MAI-2011-06

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

Fatal Fall of Person Accident
June 4, 2011

at

Fairbanks Gold Mining Inc.
Fort Knox Mine
Fairbanks, North Star County, Alaska
Mine ID No. 50-01616

Investigators

Bart T. Wrobel
Supervisory Mine Safety and Health Inspector

Jerry L. DuBois
Supervisory Mine Safety and Health Inspector

Michael D. Murray
Mine Safety and Health Inspector

Originating Office

Mine Safety and Health Administration
Western District
2060 Peabody Road, Suite 610
Vacaville, CA 95687
Wyatt S. Andrews, District Manager

OVERVIEW

Michael J. Murray, mill operator, age 39 was killed on June 4, 2011. Murray was sweeping in a gyratory crusher building when he fell through two unsecured openings (maintenance hatches) and landed approximately 60 feet two floors below.

The accident occurred because management failed to ensure that it had policies and procedures in place so persons could safely remove any dust that accumulated around an uncovered opening on the dump floor where there was a danger of falling. The opening was created when the cover on a maintenance hatch was removed, eight days prior to the accident, to cool the lube floor below. The victim was not wearing fall protection, no warning signs were posted to identify the hazard, and no handrails were in place on the west side of the maintenance hatch.

GENERAL INFORMATION

Fort Knox Mine, owned and operated by Fairbanks Gold Mining Inc., is located in Fairbanks, North Star County, Alaska. The principal operating official is Lauren Roberts, general manager. The mine normally operates two, 12 hour shifts per day, 7 days per week. Total employment is 467 persons.

Fort Knox Mine is a surface mining, milling, and carbon leaching facility. The gold ore is mined from a multiple bench quarry. The material is drilled, blasted, and loaded into haul trucks by electric shovels and front-end loaders. The trucks haul the ore to the milling operation to be processed. The finished products are sold to commercial industries.

The last regular inspection at this operation was completed on April 18, 2011.

DESCRIPTION OF ACCIDENT

On the day of the accident Michael Murray (victim) and Jerald Gerleve, mill operator, reported to work at 6:00 a.m., their normal starting time. About 6:20 a.m., they drove a company truck to the crusher building to relieve the night crew. Murray took over the crusher operations about 6:35 a.m. and remained in the crusher control room. At 1:00 p.m., Gerleve came to the control room to operate the crusher and Murray took a lunch break.

About 1:30 p.m., Murray radioed Gerleve that he was going to the mill. At 3:00 p.m., Murray called Gerleve to report he was in the crusher building but did not provide a location. At 4:00 p.m., Gerleve heard an air lance operating on the crusher dump floor, but could not see Murray because a curtain was installed to control dust. About 4:10 p.m., Gerleve noted the air lance stopped.

Gerleve tried to contact Murray at approximately 6:20 p.m. but could not reach him. He called Will Sunie, supervisor, and told Sunie he had not heard from Murray and could not contact him. Sunie told him to try again and call back in 15 minutes. Gerleve called Sunie at 6:25 p.m. and informed him that he was sending Roger Bartlett, mill operator, and Robert Kertesz, mill operator, to search for Murray.

At 6:45 p.m., Bartlett and Kertesz entered the control room. Gerleve went down to the crusher dump floor using the back stair case. When Gerleve got to the dump floor, he looked over the west railing, saw Murray on the lube floor two floors down, and radioed for help.

Emergency Response Team members arrived and performed Cardiopulmonary Resuscitation (CPR) but the victim was nonresponsive. At 7:43 p.m., Murray was pronounced dead at the scene. 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 7:10 p.m. by a telephone call from Robert Sweeden, safety and health manager, to MSHA's National Call Center. Randy Cardwell, mine safety and health supervisory inspector, was notified and an investigation began the same day. An order was issued pursuant to 103(j) of the Mine Act to ensure the safety of the miners.

MSHA's accident investigation team 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 management and employees, miners' representatives, and the Office of State Medical Examiners, Alaska Division of Public Health.

DISCUSSION

Location of Accident

The accident occurred in the gyratory crusher building that contained five floors. The top three floors consisted of the dump floor, the drive floor, and the lube floor. A mill maintenance hatch had been removed on the dump floor eight days prior to the accident. (Figure 1, Appendix B). The hatch was removed to ventilate excess heat build up in the lube floor located two floors below.

Mill operators are required to clean the dump floor at least once per shift. Murray used a push broom with a 24-inch wide brush and a 6-foot handle to cleanup.

Maintenance Hatches

Six maintenance hatches are located on the primary crusher dump floor. Three of these hatches are on the east side and three on the west side near the primary crusher hopper. The hatch covers rest on a 6-inch wide by 6-inch high curb placed around each opening. The center hatch on the west side, that the victim fell through, was removed on May 27, 2011. Removing this hatch created an opening 6 feet 9 inches wide by 11 feet long.

