

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

REPORT OF INVESTIGATION

Surface Nonmetal Mine  
(Cement)

Fatal Fall of Person Accident  
January 21, 2008

Robertson's Transport  
Contractor I.D. No. T363  
at  
Oro Grande Quarry  
Riverside Cement Company  
Oro Grande, San Bernardino County, California  
Mine I.D. No. 04-00011

Investigators

Bart T. Wrobel  
Supervisory Mine Safety and Health Inspector

Larry Larson  
Mine Safety and Health Inspector

Isabel Williams  
Mine Safety and Health Specialist

Robert S. Setren, PE  
Mechanical Engineer

Originating Office  
Mine Safety and Health Administration  
Western District  
2060 Peabody Road, Suite 610  
Vacaville, California 95687  
Arthur L. Ellis, District Manager



**Victim fell from this area**

## OVERVIEW

Stanley Xavier, contract truck driver, age 58, was fatally injured when he fell from the top of a bulk cement trailer to the ground below. Xavier was on top of the trailer closing and securing the hatches after the trailer was loaded with cement.

The accident occurred because management did not have policies and procedures in place to ensure that contract truck drivers could safely open and close trailer hatches before and after loading. The victim was working without fall protection where there was a danger of falling.

## GENERAL INFORMATION

Oro Grande Quarry, a surface quarry and cement plant owned and operated by Riverside Cement Company (Riverside), was located at 19409 National Trails Highway, Oro Grande, in San Bernardino County, California. The principal operating official was Gordon Johnson, plant manager. The mine normally operated three, 8-hour shifts per day, seven days a week. Total employment was 228 persons.

Limestone was drilled and blasted from multiple benches. The broken rock was transported by haul trucks to a primary crusher. The material was conveyed to the plant where it was mixed with other materials to produce cement. Finished products were sold in bulk and bag for use in the construction industry.

Robertson's Transport, located in Rialto, San Bernardino County, California, was contracted by Riverside to haul bulk cement, sand, and rock. The principal operating official was Daniel Crane, operations manager. Robertson's Transport employed 3 or 4 drivers at the Oro Grande Quarry.

The last regular inspection at this operation was completed on December 5, 2007.

## DESCRIPTION OF THE ACCIDENT

On the day of the accident, Stanley Xavier (victim) reported to work at the Robertson's Transport yard at 11:48 a.m., his regularly scheduled time. Xavier contacted Gilbert Sanchez, dispatcher, who instructed Xavier to perform a pre-trip inspection of his truck and to call Kevin King, another dispatcher, for his first assignment. At 12:00 p.m., King instructed Xavier to go to the Oro Grande Quarry, have the trailer loaded, and call for delivery instructions.

Xavier arrived at the mine at 12:34 p.m., used the south truck access structure (lid rack) to get the top of his truck, opened the hatches of his trailers, and drove to the loading area where the trailer was loaded with bulk cement. At 12:55 p.m., Xavier received a load ticket and left the loading area. He drove to the outbound north lid rack to close the hatches on the trailer. Riverside required all truck drivers to use these lid racks to get to the top of their trailers when opening and closing the trailer hatches.

About 1:30 p.m., Richard Huidor, Robertson's Transport truck driver, arrived and drove by the north lid rack. Huidor saw Xavier on the ground behind the second axle of his truck. Huidor and Gil Andrade, a truck driver from another trucking company, went to Xavier but he was non-responsive. Andrade called for emergency medical personnel. Xavier was pronounced dead at the scene at 1:57 p.m. by the San Bernardino County coroner. The cause of death was attributed to blunt force trauma.

## INVESTIGATION OF THE ACCIDENT

The Mine Safety and Health Administration (MSHA) was notified of the accident at 1:44 p.m., on January 21, 2008, by telephone from Diane Fionda, Riverside's safety coordinator, to MSHA's emergency call center. Michael Franklin, assistant district manager, was notified and an investigation was started the same day. An order was issued under the provisions of 103(k) of the Mine Act to ensure the safety of the miners.

MSHA's accident investigation team traveled to the mine, made 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 and contractor management and their employees, miners' representative, and the California Occupational Safety and Health Administration's Mining and Tunneling Division.

## DISCUSSION

### **Location of the Accident**

The accident occurred in an area located on the northwest section of the mine where contractor and over-the-road trucks entered and exited. Two truck access structures, designated as the north lid rack and the south lid rack, were located in this area. The lid racks were built to provide access to the top of the trailers so truck drivers could open and close the hatches of their bulk cement trailer compartments. The accident occurred at the north lid rack. The road grade in this area was 7 percent.

### **Weather**

The weather on the day of the accident was overcast and 42 degrees with wind gusts up to 24 mph. Weather was not considered to be a factor in the accident.

### **Truck**

The truck involved in the accident was an over-the-road 2000 Mack model CH612 powered by a Mack model 400 engine.

