

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

REPORT OF INVESTIGATION

Surface
(Sand and Gravel)

Fatal Drowning Accident
February 25, 2023

La Havana Pit
Terra Firma Materials LLC
Havana, Hidalgo County, Texas
ID No. 41-04706

Accident Investigators

James Redwine
Mine Safety and Health Specialist

Homer Pricer
Supervisory Mine Safety and Health Inspector

Originating Office
Mine Safety and Health Administration
Dallas District
1100 Commerce Street RM 462
Dallas, TX 75242
William O'Dell, District Manager

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OVERVIEW

On February 25, 2023, at approximately 7:50 a.m., Eliborio Garcia, a 42 year-old equipment operator with five days of mining experience, died when the excavator he was operating traveled over an approximately two-foot-high berm into a sediment pond.

The accident occurred because the mine operator did not ensure the excavator operator maintained control of the excavator.

GENERAL INFORMATION

Terra Firma Materials LLC owns and operates La Havana Pit. This mine is a surface sand and gravel mine located in Havana, Hidalgo County, Texas. The mine employs 55 miners and operates one 12-hour shift, five days per week. The mine extracts sand and gravel from the pit by excavating the material with a bulldozer and using haul trucks to transport the sand and gravel to the plant. The finished product is sold to the construction industry.

The principal management official at La Havana Pit at the time of the accident was:

Aldo Gonzalez

Plant Supervisor

The Mine Safety and Health Administration (MSHA) completed the last regular safety and health inspection at this mine on October 7, 2022. The 2022 non-fatal days lost incident rate for La Havana Pit was 2.54, compared to the national average of 1.16 for mines of this type.

DESCRIPTION OF THE ACCIDENT

On February 25, 2023, at 5:36 a.m., Garcia started his shift. Garcia met with Gonzalez at Gonzalez's pickup truck and inquired about the day's activity. Gonzalez instructed Garcia to clean out the north end of the sediment pond with the excavator since the plant would not be in operation due to maintenance. On a map, Gonzalez showed Garcia where he wanted Garcia to work. At 6:28 a.m., after attending a safety meeting that included safety talks on ladders and berms, Gonzalez observed Garcia removing material from the sediment pond where Gonzalez instructed him to work (see Appendix A).

At 7:46 a.m., Gonzalez observed Garcia traveling towards the barrier berm to the west side of the sediment pond. At 7:55 a.m., Gonzalez noticed the boom on the excavator was lower than normal, so he drove towards the location of the excavator. He noticed the excavator submerged in the sediment pond. The excavator had traveled over a berm that blocked access to the roadway towards the south end of the sediment pond. At 8:01 a.m., Gonzalez called Michael Salazar, Safety and Human Resource Manager, by cell phone and informed him of the accident. Salazar told Gonzalez to call 911 at 7:58 a.m.

At 8:20 a. m., the Sullivan Fire Department (SFD) arrived at the mine. At 10:27 a.m., the Mission Fire Department (MFD) arrived at the mine. At 2:01 p.m., the MFD located Garcia in the submerged cab of the excavator. Garcia was removed from the excavator cab at 3:17 p.m. Juan Pena Jr, Justice of the Peace, pronounced Garcia dead at 4:29 p.m.

INVESTIGATION OF THE ACCIDENT

On February 25, at 9:15 a.m., Salazar called the Department of Labor National Contact Center (DOLNCC) to report the accident. Nicholas Gutierrez, Assistant District Manager, contacted Salazar and issued a verbal 103(j) order at 9:55 a.m. Gutierrez sent Homer Pricer, Supervisory Mine Safety and Health Inspector, to the mine. At 7:30 p.m., Pricer arrived at the mine and modified the 103(j) order to a 103(k) order under the provisions of Section 103(k) of the Mine Act to ensure the safety of the miners and preservation of evidence. Gutierrez called William Clark, Supervisory Mine Safety and Health Specialist, who sent James Redwine, Mine Safety and Health Specialist, and assigned him as the lead accident investigator.

On February 26, 2023, at 9:45 a.m., Redwine and Pricer arrived at the mine site to continue the investigation. The accident investigation team conducted an examination of the accident scene, interviewed miners and mine management, and reviewed conditions and work practices relevant to the accident. See Appendix B for a list of persons who participated in the investigation.

