MAI-2015-07

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

REPORT OF INVESTIGATION

Surface Metal Mine
(Gold Ore Mining NEC)

Fatal Powered Haulage Accident
May 28, 2015

Hycroft Mine
Hycroft Resources & Development Inc.
Winnemucca, Humboldt County, Nevada
Mine ID No. 26-01962

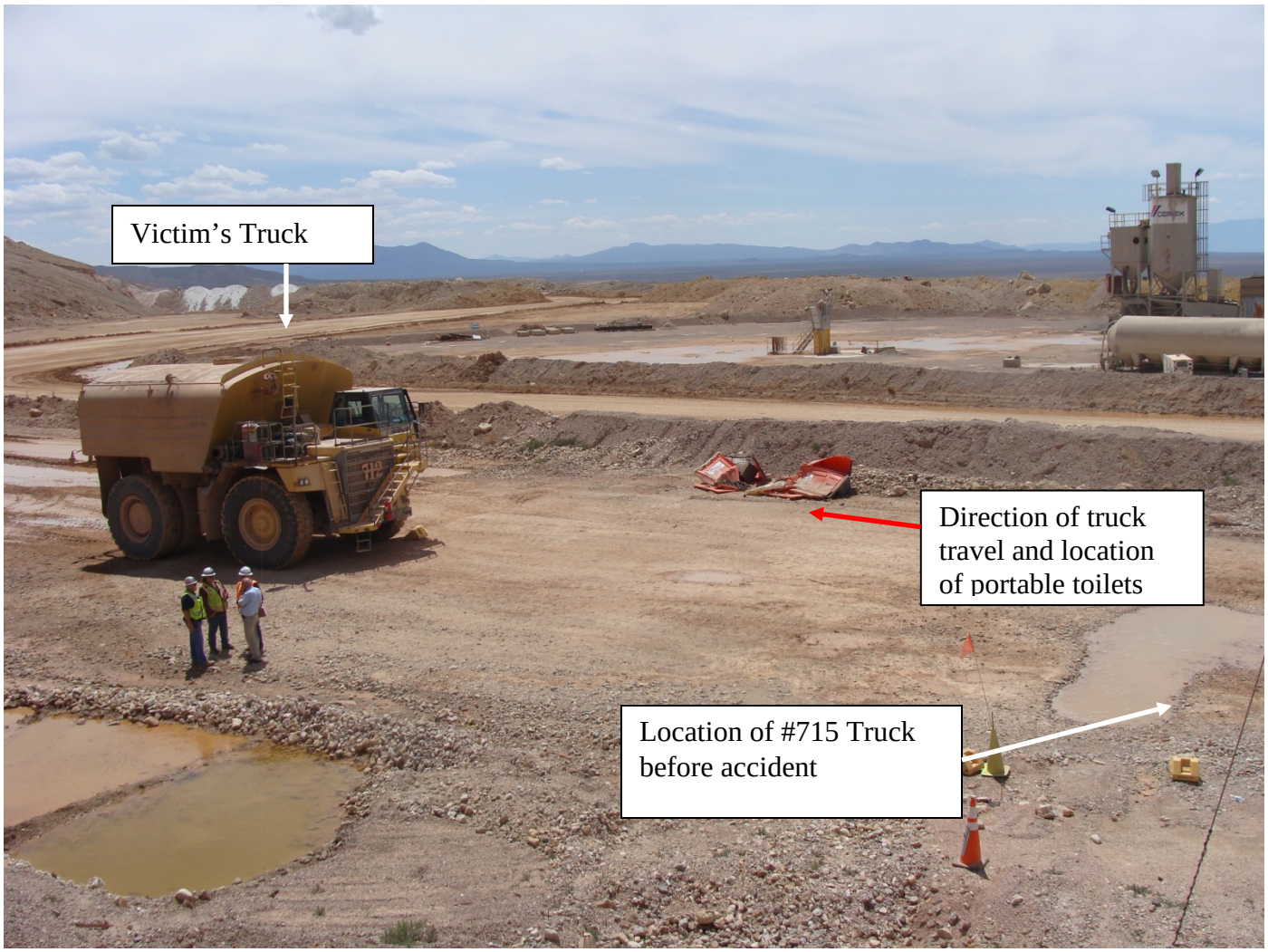
Investigators

Ronald J. Jacobsen
Supervisory Mine Inspector

William Whitby
Mine Safety and Health Inspector

Joseph N. Rhoades
Acting Supervisor, Educational Field and Small Mine Services

Originating Office
Mine Safety and Health Administration
Western District
991 Nut Tree Road, 2nd Floor
Vacaville, California 95687
Wyatt S. Andrews, District Manager



OVERVIEW

David D. Martinez, truck driver, age 61, was fatally injured on May 28, 2015, when a Komatsu 730E water truck struck a portable toilet that he was using. Martinez went to assist the driver of another water truck already parked at the lower water pipe stand area. When Martinez arrived in his water truck, he parked facing the other water truck. As the other water truck departed the area, the driver turned his truck to avoid hitting Martinez's truck and did not notice that he had struck the portable toilets, where Martinez was located.

