MAI-2012-13

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION
METAL AND NONMETAL MINE SAFETY AND HEALTH
REPORT OF INVESTIGATION

Surface Metal Mine
(Copper)

Fatal Fall of Person Accident
September 22, 2012

Tetra Tech Construction Services
Contractor ID. No. A0830

at

BHP Copper Inc.
Pinto Valley Operations
Miami, Gila County, Arizona
Mine I.D. No. 02-01049

Investigator

Shane P Julien
Mine Safety and Health Inspector

Originating Office
Mine Safety and Health Administration
Rocky Mountain District
P.O. Box 25367, DFC
Denver, CO 80225-0367
Richard Laufenberg, District Manager

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(Note: Boards added and fence moved after accident.)

## OVERVIEW

Jon Vanoss, contractor laborer, age 34, was killed on September 22, 2012, when he fell through an opening on the 4th floor of the secondary crusher building and landed approximately 30 feet below. The opening was covered with 2-inch by 4-inch by 102-inch boards and ¾-inch thick plywood that was being used as a work platform. When the victim stepped onto the platform, two of the boards broke and he fell. A screen was attached over the 6-foot by 8-foot opening but had been removed for repairs.

The accident occurred due to mine and contract management's failure to ensure the work platform, covering the hole where the victim fell, was of substantial construction, barricaded, and provided with warning signs to prevent a fall hazard to persons working in the secondary crusher building. The accident occurred in an area where Vanoss was not assigned to work. Statements made during interviews indicated he was missing for approximately 1 hour and 45 minutes before a search began. Vanoss had six days of experience on the job.

## GENERAL INFORMATION

Pinto Valley Operations, a surface copper mine, owned and operated by BHP Copper Inc. was located in Miami, Gila County, Arizona. The principal operating official was David L. Weickhardt, general manager. The mine employed 115 persons working two, 12-hour shifts, seven days a week. The mine ceased production activities in February, 2009, and began rehabilitation operations on the mill and plant areas in February, 2012**.**

BHP Copper Inc. hired Tetra Tech Construction Services, a contracting company, located in Phoenix, Maricopa County, Arizona, to provide rehabilitation services for the mill and the processing equipment. The principal operating official was Bryan Allison, manager. There were 70 Tetra Tech employees on the site at the time of the accident.

The Mine Safety and Health Administration (MSHA) completed the last regular inspection at this operation on August 27, 2012.

## DESCRIPTION OF THE ACCIDENT

On September 22, 2012, Jon Vanoss (victim) started work at 6:00 a.m., his normal starting time. He met with Boykin Edwards, miner; Tim Goodman, welder; and John Evans, foreman. A safety meeting was held to discuss a project referred to as modification of the No. 11 dribble chute that had been ongoing since July**,** 2012. The No. 11 dribble chute was located in the secondary crusher building at the mill. After the meeting, Vanoss and Edwards went to the 4th floor to perform fire watch duties because welders were cutting above them on the tripper floor. Vanoss performed this duty throughout the morning.

About 12:00 p.m., Vanoss and Edwards went to the No. 5 tripper belt area to meet Goodman and take a lunch break. At approximately 12:30 p.m., they went back to the work site on the 4th floor. Edwards walked with Vanoss toward the area but continued to the bottom floor to use the restroom. About 12:45 p.m., Edwards returned to the 4th floor and found that Vanoss was not at his post.

Work proceeded until about 1:00 p.m., when Goodman, who was working on the floor above, yelled down to Edwards to have Vanoss move a fan located on the 4th floor to ventilate welding fumes. Edwards replied that Vanoss was not at his post and he needed to tend the ladder that a welder was using for access to the bin above. Goodman climbed down the ladder and spoke to Edwards regarding the location of Vanoss but they did not begin searching for him at that time.

Work continued until about 1:30 p.m., when Goodman called Vanoss over the radio and did not receive a response. At 2:30 p.m., Goodman went back to the 4th floor and met with Keith White, foreman, and Santiago Hermosillo, miner. Goodman and his coworkers looked down the hole at No. 8 chute and saw Vanoss lying on the belt conveyor below them.

At 2:37 p.m., a call was made for Emergency Medical Services. Gila County emergency medical services arrived at 2:48 p.m. Dr. David Streitwieser pronounced the victim dead at 3:05 p.m. Death was attributed to blunt force trauma.

