar (See Appendix C accident diagram). Thomsen stated that he explained to Fernandez how to uncouple the railcars and how to set the manual handbrake, but did not instruct Fernandez to set the manual handbrakes on the two railcars, and Thomsen did not set the manual handbrakes himself. Thomsen climbed into a Rail King 300 Trackmobile coupled to the number one car and left Fernandez to uncouple the number five rail car, approximately 250 feet away. Thomsen stated Fernandez motioned him by hand to pull the three railcars. Thomsen began to pull the railcars. He looked out the side window and saw the two uncoupled railcars (numbers five and six) rolling down the spur, but could not see Fernandez. Thomsen stopped the train, ran down the track, found Fernandez lying between the tracks and called 911.

Emiliano Gonzales, Plant Operator, saw Fernandez stationed at the uncoupling lever (between the fourth and fifth railcars) from the second level of the plant. Gonzales stated he went into the office and upon coming back out a few minutes later, he observed Fernandez on the front of the sixth railcar attempting to set the manual handbrake. At approximately 9:20 a.m., Gonzales stated he observed Fernandez being struck by the number six car and ejected from under the number five car. Gonzales used his plant radio to advise management in an “all call” that they needed an ambulance. David Taft, Maintenance Leadman, heard the radio call and proceeded to the area where he observed Fernandez lying between the tracks and also called 911. Two additional contract

employees, Dawson Barber, Loader Operator (Stout Excavating), and Jason Kieffer, Project Superintendent (Market and Johnson), were located on the west end of the property at the time of the accident and observed Fernandez riding on the front of the number six railcar, attempting to set the manual handbrake. Both stated that the victim either slipped or attempted to jump off the runaway railcars. Kieffer stated that when he arrived at the accident scene, Fernandez was unresponsive. Kieffer checked for vital signs but could not feel a pulse. Taft and Thomsen began first aid and cardiopulmonary resuscitation (CPR) on the victim as other miners arrived to assist. John Ortega Jr., Chief Investigator for Bexar County Fire Marshall, happened to be on the mine site. He arrived on the scene and continued CPR, but the victim remained unresponsive. Bexar County Emergency Service District arrived at 9:37 a.m. and took control of the scene. Fernandez was air lifted to University Hospital in San Antonio, Texas. The Bexar County Medical Examiner's Office personnel pronounced his death at 10:51 a.m.

INVESTIGATION OF ACCIDENT

Nathan Estep, Environmental Safety and Health Manager, called the Department of Labor National Contact Center (DOLNCC) at 9:30 a.m. on June 23, 2018, and notified MSHA of the accident. Inspectors Lance Miller, David Tijerina and Brett Barrick (Lead Investigator) were dispatched to the mine site to secure the scene. MSHA issued an order under provisions of Section 103(k) of the Mine Act to ensure the safety of the miners and began the investigation.

MSHA's accident investigation team conducted a physical examination of the accident, interviewed 10 mine employees and contractors, and reviewed documents and work procedures relevant to the accident. MSHA conducted the investigation with the assistance of mine management and miners.

DISCUSSION

The accident occurred on the south section of the company owned rail spur. The spur enters the mine from a Union Pacific mainline on the west side of the plant. The overall length of the south section is approximately 1,680 feet. The accident occurred approximately 533 feet from the Union Pacific mainline. The runaway cars traveled approximately 586 feet from the point where they were uncoupled to where they were derailed by a Union Pacific owned derailer. The two loaded cars passed over and destroyed a Hayes EBX #6 derailer that had been placed on the track by the mine operator at approximately 102 feet from the railcar's original point of origin. On March 2, 2018 this mine operator experienced a separate event where a railcar ran away and damaged the mines derailer. The Hayes EBX #6 derailer was installed in approximately the same location by a contractor after that incident.

Investigators estimate Fernandez rode the front of the number six car for approximately 321 feet before slipping or jumping and getting struck by the railcars. The track's overall grade is approximately 3.5 percent and the railcars were traveling at approximately 18 miles per hour when Fernandez slipped or jumped from the railcar.

Weather

The weather at the time of the accident was clear, with calm winds, and a temperature of 88 degrees Fahrenheit. Investigators did not consider weather to be a factor in the accident.

Equipment Involved in the Accident

The number five and six railcars involved in the accident are both manufactured by Trinity Rail and were on lease to the mine. They are identified as TILX 338893 and TILX 338815. The railcars are 41' 10" long, 10' 8" wide and 15' 4" tall with an empty weight of 53,000 pounds. On the date of the accident, each car contained approximately 200,000 pounds of dry sand. The railcars are equipped with both air and mechanical braking systems.

Training and Experience

Rodney Fernandez had been employed at San Antonio Plant for 10 weeks and 3 days and had no previous mining or rail experience. Fernandez was in the process of being task trained on maintenance activities in the plant. This training did not include rail training.

ROOT CAUSE ANALYSIS

A root cause analysis was conducted and the following root causes were identified:

Root Cause: The accident occurred because the operator did not block or set the manual handbrakes to prevent uncontrolled movement of the two railcars.

Corrective Action: The operator will retrain miners on its policy for blocking or setting manual handbrakes on railcars to prevent their movement prior to being uncoupled.

Root Cause: The operator did not ensure the victim received new task training for work that he had no previous experience performing.

Corrective Action: The operator will provide new task training to miners who are assigned to a task in which they have no previous experience.