The accident occurred due to management's inadequate policies and procedures to ensure the truck driver maintained control of his truck and to place the portable toilet facility in a location where it was compatible with the mining operation and would not be struck by mobile equipment.

GENERAL INFORMATION

Hycroft Mine is a surface gold ore operation, owned and operated by Hycroft Resources & Development Inc., located in Winnemucca, Humboldt County, Nevada. The principal operating official at the time of the accident was Jeff Snyder, General Manager. The mine operates two shifts per day, seven days per week. Total employment at the mine is 407 persons.

Ore is mined from a multi-bench open pit by CAT 7495 electric rope shovels and loaded into 320-ton Komatsu haul trucks. The material is hauled from numerous locations in the pit to heap leach pads. Higher grade ore is hauled to the crusher and crushed using a large three-stage crushing system. The metals were further processed in the refinery to create gold and silver doré bars and sold to commercial industries.

The last regular inspection at this operation was completed on April 29, 2015.

DESCRIPTION OF THE ACCIDENT

On the day of the accident, David D. Martinez (victim) reported for work at 5:00 a.m., his normal starting time. Mr. Martinez went to a safety meeting conducted by Sydney (Sid) Hawkins, Shifter. Hawkins then assigned Martinez to operate water truck #712 throughout the South Side of the mine.

Mark Armstrong, a truck driver, was assigned to drive haul truck #242 hauling ore from Shovel #4 to the North Leach Pad. Armstrong's truck broke down at approximately 8:00 a.m. and he was assigned to water the main haulage roads in water truck #715. Armstrong filled up the truck at the lower water stand pipe and watered the road to the #6 dump. While watering the road, Armstrong hit a bump and the monitor on the control panel inside the truck went off warning him that the water cannon was in operation. The water cannon began to malfunction, so Armstrong called Martinez on the radio to ask his opinion since Martinez was more familiar with the truck. Martinez asked Armstrong to meet him at the lower water stand.

At approximately 9:00 a.m., Armstrong pulled into the lower water stand. He parked in the parking ditch about 20 feet off to the side of the normal fill spot of the stand pipe. Martinez came in moments later, traveling from the opposite entry and parked in the other parking ditch facing Armstrong's truck approximately 73 feet in front of truck #715. Martinez made eye contact with Armstrong and Armstrong signaled him up to where the water cannon was located on Armstrong's truck. The two men attempted to repair the faulty water cannon but were unsuccessful. They both descended off the truck and, in accordance with company policy, Armstrong walked around his truck starting at the driver's side and going around to the rear of the truck to insure there were no personnel around his truck. While Armstrong was doing this walk-around, Martinez went in to use the portable toilet. Armstrong sounded his horn twice and began to travel forward. He was paying most of his attention to truck #712 to avoid hitting it. He passed around the

west side of truck #712 and then traveled on to the shop not knowing he had run over two portable toilets.

At approximately 9:15 a.m., another truck driver, Eric Moreno, was driving past the water stand area and saw that a portable toilet had been hit. He thought it was hit on night shift and called Sid Hawkins to notify him about the incident. Hawkins immediately travelled to the lower water stand. Upon arriving, Hawkins noticed water truck #712 parked in the area and walked over to the crushed portable toilets, where he noticed a hardhat along with a body that showed no signs of life. At approximately 9:30a.m., Hawkins called mayday over the radio three times and told all first responders to come to the lower water stand as soon as possible. Upon arriving the first responders secured the site and waited for the Humboldt County Sheriff's Office to arrive. At 11:14 a.m., the Coroner/Detective, James Lovelace, arrived on site, visited the scene and pronounced the victim dead at 12:57 a.m.