Two dry bulk transport trailers, models 550A and 550, manufactured in October, 1996, by Beal Trailers of Oregon, Inc. were attached to the truck. The front trailer contained 28,000 pounds of cement and the rear trailer contained 29,000 pounds of cement.

Each trailer had one hatch on top that could be opened to fill the trailer. The hatches were 22 inches in diameter and were equipped with hinged covers. When closed, the hatch covers were locked in place by six individual cam-type latches. Investigators found the trailer hatch covers closed on both trailers. All six of the cam-type latches were locked on the rear trailer hatch cover. Five of the latches on the front trailer hatch

cover were closed and one was open. When tested, the five closed latches required approximately 10 to 20 pounds of force to close and latch. The latch that was not closed required approximately 100 pounds of force to close and latch.

The truck and trailers had a total of five axles. Three of the axles were equipped with emergency brakes capable of holding the truck on the 7 percent grade where it was parked.

The truck and both trailers were inspected and no defects were found.

### **Truck Access Structure**

The north lid rack was a fabricated steel structure with a railed stairway consisting of 15 treads leading to a 4-foot wide steel grating walkway approximately 50 feet long. The stairway was on the north side of the access rack. Safety railings constructed of 1¾-inch round steel pipe, and consisting of top- and mid-rails and a 4-inch high toe board lined both sides of the walkway.

Two pivoting gangways were fixed to the rack structure along the east side of the walkway and spaced to align with the hatches on top of each of the tandem bulk cement trailers they typically served. The gangways were 58-inch long, 24-inch wide pivoting steel ramps utilizing counterweights to keep them in a stored position when not in use. The stored position was angled upwards at approximately 45 degrees from the fixed walkway and allowed trailers to be positioned close enough to the structure to gain access to the trailer tops. The opening between the gangway and the trailer involved in the accident was 24 inches.

Two fixed safety rails were spaced 30 inches apart on both sides of each gangway. When a driver stepped on a gangway, it lowered and came to rest on top of the trailer body. When a driver stepped off the gangway onto the trailer, the counterweight caused the gangway to pivot back to its raised, stored position. No locking mechanisms prevented the gangways from rising to the stored position after a driver had accessed the top of the trailer. To leave the top of the trailer the driver reached out and pulled the gangway back down into place using his/her hand or foot, then walked across to the fixed portion of the walkway.

Each lid rack was provided with a rectangular enclosure constructed of two steel pipe handrails spaced 24 inches apart vertically, cantilevered in a fixed position over the trailer parking area, and enclosing an area 110 inches long by 62 inches wide. The bottom rail of the enclosure was 14 feet 9 inches from ground level. This height accommodated trailers ranging in height from 10 feet to 13 feet 6 inches. The enclosure had a 39-inch opening at the access ramp point. The distance between the bottom rail of the rectangular enclosure and the trailer parked beneath it varied from a minimum of

36 inches to a maximum of 53 inches. Due to the curvature of the trailer, the vertical gap increased as horizontal distance increased from the centerline of the trailer. No manufacturer's name or date could be found on the lid racks, but management estimated they were installed in the early 1970s.

### **Fall Protection**

No policies or procedures were established requiring truck drivers to wear fall protection where there was a danger of falling at the truck access structures. No fall protection was provided and the victim was not wearing fall protection at the time of the accident.

### **Training and Experience**

Stanley Xavier had been task trained on truck driving and route process by a Robertson's Transport trainer. As part of that training, he had been instructed to use mine-supplied truck access racks. Riverside used signage to provide site-specific training to Robertson's Transport employees.

## **ROOT CAUSE ANALYSIS**

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

**Causal Factor:** Management did not provide equipment or establish policies and procedures to ensure contract truck drivers could safely open and close the hatches on their bulk trailers.

**Corrective Action:** Management should establish policies and procedures to ensure that truck drivers wear fall protection where there is a danger of falling. Persons should be monitored to ensure that the policies and procedures are followed.

## **CONCLUSION**

The accident occurred because management did not have policies and procedures in place to ensure that contract truck drivers could safely open and close trailer hatches before and after loading. The victim was working without fall protection where there was a danger of falling.

## ENFORCEMENT ACTIONS

### **Riverside Cement Company**

Order No. 6431605 was issued on January 21, 2008, under the provisions of Section 103(k) of the Mine Act:

A fatal accident has occurred on January 21, 2008, at this mine site. A bulk cement driver for Robertson's Transport was found on the ground below the north truck access rack on the east side of the back behind the rear wheels of his truck. He was attempting to secure his hatch on the top of his truck which was approximately 11 feet 10 inches from the ground. This order is being issued to assure the safety of all persons at this operation. It prohibits all activity at the north and south truck access rack and the Robertson's Transport bulk cement truck Co#1105 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 for all actions to recover and/or restore operations to the affected area.

