MAI-2012-14

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

REPORT OF INVESTIGATION

Surface Nonmetal Mine
(Construction Sand and Gravel)

Fatal Machinery Accident
September 26, 2012

Eagle Peak Rock and Paving
North Pit
Alturas, Modoc County, California
Mine ID No. 04-03367

Investigators

Rickie D. Dance
Mine Safety and Health Inspector

Benjamin C. Burns
Mine Safety and Health Inspector

Ronald Medina
Mechanical Engineer

John O'Brien
Mine Safety and Health Specialist

Originating Office
Mine Safety and Health Administration
Western District
991 Nut Tree Road
Vacaville, CA 95687
Wyatt S Andrews, District Manager


CAUTION RESTRICTED AREA KEEP OUT
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CAUTIN

OVERVIEW

On September 26, 2012, Loren A. Bucher, Foreman, age 79, was killed when he was run over by the dozer he had been operating. Bucher exited the cab and was positioned on the left track checking the engine throttle linkage when the dozer moved forward. The dozer was parked on a 6% grade and left running in 1st gear forward with the dozer blade and ripper in the up position.

The accident occurred due to management's failure to ensure that Bucher blocked the dozer against hazardous motion before performing repairs on it. The blade and ripper on the dozer were not lowered to the ground, the transmission lock lever was not set to ensure the transmission was in neutral, and the parking brake was not set.

GENERAL INFORMATION

North Pit, a sand and gravel operation owned and operated by Eagle Peak Rock and Paving, was located near Alturas, Modoc County, California. The principal official was Anthony G. Cruse, President. The mine operated one 8 hour shift per day, 5 days per week. Total employment was three persons.

The accident occurred at the Hogbacks Pit located about 5 miles from the North Pit. This pit was under the same legal mine id as the North Pit. After the rock was blasted, a dozer pushed the material to an excavator that loaded it into highway trucks. The material was hauled to the crushing plant located at the North Pit. The rock was crushed, sized, and stockpiled for use in the asphalt plant. The final product was sold for various uses, including highway construction.

The Mine Safety and Health Administration (MSHA) completed the last regular inspection at this operation on August 14, 2012.

DESCRIPTION OF THE ACCIDENT

On the day of the accident, Loren A. Bucher, (victim) arrived at the Hogbacks Pit at 7:15 a.m., his usual arrival time. During interviews, investigators learned that he went to the dozer, conducted a walk around inspection, checked the fluid levels, started the dozer to warm it up, and performed a pre-operational inspection of the machine.

At approximately 7:30 a.m., Bucher asked Stanley Ehlinger, Truck Driver, to stop at the shop to get a ½-inch driver ratchet because he wanted to check the oil level in the final drive of the dozer. That drive had a small leak and Bucher wanted to check the oil level. Ehlinger's truck was loaded and he drove the truck to dump it at the crusher.

About 8:30 a.m., Ehlinger returned with the ratchet. Bucher drove the dozer near the roadway where the trucks were loaded and stopped the machine. Ehlinger parked his truck to get loaded and went around to the off side of the truck. When he got to the dozer, Bucher lowered the blade and used his foot to push the hand throttle into the idle

position. Ehlinger climbed onto the arm of the blade and handed the ratchet to Bucher. Bucher told Ehlinger to stop at the shop and tell Ken Ward, Mechanic, to come and repair the engine throttle of the dozer because he was having trouble with it. Ehlinger acknowledged that and walked around the off side of the truck.

When Ehlinger was coming around the front of his truck, he noticed Richard Ward, Excavator Operator, jump out of the excavator and run toward the dozer. Ehlinger saw the dozer, with the blade up, moving forward away from the excavator. Richard Ward observed Bucher taking the ratchet from Ehlinger. He witnessed Bucher falling and ran to the right side of the dozer, jumped onto the dozer arm, then the cab platform, and stopped the dozer by shutting off the engine using the ratchet handle.

Richard Ward went to Bucher and found him nonresponsive. Ehlinger used his cell phone to call the mine office for Emergency Medical Services. The Modoc County Sheriff and Paramedics arrived at 8:50 a.m. and Bucher was pronounced dead by Michael Crutcher, Assistant Sheriff, Modoc County. The cause of death was attributed to blunt force trauma.

INVESTIGATION OF THE ACCIDENT

MSHA received notification of the accident at 9:22 a.m. on September 26, 2012, by a telephone call from Matt Cruse, General Manager, to Rodric B. Breland, Supervisory Mine Safety and Health Inspector, Albany Field Office. An investigation started the same day. MSHA issued an order under the provisions of 103(j) of the Mine Act to ensure the safety of the miners. This order was later modified to 103(k) of the Mine Act when the first Authorized Representative arrived at the mine.

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 management and employees.

DISCUSSION

Location of the Accident

The accident occurred at the Hogbacks Pit that was a small, single bench pit. The roads were dry, well maintained, and properly bermed. There were no significant grades except the over burden pile where the accident occurred.

Dozer

The dozer involved in the accident was a 1978 track type Caterpillar D8K model with a D342 diesel engine. It had a 12-foot 8-inch wide semi-u blade on the front and a three shank ripper on the rear. The transmission was a power shift, three forward and three

reverse gear inverted U type. The dozer weighed approximately 81,000 lb. with attachments and was equipped with an enclosed insulated cab.

The investigators found that a connecting rod between the "hand-operated throttle lever" and the "governor control positioning mechanism" was broken. The break occurred at the threaded end of this rod where a clevis was threaded onto it. The clevis was attached to the bell crank arm of the "governor control positioning mechanism."