INVESTIGATION OF THE ACCIDENT

At 10:00 a.m. on the day of the accident, the Mine Safety and Health Administration (MSHA) was notified by a telephone call from Pete Kuhn, Safety and Health Manager at the Hycroft Mine, to the Department of Labor National Contact Center (DOL-NCC). DOL-NCC notified James Fitch, Safety Specialist for MSHA's Western District, and an investigation began the same day. An order was issued pursuant to Section 103(j) of the Mine Act to ensure the safety of the miners. This order was later modified to Section 103(k) of the Mine Act after an Authorized Representative arrived on site that day.

MSHA's accident investigation team traveled to the mine, made a physical inspection at the accident scene, interviewed employees, and reviewed conditions and work procedures relevant to the accident. MSHA conducted the investigation with the assistance of mine management, mine employees, and the Humboldt County Sheriff's Office.

DISCUSSION

Location of the Accident

The accident occurred at the lower water stand pipe area approximately 0.5 miles SE from the main gate. The area and standpipe were engineered and constructed for filling the large 730E Komatsu Water Truck and was separated from the main haulage road by a berm. The area inside of the berm was about 84 feet wide at the widest section and narrowed to about 54 feet on the north entrance. This area was approximately 200 feet in length. The portable toilets were about 45 feet SW of where the 730E Komatsu right front truck tire was parked, or 45 feet and approximately 30 degrees to the right when sitting in the driver's seat of the cab of the 730E when it was parked. There were no signs indicating direction of travel, speed, or whether it was a one way road. A non-contributory citation was issued for this violation.

Equipment

The haul truck involved in the accident was a 2009 Komatsu model 730E that had a rigid frame with integral Roll-Over Protective Structure (ROPS) support and was equipped with a “Westech” Stairway access water tank attached. The tank carried approximately 42,000 gallons when full and at the time of investigation it had close to a full load. The haul truck’s engine was a Komatsu Model SSA 16V159 diesel with an electric drive ratio of 26.825:1.

The truck weighed approximately 309,000 pounds empty and had a maximum gross vehicle weight of approximately 715,000 pounds. The wheel base was approximately 23 feet wide and had rear dual tires. The overall width of the truck was approximately 24 feet- 9 inches and the truck had an overall length of 41 feet. The truck cab was approximately 13 feet off the ground and overall height of the truck with the tank was 23 feet. There was a 6 inch x 6 inch beam, which was part of the ROPS for the truck, where the front and left side windows met. This beam partially blocked the view from the driver seat off to the front left. Due to the location of the truck in relation to the portable toilets, the 6 inch x 6 inch beam would have partially blocked the portable toilets from the driver’s field of view.

The supplemental and main steering systems were inspected, tested, and determined to be functional.

The truck was equipped with a hydraulic actuated disc-style service brake system and the rear brakes had approximately 80 percent life when visually inspected.

Visual inspection and testing of the braking systems and the steering systems did not identify any defects that would have affected the ability of the driver to control the truck prior to the impact with the portable toilet.

The truck had Michelin 40.00 R 57 XDR E4T tubeless tires on all six wheels. A visual inspection of the tires was conducted and there were no defects noted.

Portable toilet

There were two portable toilets that were orange in color with a white roof, sitting side by side and facing east. Each portable toilet measured approximately 4 feet wide by 4 feet deep by 7 feet high. They were parked in the lower water stand pipe area. There was a berm constructed on the West side, or behind the portable toilets, to provide protection from the haul road which was heavily traveled. However, there were no berms for protection against traffic utilizing the water pipe stand area.

Weather

On the day of the accident, the weather was sunny with clear skies and a temperature of approximately 80 degrees Fahrenheit. The weather, lighting and the angle of the sun at the time the accident occurred were not a factor in the accident.

Training and Experience

David Martinez had 2 years mining experience, all at this mine. Mark Armstrong, the driver of the water truck, had 3 years mining experience, all at this mine. They both had operated heavy mobile equipment and had received training in accordance with 30 CFR, Part 48.

ROOT CAUSE ANALYSIS

A root cause analysis was performed and two root causes were identified:

Root Cause: Management policies and procedures were inadequate and failed to ensure that drivers maintained control of mobile equipment. The truck's tire struck the portable toilet without the driver noticing.

Corrective Action: Management implemented policies and procedures to ensure truck drivers operate mobile equipment safely without striking other objects. Truck drivers were trained on hazards the machine can cause when in and around other equipment and personnel.

Root Cause: Management policies and procedures were inadequate and failed to place the portable toilet facility in a location where it was compatible with the mining operation and would not be struck by mobile equipment. There was a berm constructed on the West side, or behind the portable toilets, to provide protection from the haul road that was heavily traveled. There were no berms for protection against traffic utilizing the water pipe stand area however.