CONCLUSION

The victim climbed on to a set of moving railcars in order to set the manual handbrake. After setting the manual handbrake, the victim slipped or attempted to jump from the railcar but was struck and died from his injuries. This accident occurred because the victim had not been trained in the task of moving railcars and was not instructed to block or set the manual handbrake. In addition, the operator did not ensure that the railcars were blocked or the manual handbrakes were set prior to movement of the railcars.

ENFORCEMENT ACTIONS

Order No. 9405608 – Issued on June 23, 2018, under the provision of the section 103(k) of the Federal Mine Safety and Health Act of 1977:
A fatal accident occurred at this operation on June 23, 2018, when two miners were attempting to move rail cars on the spur track. One of the miners was fatally injured when he was struck by/run over by a moving rail car. This order is being issued to assure the safety of all persons at this operation. It prohibits all activity on the rail spur line and inside the barricaded area until MSHA has determined that it is safe to resume normal mining operations in the area. The mine operator shall obtain prior approval from an Authorized Representative of the Secretary for all actions to recover and/or restore operations in the affected area.

Order No. 8860297 – Issued on December 5, 2018, under the provision of section 104(d) of the Mine Act for violation of 56.14217:
An accident occurred on this mine site on 6/23/18, at approximately 9:20 am, when a miner was fatally injured while assisting in relocating rail cars. The miner uncoupled the last two rail cars and they began to roll away. The miner ran to the moving cars and attempted to set the manual handbrake. The miner fell from the moving cars and was run over. The two loaded cars at the end of the train were not effectively secured by either of the braking systems. Management engaged in aggravated conduct constituting more than ordinary negligence in that it did not ensure or instruct the miner to set the manual handbrakes or block the two cars from movement prior to uncoupling. This is an unwarrantable failure to comply with a mandatory standard.

Citation No. 8860296 – Issued on December 5, 2018, under the provisions of Section 104(d) of the Mine Act for violation of 46.7(a):
An accident occurred on this mine site on 6/23/18, at approximately 9:20 am, when a miner was fatally injured while assisting in relocating a rail car. The miner uncoupled the last two rail cars and they began to roll away. The miner then ran to the moving cars and attempted to set the manual handbrake. The miner fell from the moving cars and was run over. The miner had not received adequate task training nor did he have any prior experience in this task. The Federal Mine Safety and Health Act of 1977 states that an untrained miner is a hazard to himself and to others. Management engaged in aggravated conduct constituting more than ordinary negligence in that it failed to instruct or ensure that the miner set the manual handbrakes or block the two cars from movement. This is an unwarrantable failure to comply with a mandatory standard.

Approved: _____ Date: _____

Michael A. Davis
South Central District Manager

Appendix A
Persons Participating in the Investigation
(Persons interviewed are indicated by a * next to their name)

Superior Silica Sands, LLC

*Nathan Estep	Environmental Safety and Health Manager
Steven Oates	Director of Safety and Health
*Chad Thomsen	Plant Manager
*Ted Glennon	General Manager
*Emiliano Gonzales	Plant Operator
*Gabriel Romero	Plant Operator
*David Taft	Maintenance Leadman
*Ramiro Garza	Day Shift Supervisor
Nicholas White	Director of Logistics
Paige Decker	Human Resources

On Site Contract Employees

*Dawson Barber	Loader Operator
*Jason Kieffer	Project Superintendent
*Ernesto Rodriguez	Laborer

Outside Sources

Genaro DeLeza	Lone Star Railroad Contractors, Inc.
Josh Newman	Lone Star Railroad Contractors, Inc.
Victor Botello	Lone Star Railroad Contractors, Inc.
Dennis A. Edwards	Edwards Rail Consulting, LLC.
Skeeter J. French	Union Pacific Service Unit

Mine Safety and Health Administration

Brett Barrick	Mine Safety and Health Specialist
Lance Miller	Mine Safety and Health Inspector
David Tijerina	Mine Safety and Health Inspector

Appendix B
Victim Information

Accident Investigation Data - Victim Information

Event Number: 6 8 0 1 8 8 2

U.S. Department of Labor
Mine Safety and Health Administration

Victim Information: 1

1. Name of Injured/Ill Employee:	2. Sex	3. Victim's Age	4. Degree of Injury:
Rodney Fernandez	*M*	*46*	*01 Fatal*

5. Date(MM/DD/YY) and Time(24 Hr.) Of Death:	6. Date and Time Started:
a. Date: 06/23/2018 b.Time: 10:51	*a. Date: 06/23/2018 b.Time: 6:00*

7. Regular Job Title:	8. Work Activity when Injured:	9. Was this work activity part of regular job?
102 Electricain	*085 Spot / Drop rail cars*	Yes | No X

10. Experience	Years	Weeks	Days		Years	Weeks	Days		Years	Weeks	Days		Years	Weeks	Days
a. This Work Activity:	*0*	*0*	*1*	b. Regular Job Title:	*0*	*10*	*3*	c: This Mine:	*0*	*10*	*3*	d. Total Mining:	*0*	*10*	*3*

11. What Directly Inflicted Injury or Illness?	12. Nature of Injury or Illness:
107 Standard Guage Rail	*370 Multiple injuries*

13. Training Deficiencies:
Hazard: | New/Newly-Employed Experienced Miner: | Annual: | Task: X

14. Company of Employment: (If different from production operator)
Operator
Independent Contractor ID: (if applicable)

15. On-site Emergency Medical Treatment:
Not Applicable: | First-Aid: X | CPR: X | EMT: | Medical Professional: | None:

16. Part 50 Document Control Number: (form 7000-1)
17. Union Affiliation of Victim: *9999* *None (No Union Affiliation)*

Appendix C
(Accident Diagram)