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

Report of Investigation

Surface Nonmetal Mine
(Crushed and Broken Stone Mining)

Fatal Machinery Accident
November 23, 2003

Weekly Bros. Inc.
Weekly Bros. Inc.
Idleyld Park, Douglas County, Oregon
Mine I.D. No. 35-03584

Investigators

Ronald L. Eastwood
Mine Safety and Health Inspector

Randy Cardwell
Supervisory Mine Safety and Health Inspector

Thomas J. Hunter
Mine Safety and Health Inspector

Eric C. Johnson
Mine Safety and Health Specialist

Originating Office
Mine Safety and Health Administration
Western District
2060 Peabody Rd. Suite 610
Vacaville, CA 95687
Lee D. Ratliff, District Manager
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OVERVIEW

Ronald W. Weekly, company vice-president, age 44, was fatally injured on November 23, 2003, when he was struck by a hand held pry bar. He was using the pry bar to try to free a blockage of rock at the crusher. The pry bar contacted the moving crusher components propelling it against the victim’s neck.

The accident occurred because the procedures used to dislodge the blockage of rock were inadequate. When the blockage occurred, the victim failed to deenergize and lock out the crusher before attempting to dislodge the rock.
GENERAL INFORMATION

Weekly Bros. Inc., (Weekly), a construction company, was located at Idleyld Park, Douglas County, Oregon. The principal operating official was Allen Weekly, president. Weekly usually performed contract work such as installing drainage culverts and dam excavation. Weekly had rented crushers and screens in the past to expand the scope of work they performed.

Weekly contracted with the Pacific Corporation to supply 8,000 tons of crushed rock for the construction of a roadway in Pacific Corporation’s right of way. In order to fulfill this contract, Weekly contracted with the United States Forest Service to purchase rock by the yard and remove rock from the Patricia Creek Pit, located one and a half miles from Pacific Corporation’s future roadway construction site, in the Umpqua National Forest near Idleyld, Oregon.

On October 23, 2003, work began at the site. The stone was mined from a multi-bench quarry by drilling and blasting. A loader was used to load the blasted rock into the feed hopper of a crusher. The material was crushed, screened, and then stockpiled by a loader. The mine operated one 10 hour shift, six days a week. Total employment was three persons.

MSHA had not been notified that this mine was in operation prior to the accident.

DESCRIPTION OF THE ACCIDENT

On November 23, 2003, Ronald Weekly (victim) and Joe Hendon, loader operator, arrived at the mine site at 7 a.m., to begin work. They decided to start all the equipment and let it warm up because the temperature was very cold. They cleaned the frozen dirt and mud out of the tracks of an excavator and a dozer. Todd Weekly, company secretary, arrived at the mine site at 9 a.m., and helped work on the equipment.

At approximately 10 a.m., Hendon began dumping rock into the plant hopper while Ronald Weekly monitored the flow of material through the crusher. Todd Weekly operated the dozer to clean out an area of the access road to push material from the top bench to the road below. Work at the site progressed normally until about 2 p.m., when Hendon noticed that Ronald Weekly was not taking care of the chute of the crusher as he had been earlier. Hendon parked the loader and saw Ronald Weekly sitting at the base of the crusher control panel. He went to the control panel and found Ronald Weekly slumped on the cat walk, unresponsive, and bleeding severely from the neck. Hendon immediately ran to the top bench and summoned Todd Weekly. Todd Weekly instructed Hendon to get the first aid kit from Ronald Weekly’s truck. Todd Weekly provided first aid but was unsuccessful and called 911. Emergency personnel arrived and notified the county coroner who pronounced the victim dead. Death was attributed to blunt force trauma to the neck.
INVESTIGATION OF THE ACCIDENT

MSHA was notified of the accident at 9 a.m., on November 23, 2003, by a phone call from Weekly Bros. Inc., to the Albany, Oregon Field Office. An investigation was started the same day. An order was issued pursuant to Section 103 (k) of the Mine Act to ensure the safety of miners. An MSHA accident investigation team traveled to the mine, made a physical inspection of the accident site and equipment involved, interviewed employees, and reviewed conditions and work procedures relevant to the accident. MSHA conducted the investigation with the assistance of mine management and miners.

DISCUSSION

Location of the accident

The accident occurred at the portable crushing plant. The weather was cloudy and cold.

