

MAI-2016-01

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

REPORT OF INVESTIGATION

**Surface Non Metal Mine
(Sand)**

**Fatal Fall of Material Accident
February 26, 2016**

at

**Vista Sand
Lonestar Prospects Ltd.
Granbury, Texas
Mine ID No. 41-04430**

Investigators

**Homer Allen Pricer Jr.
Mine Safety and Health Supervisor**

**Nathan Welch
Mine Safety and Health Inspector**

Originating Office

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



OVERVIEW

Elvin T. Terrell, delivery truck driver, age 61, was fatally injured on February 26, 2016. Mr. Terrell was in the process of securing the tie down straps on the driver's side of his flatbed trailer when one 50-foot section of pipe rolled off the top and struck him.

The accident occurred because management's policies and controls were inadequate to ensure the unloading of the pipe from the truck was performed in a manner that did not create a hazard to persons.

GENERAL INFORMATION

Vista Sand, a surface open pit sand mine facility, is owned and operated by Lonestar Prospects LTD. (Lonestar), and is located in Granbury, Hood County, Texas. The principal operating official is Michael Fleet, General Manager. The facility employs 140 persons and operates two, twelve-hour shifts, seven days a week.

Sand is removed by Caterpillar 390 D excavators, transported by 60-ton, Caterpillar 740 articulating haul trucks to the primary plant, and dumped into a screen for processing. The mine produces sand used in oil fracking. Finished products are sold to commercial industries.

Lonestar contracted Powell Transportation (Powell), located in Columbia, Mississippi, to deliver several hundred feet of high-density polyethylene (HDPE) pipe from Snyder, Texas to the mine. Powell's principal operating official is Barry Powell, owner. Lonestar planned to use the HDPE pipe to transport a waste stream, consisting of water, fine sand, clay, and silt, from the sand washing/recovery areas of the plant to the tailings area.

The Mine Safety and Health Administration's (MSHA) last regular inspection at Vista Sand was completed on July 13, 2015 and a regular inspection was started on February 22, 2016 but wasn't completed at the time of the accident.

DESCRIPTION OF ACCIDENT

Elvin T. Terrell, a truck driver for Powell, arrived at the mine site at approximately 6:15 pm CST on Thursday, February 25, 2016, to deliver nine sections of HDPE pipe. He was met by Pit Mechanic, Michael Martin, who was ending his shift. Terrell explained to Martin that he arrived earlier than scheduled to make his delivery. Martin contacted Eric Austin, equipment operator, to inform him of Terrell's arrival. Austin informed Martin that the delivery driver would need to leave the mine because there would be no one to unload the trucks until 8:00 am Friday morning. Martin gave Terrell suggestions on where he could park offsite and directions to the nearest locations where he could eat. On the day of the accident, Martin observed Terrell asleep inside his truck at 5:23 am in front of the warehouse. At approximately 7:30 am on Friday, February 26, Lonestar employees Kasey Chadwell and Josh Jenkins spoke to Terrell and discussed where he would need to park his truck to unload the pipe. Jenkins then escorted Terrell to the primary sand plant.

After arriving at the entrance to the primary sand plant, Terry Bolden, Mine Superintendent, spoke to Terrell about his direction of travel on the mine roads and where he would park his truck in the area he was to be unloaded. Once the truck was staged, Bolden went back to the other three delivery drivers and routed them to the south primary road. Bolden remained with the drivers while the first truck was being unloaded.

At approximately 7:50 am, Terrell pulled his Volvo trailer truck into position at the unloading area. The trailer load of pipe consisted of nine pipe sections arranged in three rows of three sections each. Two pipe sections in each row were banded together by the manufacturer. Five, four by four wooden timbers were placed between each row of pipe to provide stabilization. There were chock blocks for 3 out of 5 timbers that were used to prevent the sections of pipe from rolling. The load of pipe was secured to the trailer with sixteen, four-inch wide, nylon ratchet straps. See attachment #1 for example

Jenkins centered the JCB Load-All (forklift) to the trailer and set the forks on the ground. Terrell began loosening the ratchet straps that secured the top row of pipes. Once the straps were loosened and out of the way, Jenkins observed Terrell standing at the front passenger side of the truck. Jenkins, using the forklift, began offloading the pipe. He lifted two banded sections of pipe leaving a 3rd unsecured on top of the other two rows of pipe. He lifted the banded pipe sections until they were clear of the load, put the forklift in reverse until he felt he was a good distance away from the trailer, and lowered the boom closer to the ground.

As Jenkins maneuvered the pipe to the staging area, he saw the 3rd unsecured pipe roll off the truck and hit the ground. Bolden, who was with the other drivers, heard a pipe hit the ground. He immediately looked at Jenkins and saw banded pipe on the lift. He then noticed that the 3rd pipe had fallen to the ground and saw a white hardhat. Bolden ran to the area and saw Terrell lying on his back with the pipe positioned on his chest. Bolden yelled at Jenkins to drop the pipe he was transporting and bring the forklift to lift the pipe off Terrell. Jenkins positioned the forks as close to Terrell as possible, picked the pipe up, placed the machine in reverse, and parked it away from the truck.

Bolden stated that Terrell had a pulse but was unresponsive. He then ran to his truck and called Austin via CB radio, and Austin contacted 911 from his cell phone at 8:37 am to report the accident. Billy Gomez, Safety Representative, and Brian Hecht, Safety Director, arrived at the scene at approximately 8:50 am. At that time, they determined that Terrell did not have a pulse. Gomez and Hecht began performing CPR on Terrell until Hood County EMS arrived to the scene and took over. Efforts to resuscitate Terrell were unsuccessful. Tarrant County Medical Examiner attributed cause of death as blunt force trauma of chest and abdomen due to strike by falling object.