Corrective Action: Management implemented policies and procedures to ensure proper placement of portable toilets. Berms or other impeding devices were constructed to protect portable toilets from vehicular traffic.

CONCLUSION

The accident occurred due to management's failure to establish policies and procedures to ensure the truck driver maintained control of his truck and to place the portable toilet facility in a location where it was compatible with the mining operation and would not be struck by mobile equipment. The investigation determined that the portable toilet was struck because there was inadequate protection from mine traffic.

ENFORCEMENT ACTIONS

Order No. 8869573 was issued on May 28, 2015, under the provisions of Section 103(J) of the Mine Act: This order was later modified to 103(k) of the Mine Act when the first Authorized Representative arrived at the mine.

> *An accident occurred at this operation on May 28, 2015, at approximately 1000 hrs. As rescue and recovery work is necessary, this order is being issued under section 103 (j) 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 destruction of any evidence which would assist in the investigation the cause or causes of the accident. It prohibits all activity for 100 feet in and around the water stand until MSHA has determined that it is safe to resume normal mining operations in this area. This order applies to all persons engaged in the rescue and recovery operation and any other person on site. This order was initially issued orally to the mine at 10:40 and has now been reduced to writing.*

This order was terminated on June 1, 2015, after conditions that contributed to the accident no longer existed and the portable toilet was removed.

Citation No. 8690642 was issued on 07/15/2015, under the provisions of Section 104(a) of the Mine Act for a violation of 56.9101.

> *A fatal accident occurred at this mine on May 28, 2015 when the driver of a Komatsu 730 E Water Truck failed to control the moving truck and struck a portable toilet that was occupied by the victim. The driver and the victim were parked and had been working on the Komatsu 730E. After completing the task, the driver got into his truck while the victim entered one of the portable toilets. While departing, the driver steered his vehicle away from the victim's truck and struck the portable toilet occupied by the victim.*

Citation No. 8690641 was issued on 7/15/2015, under the provisions of Section 104(a) of the Mine Act for a violation of 56.20008 (a):

A fatal accident occurred at this mine on May 28, 2015 when a Komatsu 730 E Water Truck struck a portable toilet occupied by the victim. The driver and the victim were parked and had been working on the Komatsu 730E. After completing the task, the driver got into his truck while the victim went into one of the portable toilets. While departing the driver steered his vehicle away from the victim's truck and struck the portable toilet occupied by the victim. The portable toilet was not compatible with mine operations.

Approved By:

Wyatt Andrews
District Manager

9/28/2015
Date

APPENDIX A

Persons Participating in the Investigation

Hycroft Resources & Development, Inc.

Pete Kuhn	Safety Manager
Dalton Robert Casinelli	Miner's Representative
Jeff Snyder	General Manager

Humboldt County Sheriff's Office

James Lovelace	Detective
Dave Walls	Investigator

Komatsu Equipment Company

Nick Pacheco	Field Service Tech

Mine Safety and Health Administration

Ronald J Jacobsen	Supervisory Mine Safety and Health Inspector
William Whitby	Mine Safety and Health Inspector
Joseph N Rhoades	Acting Supervisor, Educational Field Small Mine Services

VICTIM DATA SHEET – MSHA FORM 7000-50

Accident Investigation Data - Victim Information

Event Number: 6 6 6 9 6 2 8

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:
David D. Martinez	M	61	01 Fatal

5. Date(MM/DD/YY) and Time(24 Hr.) Of Death:	6. Date and Time Started:
a. Date: 05/28/2015 b.Time: 12:57	a. Date: 05/28/2015 b.Time: 5:00

7. Regular Job Title:	8. Work Activity when Injured:	9. Was this work activity part of regular job?
176 Truck Driver	055 Operating a Water Truck	Yes X No

10. Experience	Years	Weeks	Days		Years	Weeks	Days		Years	Weeks	Days		Years	Weeks	Days
a. This Work Activity:	2	6	6	b. Regular Job Title:	2	6	6	c. This Mine:	2	6	6	d. Total Mining:	2	6	6

11. What Directly Inflicted Injury or Illness?	12. Nature of Injury or Illness:
104 Komatsu 730E Water Truck	370 Multiple Blunt Force Trauma

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

14. Company of Employment: (If different from production operator)
Operator

Independent Contractor ID: (if applicable)

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

16. Part 50 Document Control Number: (form 7000-1)

17. Union Affiliation of Victim: 9999 None (No Union Affiliation)