The drive floor is beneath the dump floor. Three hatches are located on this floor directly under the three west side hatches of the dump floor above. The center hatch was also open, creating an opening 7 feet 2 inches wide by 11 feet long. There were no hatches on the drive floor located under the east side of the dump floor. The hatches and openings on the drive floor are located on the west side and are approximately the same size and design as the one on the floor above.

Handrails

Handrails were placed around all of the east side maintenance hatches on the dump floor. The handrails are approximately 41 inches high with a three rail design, consisting of an upper, middle, and lower rail. All railings drop in to pipe sleeves for removal as needed for maintenance work and to transfer equipment from floor to floor. The pipe sleeves are secured to the concrete floor by lag bolts. Handrails of similar design are located on three sides of the west maintenance hatches.

On the west side of the dump floor, the railings are located on the north, east, and south side of the maintenance hatches. The hatches on the west side closest to the crusher pocket did not have any handrails. A removable double handrail is located on the northwest corner of the west side maintenance hatches. This handrail extended to a storage cabinet allowing persons to enter the area for cleanup and maintenance work.

The drive floor maintenance hatches have handrails on all four sides. They are similar in size and design to those on the dump floor. The railings for the lube floor hatches are also similar in size and design on all four sides. The north railing of the lube floor hatches was broken loose when the victim fell, leaving an 18-inch gap in the northwest corner of the railing.

Weather

On the day of the accident, the weather was sunny with a temperature of 60 to 70 degrees Fahrenheit and a slight breeze. Weather was not considered a factor in the accident. Lighting in the building was adequate and natural light was sufficient to illuminate the dump floor.

Personal Protective Equipment

At the time of the accident, Murray was wearing safety shoes, safety glasses, a respirator and a hard hat. He was also carrying a clip on two-way portable radio. Murray was not wearing any fall protection; however, a fall protection harness and lanyard were issued to him and found in his locker. Tie off points with lanyards and a cable were located between the maintenance hatches and crusher dump pocket.

Training and Experience

Michael Murray had 1 year and 14 weeks of experience as a miner all at this mine and had been a mill operator for 26 weeks. Investigators reviewed the training records for the victim and found the task training and annual refresher training records to be up-to-date. Management established policies for persons working around maintenance hatches and trained all persons regarding these new policies and procedures.

ROOT CAUSE ANALYSIS

A root cause analysis was conducted and the following root causes were identified.

Root Cause: Management failed to ensure that it had policies and procedures so persons could safely clean the crusher dump floor between the west maintenance hatches and crusher dump pocket where there was a danger of falling.

Corrective Action: Railings were fabricated and installed around the maintenance hatches and along the crusher dump pocket to prevent entry into those areas. Signage was posted on all railings requiring the use of fall protection when the railings are removed. Management established policies for persons working around maintenance hatches and made persons aware of these new policies and procedures.

Root Cause: Management failed to enforce its own policies and procedures to ensure persons use fall protection where there is a danger of falling.

Corrective Action: All persons were retrained to recognize hazards where there is a danger of falling and to use fall protection where the danger of falling exists. Management will monitor persons to ensure that fall protection is used.

CONCLUSION

The accident occurred because management failed to ensure that it had policies and procedures in place so persons could safely remove any dust that accumulated around an uncovered opening on the dump floor where there was a danger of falling. The opening was created when the cover on a maintenance hatch was removed, eight days prior to the accident, to cool the lube floor below. The victim was not wearing fall protection, no warning signs were posted to identify the hazard, and no handrails were in place on the west side of the maintenance hatch.

ENFORCEMENT ACTIONS

Issued to Fairbanks Gold Mining Inc.
Order No. 8554187 was issued on June 4, 2011, under Section 103(j) of the Mine Act:

An accident occurred at this operation on June 4, 2011, at approximately 7:10 p.m. As rescue and recovery work is necessary, this order is being issued, under Section 103 (j) of the Mine Act to assure the safety of all persons at this operation. This order is also being issued to prevent the destruction of any evidence which would assist in investigating the cause or causes of the accident. It prohibits all activity at the Crusher Building except to the extent necessary to rescue and individual or prevent or eliminate an imminent danger until MSHA has determined that it is safe to resume normal mining operations in this area. This order applies to all persons in the rescue and recovery operation and any other persons on-site. This order was initially issued orally to the mine operator at 7:40 p.m. and has now been reduced to writing.

This order was terminated on June 8, 2011, after it was determined that conditions that contributed to the accident have been corrected and normal mining operations can resume.

Citation No. 6476675 was issued on September 26, 2011, under the provisions of Section 104(d)1 of the Mine Act for a violation of 30 CFR 56.11012:

On June 4, 2011, a fatal accident occurred when a miner fell through an open maintenance hatch which left an opening in the dump floor measuring approximately seven feet wide by eleven feet long in the gyro crusher building. The maintenance hatch had been removed on May 27, 2011, and had not been replaced. There were no protective devices installed around or over the open hatch or warning signs in place. Management engaged in aggravated conduct constituting more than ordinary negligence in that the open hatch was an obvious hazard, it had been intentionally left uncovered for 16 shifts and six members of management were aware of the condition. This violation is an unwarrantable failure to comply with a mandatory standard.