## INVESTIGATION OF THE ACCIDENT

MSHA was notified of the accident at 3:21 p.m., on September 22, 2012, by a telephone call from Carleton Peltz, safety supervisor, to MSHA's emergency call center. Kenneth Valentine, supervisory special investigator, was notified and an investigation was started the same day. An order was issued under the provisions of Section 103(j) of the Mine Act to ensure the safety of the miners. Upon the arrival of the first Authorized Representative at the mine site, the order was modified to Section 103(k) of the Mine Act. A Part 50.10 citation (Immediate Notification) was issued.

MSHA's investigator traveled to the mine, conducted a physical inspection of the accident scene, interviewed employees, and reviewed conditions and work procedures relevant to the accident. MSHA conducted the investigation with the assistance of mine and contractor management, employees, and the State of Arizona Mine Inspector's Office.

## DISCUSSION

### Location of the Accident

The accident occurred near the No. 8 chute on the 4th floor of the secondary crusher building at the mill. This area was located 30 feet above the fall location and about 15 feet from the victim's assigned work area. Three pieces of ¾-inch plywood and three standard 2-inch by 4-inch by 102-inch long boards were covering a 6-foot by 8-foot hole where a spiling screen had been removed in February 2012. The screen was taken to another section of the mine and repaired for a future installation. The equipment in the secondary crusher building was being reconditioned. Numerous construction crews were working in this building conducting various tasks on multiple floors.

## Weather Conditions

The weather at the time of the accident was scattered clouds with a temperature of approximately 99 degrees Fahrenheit and W/SW winds at 3 miles per hour. Weather was not considered to be a factor in the accident.

## Training and Experience

Jon Vanoss, victim, had six days of experience, all at this mine. An in-depth review of the contractor's and the mine operator's training records was conducted. The training records for Vanoss were examined and MSHA determined the mine operator provided 24 hours of new miner training and 16 hours of task and site specific training. No 30 CFR Part 48 training violations were found.

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# ROOT CAUSE ANALYSIS

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

**Root Cause:** Mine and contract management failed to ensure the work platform covering the hole where the victim fell was of substantial construction, barricaded, and provided with warning signs to prevent a fall hazard to any person working in the secondary crusher building.

**Corrective Action:** Mine management instituted a policy of using engineered metal covers on all accessible open holes to prevent a future fall hazard to miners. An improved system is in place using signs and barricades to warn and prevent access to hazardous areas that are not immediately obvious to persons.

# CONCLUSION

The accident occurred due to mine and contract management's failure to ensure the work platform, covering the hole where the victim fell, was of substantial construction, barricaded, and provided with warning signs to prevent a fall hazard to persons working in the secondary crusher building. The accident occurred in an area where Vanoss was not assigned to work. Statements made during interviews indicate he was missing for approximately 1 hour and 45 minutes before a search began. Vanoss had six days of experience on the job.

## ENFORCEMENT ACTIONS

### Violations issued to BHP Copper Inc.

**Order No. 8591129** was issued on September 22, 2012, under the provisions of Section 103(j) of the Mine Act:

> An accident occurred at this operation on September 22, 2012, at approximately 2:40 p.m. As rescue and recovery work was necessary, this order was being issued, under Section 103(j) of the Federal Mine Safety and Health Act of 1977, to ensure the safety of all persons at this operation. This order was also being issued to prevent the destruction of any evidence which would assist in investigating the cause(s) of the accident. It prohibited all activity at the No. 8 chute and Nos. 10 and 11 discharge chutes of the secondary crusher, plus the No. 7 conveyor belt until MSHA has determined that it is safe to resume normal mining operations in this area. This order applied to all persons engaged in the rescue and recovery operation and any other persons onsite.

**Citation No. 8751238** was issued on October 18, 2012, under the provisions of Section 104(d)(1) of the Mine Act for a violation of the 30 CFR 56.11027:

> A fatal accident occurred at this operation on September 22, 2012, when a contract employee fell through an opening on the 4th floor of the secondary crusher building and landed approximately 30 feet below. A screen that should be attached over the 6-foot by 8-foot opening was not in place. The open hole was instead covered with 2-inch by 4-inch by 102-inch boards and ¾-inch thick plywood that was being used as a work platform. When the victim stepped onto the platform, two of the boards broke and the victim fell. The work platform was not substantially constructed. Failure to provide a substantially constructed work platform over the opening constituted more than ordinary negligence and was an unwarrantable failure to comply with a mandatory safety standard.