The bell crank arm was found in the full throttle position, allowing spring force to pull the throttle linkage at the fuel injector pump into the "full throttle" position. The fracture surface was oxidized at the perimeter with a clean shiny final fracture surface near the center. An extra "non-factory" spring was attached to the throttle linkage that pulled in the same direction as the "factory" spring to pull the linkage into the full throttle position. A substantial amount of free-play was also present in the throttle linkage. The remainder of the throttle linkage was intact.

For testing, the broken linkage was welded back together and the "hand-operated throttle lever" was moved through its range of motion while the engine was operating. When the hand-operated lever was pulled back toward the operator, the engine speed increased. When the hand-operated lever was pushed forward, the engine speed decreased. Pushing the lever fully forward past the "low idle" position into the "fuel off" position caused the engine to shut down. The "hand-operated throttle lever" was functional. It could be moved to control the engine speed but moved stiffly into the "fuel off" position. Moving this lever to the "fuel off" position required a hard push.

The investigators found the engine-side clevis of the repaired connecting rod had rubbed against the thru-hole in the firewall when the "hand-operated throttle lever" was placed in the "fuel off" position. Some of the metal in the thru-hole opening was worn away where the rubbing occurred, indicating the condition existed for some time. Also, the throttle linkage needed adjusted because the hand operated throttle lever had to be pulled toward the operator until it was nearly horizontal to obtain full throttle. The service manual for the dozer indicated the handle should be close to a 45 degree angle at full throttle.

The decelerator pedal operated to reduce engine speed when it was pushed down and it returned to the "up" position when released, as designed. It moved freely and no obstructions were found that interfered with pedal movement.

No defects were found with the dozer's steering or braking systems.

Weather

The weather at the time of the accident was clear and calm with a temperature of 62 degrees Fahrenheit. Weather was not considered to be a contributing factor in the accident.

Training and Experience

Loren A Bucher had 56 years of experience operating heavy equipment, 17 years, 38 weeks and 4 days at this mine. A representative of MSHA's Educational Field Services staff conducted an in-depth review of the mine operator's training records. The training records for Bucher were reviewed and found to be in compliance with MSHA training requirements.

ROOT CAUSE ANALYSIS

Investigators conducted a root cause analysis and identified the following root cause:

Root Cause: Management failed to ensure that the victim followed safe work practices before performing maintenance work on a dozer. The blade and ripper on the dozer were not lowered to the ground, the transmission lock lever was not set to ensure the transmission was in neutral, and the parking brake was not set.

Corrective Action: Management provided additional training to persons regarding the proper procedures to follow to ensure that equipment is blocked against hazardous motion before maintenance is performed.

CONCLUSION

The accident occurred due to management's failure to ensure that Bucher blocked the dozer against hazardous motion before performing repairs on it. The blade and ripper on the dozer were not lowered to the ground, the transmission lock lever was not set to ensure the transmission was in neutral, and the parking brake was not set.

ENFORCEMENT ACTIONS

Issued to Eagle Peak Rock and Paving

Order No. 8604796 was issued under the provisions of section 103(j) of the Mine Act. An Authorized Representative modified this order to section 103(k) of the Mine Act upon arrival at the mine site:

> *An accident occurred at this mine on September 26, 2012, at 8:45 a.m. This order prohibits miners from entering the area where the accident occurred for the protection of the miners and preservation of evidence.*

This order was terminated on October 18, 2012, after conditions that contributed to the accident no longer existed.

Citation No. 6384564 -- issued under the provisions of Section 104(d)(1) of the Mine Act for a violation of 30 CFR 56.14105:

On September 26, 2012, a fatal accident occurred at this operation when a foreman was run over by a dozer he had been operating. The victim exited the cab and was positioned on the left track checking the engine throttle linkage when the dozer moved forward. The dozer's power was not turned off and the dozer was not blocked against hazardous motion. Management engaged in aggravated conduct constituting more than ordinary negligence, when the foreman did not turn off the power on the dozer and block the dozer against hazardous motion. This is an unwarrantable failure to comply with a mandatory standard.

Approved: Wyatt Andrews Date: 2/26/13

Wyatt Andrews
District Manager

APPENDICES

APPENDIX A: Persons Participating in the Investigation

APPENDIX B: Victim Information

APPENDIX A

Persons Participating in the Investigation

Eagle Peak Rock and Paving

Anthony Cruse	President
Matt Cruse	General Manager
Larry Boulade	Operations/Safety Manager
Wayne McLaughlin	Equipment Manager

Mine Safety and Health Administration

Rickie D. Dance	Mine Safety and Health Inspector
Benjamin Burns	Mine Safety and Health Inspector
Ronald Medina	Mechanical Engineer
John O'Brien	Mine Safety and Health Specialist

APPENDIX B

Accident Investigation Data - Victim Information

Event Number: 1 1 5 6 7 3 9

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:
Loren A. Bucher	*M*	*79*	*01 Fatal*

5. Date(MM/DD/YY) and Time(24 Hr.) Of Death:	6. Date and Time Started:
a. Date: 09/26/2012 b.Time: 8:45	*a. Date: 09/26/2012 b.Time: 7:15*

7. Regular Job Title:	8. Work Activity when Injured:	9. Was this work activity part of regular job?
168 Foreman/Equipment Operator	*047 Operating D-8K*	Yes X No

10. Experience	Years	Weeks	Days		Years	Weeks	Days		Years	Weeks	Days		Years	Weeks	Days
a. This Work Activity:	*56*	*0*	*0*	b. Regular Job Title:	*17*	*38*	*4*	c: This Mine:	*17*	*38*	*4*	d. Total Mining:	*56*	*0*	*0*

11. What Directly Inflicted Injury or Illness?	12. Nature of Injury or Illness:
076 D-8K Dozer	*170 Crushing*

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: | First-Aid: | CPR: | EMT: | Medical Professional: | None: X

16. Part 50 Document Control Number: (form 7000-1) *220122840004*

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