INVESTIGATION OF ACCIDENT

Dana Glover-Smith, Safety Manager, called the Department of Labor's National Contact Center (DOLNCC) to notify MSHA of the accident at 8:44 am on February 26, 2016. The DOLNCC notified William O'Dell, Assistant District Manager for MSHA's South Central District, and an investigation was started the same day. In order to ensure the safety of all persons, MSHA issued a 103 (j) order and later modified it to a section 103(k) of the Mine Act when the first Authorized Representative arrived at the mine.

MSHA's accident investigation team traveled to the mine, conducted a physical inspection of the accident scene, interviewed employees, and reviewed documents and

work procedures relevant to the accident. MSHA conducted the investigation with the assistance of mine management, mine employees and Powell management.

DISCUSSION

Location of the Accident

The accident occurred at the unloading staging area, located on the east side of the primary sand plant. The victim's truck was parked facing north on relatively dry and level ground.

Weather

The weather at the time of the accident was mostly clear with calm winds and a temperature approximately 40 degrees Fahrenheit. Weather was not considered to be a factor in the accident.

High Density Polyethylene Pipe

The pipe was manufactured by WL Plastics. Each section was 1-inch thick with a 26-inch outside diameter. Each pipe section was 50 feet long and weighed 1,732 pounds. The pipe that struck the victim was positioned on the trailer in the top layer, 12 feet above the ground and was not secure. The ratchet straps used to secure the pipe in transit were rated by the manufacturer for 5400 pounds of weight. Two of the ratchet straps closest to the cab of the truck were rolled up on the side of the trailer. The third strap located closest to the victim was not secured and the tool was positioned next to the strap on the flatbed trailer.

Loading and Unloading Procedures

There was a manufacturer's warning label attached to one section of pipe on the passenger side bottom, opposite of where the victim was found, specifying instructions for the proper handling and transportation of the pipe. Investigators also found a detailed manufacturer's procedure safety document in a briefcase in the cab of the truck. Vista Sand had no unloading policies or procedures that designated safe areas for drivers. At the time of the accident, Jenkins was operating the Load-All, transporting the pipe to the pipe staging area, and Terrell was unaccompanied.

Truck and Trailer Information

The Volvo tractor involved in the accident was an over-the-road truck. The Utility Trailer MFG was an over-the-road 53 foot flatbed semi-trailer. The truck and trailer were of the type commonly used on public highways.

Training and Experience

Terrell had 12 years of over-the-road truck driving experience. The day of the accident was Mr. Terrell's first day at this site. Terrell did not receive training in accordance with 30 CFR, Part 46, Site Specific Hazard Awareness training. MSHA issued a non-contributory citation for the lack of training.

ROOT CAUSE ANALYSIS

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

Root Cause: Management's policies and work procedures were inadequate and failed to ensure that a truck load of pipe was unloaded in a manner that did not create a hazard to persons.

Corrective Action: Management established the following mandatory policies and controls:

- A completion of a Load Assessment Risk form.*
- Freight Loading and Unloading Site Specific sign off form.*
- Load Assessment form.*
- Set pedestrian danger zones and safe zones to ensure that pipe can be unloaded from trucks in a manner that does not create a hazard to persons.*

CONCLUSION

The accident occurred due to management's failure to have policies and controls in place to ensure that the truck load of pipe was unloaded in a manner that did not create a hazard to persons.

ENFORCEMENT ACTIONS

Issued to Lonestar Prospects LTD.

Order No. 8961287 was issued on February 26, 2016, under the provisions of Section 103(k) of the Mine Act.

An accident occurred at this operation on 2/26/2016 at approximately 08:35 am. This order is being issued under section 103 (k) of the Federal Mine Safety and Health Act of 1977, to assure the safety of all persons at this operation. This order is also being issued to prevent further destruction of any evidence which would assist in investigating the cause or causes of the accident. It prohibits all activity at the Primary Plant and surrounding areas including the Volvo truck and trailer and off-loading any trucks at the mine until MSHA has determined that it is safe to resume normal mining operations in this area. This order was terminated on March 14, 2016, after conditions that contributed to the accident no longer existed.

Issued to Lonestar Prospects LTD.

Citation No. 6227366 was issued on March 15, 2016, under provisions of Section 104(a) of the Mine Act for a violation of 56.9201:

A fatal accident occurred at this site on February 26, 2016, when a delivery truck driver was struck by a section of unsecured pipe. During the process of unloading, the victim walked into an area that created a hazard to persons from falling or shifting supplies. The top layer of pipe was not secured. A 50-foot section of pipe fell from the top of the load and struck the victim while he was rolling up the cargo straps.

Approved:  Date: 6/27/16
Michael A. Davis
District Manager

Appendix A

Persons Participating in the Investigation

Lonestar Prospects LTD.

Dana Glover Smith	Health and Safety Manager
Brian Hecht	Safety Director
Billy Gomez	Safety Specialist

Dinsmore & Shohl LLP

Jason M. Nutzman	Attorney for Lonestar Prospects LTD.
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Scientific Analysis Inc.

Benton Randle	3D laser scanner for Lonestar Prospects LTD.
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Mine Safety and Health Administration

Homer Allen Pricer Jr.	Supervisory Mine Safety and Health Inspector
Nathan Welch	Mine Safety and Health Inspector

Attachment #1



Attachment #2



Attachment #3



Attachment #



Attachment #5