Thunderbird Crusher


The crusher was a Thunderbird II portable horizontal impact, Model 1010, manufactured by Aggregate Machinery, Inc. It was powered by a Cummins 170 hp diesel motor. The engine had a removable ignition key allowing removal during “engine off” servicing of the plant. The hydraulic functions were controlled by a DC electrical circuit via a wired remote pendant switch box.

The crusher was manually clutched from the engine. The primary vibrating feed system was a hydraulic system powered by the engine. The unit was shut down by disengaging the engine drive clutch and turning off the key. The crusher had a remote control system that shut off the crusher and conveyor belt when the equipment was serviced. A ladder provided access from the ground level to the crusher’s control panel.

The investigation team concluded that Ronald Weekly had been on top of the impact crusher above the control panel near the chute, using a pry bar to dislodge a rock that was jammed. Apparently the pry bar was thrust by the moving machine parts and struck Ronald Weekly in the neck. The impact may also have propelled him backwards causing him to fall 4 feet to the level of the control panel where he was found on the catwalk.
Training and Experience

After the crusher was set up at the mine site, Valley personnel gave Ronald Weekly training regarding the safe operation of the crusher. This training stressed that when any work was performed on the crusher, the engine must be shut off and the engine key kept in a safe place. Although Weekly did not have a formal MSHA training plan, a formal written health and safety training program was in place. Safety meetings were held every week with topics that included first aid training, Hazcom training, and OSHA training.

Ronald Weekly had worked in the construction business for 23 years.

ROOT CAUSE ANALYSIS

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

Causal Factor: A risk assessment to identify possible hazards and establish safe procedures was not conducted prior to performing the task of clearing a blockage of rock in the feed chute of the horizontal impact crusher.

Corrective Action: A policy should be implemented requiring risk assessments to be conducted prior to performing the task of clearing a rock blockage in the feed chute.

Causal Factor: The key that controls the crusher motor was not shut off, the motor was not declutched, and the machinery components, were not blocked to prevent hazardous motion prior to performing work.

Corrective Action: Procedures should be established to ensure employees de-energize, lockout, and block machinery components against motion before performing maintenance.

CONCLUSION

The accident occurred because the procedures used to dislodge the blockage of rock in the crusher were inadequate. The victim attempted to free the blockage without turning off the power to the crusher and blocking the hazardous motion of the crusher components.

ENFORCEMENT ACTION

Order No. 6338791 was issued on November 23, 2003, under the provisions of Section 103(k) of the Mine Act.
A fatal accident occurred at this operation on November 23, 2003, when a miner was attempting to remove a blockage of material from a horizontal impact crusher. This order is issued to assure the safety of all persons at this operation. It prohibits all activity at the crusher plant area 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 December 03, 2003. The conditions that contributed to the accident have been corrected and normal mining operations can resume.

Citation No.6344524 was issued on January 22, 2004, under the provisions of Section 104 (a) of the Mine Act for violation of 30 CFR 56.14105:

A fatal accident occurred at this operation on November 23, 2003, when the company vice president was struck in the neck by a steel pry bar. The victim was attempting to dislodge a blockage of material from the feed chute of the horizontal impact crusher with the pry bar while the crusher was in motion. The pry bar kicked back from the reciprocating action of the crusher striking the victim in the neck resulting in fatal injuries. The crusher had not been shut off and steps had not been taken to protect persons from hazardous motion prior to performing this maintenance.

The citation was terminated on January 22, 2004. A written policy on the safe operation of the crusher was submitted to MSHA for review. This policy identifies the hazards and the prevention procedures on the operation of the crusher. Training on the operation of the crusher from the rental company was done on December 4, 2003.

Approved by:

________________________________ Date:_____________
Lee D. Ratliff
District Manager
Appendices

A. Persons Participating in the Investigation
B. Persons Interviewed
Appendix A

Persons Participating in the Investigation:

**Weekly Bros. Inc.**

- Todd Weekly, owner, company secretary, equipment operator
- Joe Hendon, equipment operator

**Mine Safety and Health Administration**

- Randy Cardwell, supervisor mine safety and health inspector
- Ronald L. Eastwood, mine safety and health inspector
- Thomas J. Hunter, mine safety and health inspector
- Eric C. Johnson, mine safety and health specialist

**Douglas County Sheriffs Department**

- Charles Mapes, deputy sheriff

**Douglas County Medical Examiners Office**

- Douglas L. Daniels, coroner
APPENDIX B

Persons Interviewed:

**Weekly Bros. Inc.**

- Todd Weekly          owner, company secretary, equipment operator
- Joe Hendon           loader operator