DISCUSSION

Location of the Accident

The accident occurred near the end of the road that ran alongside the sediment pond, approximately 355 feet from the north end of the sediment pond. Garcia had traveled away from the area Gonzalez assigned him to work. The sediment pond was an old pit that the mine operator converted into a recirculating sediment pond for the wash plant. The sediment pond

was approximately 10 to 12 feet deep where the excavator entered the water. The sediment pond was approximately 20 to 25 feet wide, and the berms at the accident site were approximately two feet high.

Weather

At the time of the accident, the weather was partly sunny, with temperatures in the upper 80s. Investigators determined that the weather did not contribute to the accident.

Equipment Involved

The excavator involved in the accident was a Caterpillar 326FL long reach excavator with a 60-inch ditch cleaning bucket (see Appendix C). The excavator had an operating weight of 58,470 lbs., digging depth of 48 feet, four inches, and a maximum loading height of 46 feet, nine inches. The excavator was on a lease to purchase program. The mine operator had this excavator on site for approximately one year prior to the accident and used it daily to clean out the sediment pond.

When the mine operator recovered the excavator from the sediment pond, the operator's cab was three-quarters full of mud. During the removal of mud from the operator's cab, investigators found the key in the "on" position and the throttle in the "full throttle" position. The investigators found that the excavator's seat belt extended out, which may indicate that Garcia was wearing his seat belt at the time of the accident. Investigators found the seat belt to have visible mud under and over it, preventing it from retracting. Once the debris was removed, the seat belt operated as designed. The front window was pushed inward towards the operator, and the left side window was pushed inside the cab. There were no objects under the travel pedals that would have prevented the pedals from operating normally. The straight travel pedal did not have the locking pin in place indicating that the equipment operator could fully use the travel pedals. The excavator did not have any safety defects that contributed to the accident.

Workplace and Pre-Operational Examinations

The mine operator did not complete a workplace examination where the accident occurred. The mine operator conducted workplace examinations that included areas where work was planned to be performed during the work shift. The examination conducted by the mine operator did not include the area where the accident happened because no work was planned to be performed in that specific area. Investigators found no safety defects noted on the pre-operational inspection record.

Training and Experience

Garcia started working for the mine operator on February 21, 2023, and received new miner training and task training on the excavator involved in the accident in accordance with MSHA Part 46 training regulations. Garcia had no previous experience working in a mine. Garcia's previous experience included operating equipment for the oil industry and construction work that included digging out water and mud traps with an excavator. Investigators determined that all training was completed in accordance with MSHA part 46 training regulations.

ROOT CAUSE ANALYSIS

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

Root Cause: The mine operator did not ensure the excavator operator maintained control of the excavator.

Corrective Action: The mine operator trained all mine employees on best practices for maintaining control and where equipment should be located when working near and cleaning out sediment ponds.

CONCLUSION

On February 25, 2023, at approximately 7:50 a.m., Eliborio Garcia, a 42 year-old equipment operator with five days of mining experience, died when the excavator he was operating traveled over an approximately two-foot-high berm into a sediment pond.

The accident occurred because the mine operator did not ensure the excavator operator maintained control of the excavator.

Approved By:

William O'Dell
District Manager

Date

ENFORCEMENT ACTIONS

1. A 103(k) order was issued to Terra Firma Materials LLC.

An accident occurred on February 25, 2023, at approximately 7:50 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 Terra Firma Materials LLC for a violation of 30 CFR 56.9101.

A fatal accident occurred on February 25, 2023, at Terra Firma Materials LLC, La Havana Pit when a Caterpillar 326FL long reach excavator traveled into the sediment pond. Operators of self-propelled mobile equipment shall keep control of the equipment while in motion. The operator did not maintain control of the excavator by allowing the excavator to travel into the sediment pond while removing sediment from the pond. This condition exposed the operator to fatal injuries.

APPENDIX A – Reference Point of Accident
(Photograph Taken after Accident)



APPENDIX B – Persons Participating in the Investigation

Terra Firma Materials LLC

Nancy Davenport	Owner
Manual Verastegui	Operation Manager
Michael Salazar	Safety and Human Resource Manager
Aldo Gonzalez	Plant Supervisor
Sam Martinez	Fleet Manager
Gustavo Salinas	Senior Utility/Equipment

Hidalgo County Sheriff Department

Enrique Amaya	Investigator Deputy Sheriff
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Mine Safety and Health Administration

Homer Pricer	Supervisory Mine Safety and Health Inspector
James Redwine	Mine Safety and Health Specialist

APPENDIX C – Long Reach Excavator