This order was terminated on March 7, 2008. Conditions that contributed to the accident no longer exist and normal operations can resume.

Citation No. 6373637 (S&S - High Negligence) was issued on June 12, 2008, under the provisions of Section 104(a) for a violation of 56.15005:

A fatal accident occurred at this mine on January 21, 2008, when a truck driver fell from the top of a bulk cement trailer. The victim had accessed the top of the cement trailer to close the cover of the hatch opening located at the top of the trailer. There were open areas between the trailer and the lowest handrails which presented fall hazards. Fall protection was not provided to truck drivers who were required to access this area.

This citation was terminated on June 12, 2008. The structure where the fall hazard existed has been dismantled and the fall hazard no longer exists. A new structure has been provided.

### **Robertson's Transport**

Citation No. 6373639 (S&S - Low Negligence) was issued on June 19, 2008, under the provisions of Section 104(a) for a violation of 56.15005:

A fatal accident occurred at this mine on January 21, 2008, when a truck driver fell from the top of a bulk cement trailer. The victim had accessed the top of the cement trailer to



close the cover of the hatch opening located at the top of the trailer. There were open areas between the trailer and the lowest handrails which presented fall hazards. Fall protection was not provided to truck drivers who were required to access this area.

This citation was terminated on June 19, 2008. The structure where the fall hazard existed has been dismantled and the fall hazard no longer exists. A new structure has been provided.

Approved By:

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Arthur L. Ellis  
District Manager

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Date

## APPENDICES

- A. Persons Participating in the Investigation
- B. Victim's Data Sheet

## APPENDIX A

### Persons Participating in the Investigation

#### Riverside Cement Company (TXI Oro Grande)

Diane Fionda	safety coordinator
Larry Ratcliff	safety manager, TXI
Mike Cardin	distribution supervisor
Dave Morris	assistant plant manager
Gordon Johnson	plant manager
Terry Jacobs	maintenance manager
Chuck McCollum	assistant maintenance manager
Jason Jacobs	miners' safety representative

#### Robertson's Transport

Steve Castano	safety director
Roger Hortick	manager

#### CAL/OSHA

James Henze	senior safety engineer, mining and tunneling
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#### Mine Safety and Health Administration

Bart Wrobel	supervisory mine safety and health inspector
Kevin Hirsch	supervisory mine safety and health inspector
Larry Larson	mine safety and health inspector
Isabella Williams	mine safety and health specialist
Robert Setren	mechanical engineer, P.E.

## APENDIX B

### Accident Investigation Data - Victim Information

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



Event Number: 1 1 4 2 2 0 5

Victim Information: 1														
1. Name of Injured/Ill Employee: <i>Stanley Xavier</i>				2. Sex <i>M</i>		3. Victim's Age <i>58</i>		4. Degree of Injury: <i>01 Fatal</i>						
5. Date(MM/DD/YY) and Time(24 Hr.) Of Death: a. Date: <i>01/21/2008</i> b. Time: <i>13:57</i>								6. Date and Time Started: a. Date: <i>01/21/2008</i> b. Time: <i>13:15</i>						
7. Regular Job Title: <i>199 Over The Road Truck Driver</i>				8. Work Activity when Injured: <i>098 Closing and latching lid on bulk trailer</i>				9. Was this work activity part of regular job? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>						
10. Experience														
a. This			b. Regular			c. This			d. Total					
Years	Weeks	Days	Years	Weeks	Days	Years	Weeks	Days	Years	Weeks	Days	Years	Weeks	Days
Work Activity: <i>3</i>	<i>28</i>	<i>2</i>	Job Title: <i>3</i>	<i>28</i>	<i>2</i>	Mine: <i>1</i>	<i>43</i>	<i>6</i>	Mining: <i>1</i>	<i>43</i>	<i>6</i>			
11. What Directly Inflicted Injury or Illness? <i>002 Fall of 11 ft 8 in</i>								12. Nature of injury or illness: <i>220 blunt force trauma to the head</i>						
13. Training Deficiencies														
Hazard: <input checked="" type="checkbox"/>		New/Newly-Employed Experienced Miner: <input type="checkbox"/>				Annual: <input type="checkbox"/>		Task: <input checked="" type="checkbox"/>						
14. Company of Employment: (If different from production operator) <i>Robertson's Transport</i>										Independent Contractor ID: (if applicable) <i>7363</i>				
15. On-site Emergency Medical Treatment														
Not Applicable: <input type="checkbox"/>		First-Aid: <input checked="" type="checkbox"/>		CPR: <input type="checkbox"/>		EMT: <input type="checkbox"/>		Medical Professional: <input checked="" type="checkbox"/>		None: <input type="checkbox"/>				
16. Part 50 Document Control Number: (form 7000-1)								17. Union Affiliation of Victim: <i>9999</i> <i>None (No Union Affiliation)</i>						