**Order No. 8751239** was issued on October 18, 2012, under the provisions of Section 104(d)(1) of the Mine Act for a violation of the 30 CFR 56.20011:

> A fatal accident occurred at this operation on September 22, 2012, when a contract employee fell through an opening on the 4th floor of the secondary crusher building and landed approximately 30 feet below. A screen that should be attached over the 6-foot by 8-foot opening was not in place. The open hole was instead covered with 2-inch by 4-inch by 102-inch boards and ¾-inch thick plywood that was being used as a work platform. When the victim stepped onto the platform, two of the boards broke and the victim fell. The open hole was not provided with a secured and continuous barricade or warning signs to warn employees of the hazard that was not

immediately obvious. The barricade that was provided was a three-sided fence that was not secured to the floor and it was open on one end. Failure to provide a barricade or warning signs constituted more than ordinary negligence and was an unwarrantable failure to comply with a mandatory safety standard.

**Violations issued to Tetra Tech Construction Services**

**Citation No. 8751236** was issued on October 18, 2012, under the provisions of Section 104(d)(1) of the Mine Act for a violation of the 30 CFR 56.11027:

A fatal accident occurred at this operation on September 22, 2012, when a contract employee fell through an opening on the 4th floor of the secondary crusher building and landed approximately 30 feet below. A screen that should be attached over the 6-foot by 8-foot opening was not in place. The open hole was instead covered with 2-inch by 4-inch by 102-inch boards and ¾-inch thick plywood that was being used as a work platform. When the victim stepped onto the platform, two of the boards broke and the victim fell. The work platform was not substantially constructed. Failure to provide a substantially constructed work platform over the opening constituted more than ordinary negligence and was an unwarrantable failure to comply with a mandatory safety standard.

**Order No. 8751237** was issued on October 18, 2012, under the provisions of Section 104(d)(1) of the Mine Act for a violation of the 30 CFR 56.20011:

A fatal accident occurred at this operation on September 22, 2012, when a contract employee fell through an opening on the 4th floor of the secondary crusher building and landed approximately 30 feet below. A screen that should be attached over the 6-foot by 8-foot opening was not in place. The open hole was instead covered with 2-inch by 4-inch by 102-inch boards and ¾-inch thick plywood that was being used as a work platform. When the victim stepped onto the platform, two of the boards broke and the victim fell. The open hole was not provided with a secured and continuous barricade or warning signs to warn employees of the hazard that was not immediately obvious. The barricade that was provided was a three-sided fence that was not secured to the floor and it was open on one end. Failure to provide a barricade or warning signs constituted more than ordinary negligence and was an unwarrantable failure to comply with a mandatory safety standard.

Approved by,

Richard Laufenberg

Date: December 11, 2012

Richard Laufenberg
District Manager

## LIST OF APPENDICES

## APPENDIX A

**Persons Participating in the Investigation**

**BHP Copper Inc.**

| | |
|---|---|
| Carleton Peltz | Safety Manager |
| Robert Jordan | Safety Specialist |

**Tetra Tech Construction Services**

| | |
|---|---|
| Bryan Allison | Manager |
| Kyle Deaton | President of Construction |

**State of Arizona Mine Inspector's Office**

| | |
|---|---|
| Tim Evans | Assistant State Mine Inspector |
| Bill Schifferns | Deputy Mine Inspector |

**Mine Safety and Health Administration**

| | |
|---|---|
| Shane Julien | Mine Safety and Health Inspector |

## APPENDIX B

## Victim Data Information:

Accident Investigation Data - Victim Information
Event Number: 6 5 5 4 6 7 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: |
|---|---|---|---|
| *Jon P. Vanoss* | *M* | *34* | *01 Fatal* |

| 5. Date(MM/DD/YY) and Time(24 Hr.) Of Death: | 6. Date and Time Started: |
|---|---|
| *a. Date: 09/22/2012 b.Time: 15:15* | *a. Date: 09/22/2012 b.Time: 6:00* |

| 7. Regular Job Title: | 8. Work Activity when Injured: | 9. Was this work activity part of regular job? |
|---|---|---|
| *116 Laborer* | *042 Fire watch duties* | Yes X No |

| 10. Experience | Years | Weeks | Days | | Years | Weeks | Days | | Years | Weeks | Days | | Years | Weeks | Days |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. This Work Activity: | *0* | *0* | *6* | b. Regular Job Title: | *0* | *0* | *6* | c: This Mine: | *0* | *0* | *6* | d. Total Mining: | *0* | *0* | *6* |

| 11. What Directly Inflicted Injury or Illness? | 12. Nature of Injury or Illness: |
|---|---|
| *016 inadequate work platform* | *390 Blunt force trauma* |

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

14. Company of Employment: (If different from production operator)
*Tetra Tech Construction Services*
Independent Contractor ID: (if applicable) *A0830*

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

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

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