This citation was terminated on September 26, 2011. Railings were installed around all sides of the maintenance hatch and along the gyro crusher dump hopper on the primary crusher dump floor area.

Citation No. 6476676 was issued on September 26, 2011, under the provisions of Section 104(a) of the Mine Act for a violation of 30 CFR 56.15005:

On June 4, 2011, a fatal accident occurred when a miner fell through a seven feet wide by eleven feet long open maintenance hatch in the floor of the gyro crusher building. The hatch had been removed on May 27, 2011, and had not been replaced. The miner was not using fall protection while working near this open hatch.

This citation is a "Rules to Live By" priority standard and was terminated on September 26, 2011. All miners working in this area have been retrained in the proper use of fall protection.

Approved By:

Wyatt S. Andrews
District Manager

11/2/2011
Date

APPENDIX A

Person Participating in the Investigation

Fairbanks Gold Mining Inc.

Robert Sweeden	Health and Safety Manager
John Gentry	Health and Safety Superintendent
Bruce Jenkin	Mill Supervisor
John Kauffman	Miners' Representative

Mine Safety and Health Administration

Jerry L. DuBois	Supervisory Mine Safety and Health Inspector
Bart T. Wrobel	Supervisory Mine Safety and Health Inspector
Michael D. Murray	Mine Safety and Health Inspector

APPENDIX B

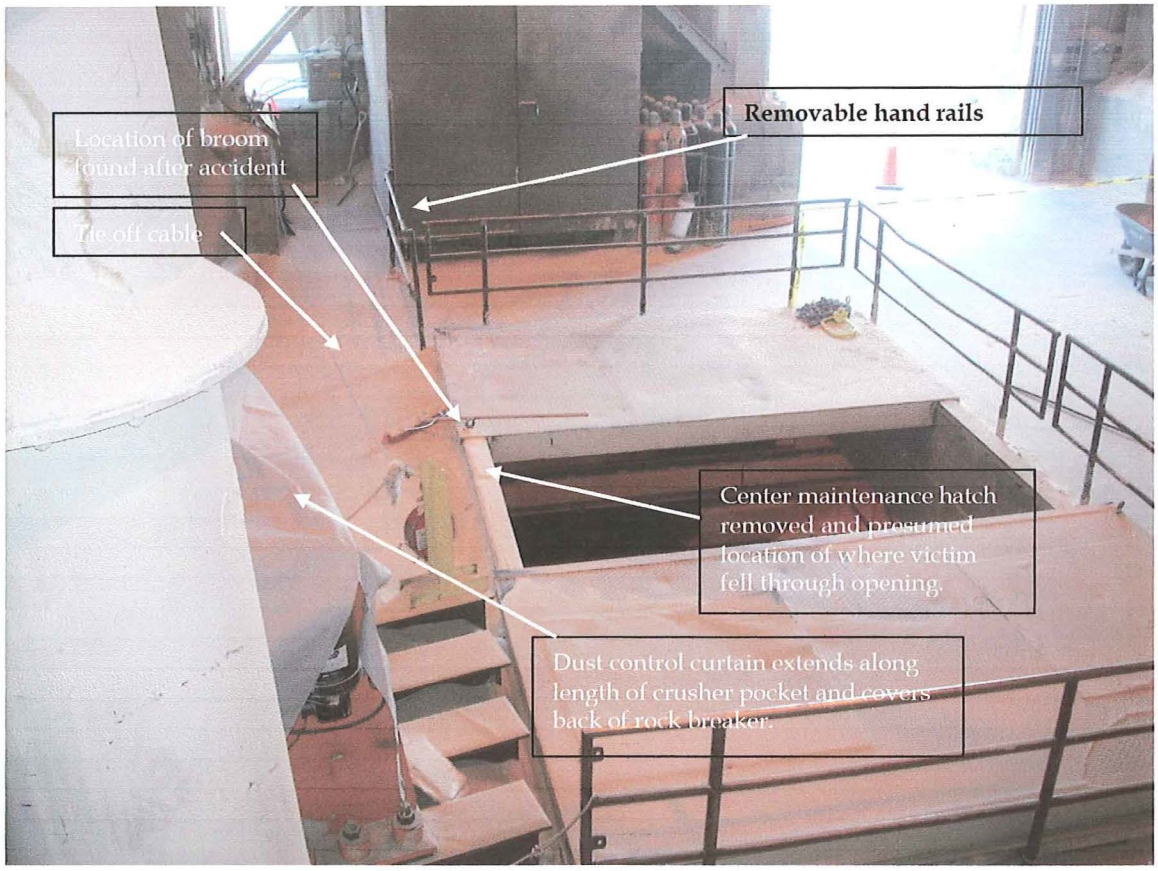

Figure 1 - Overview of accident scene

APPENDIX C – Victim Data Sheet

Accident Investigation Data - Victim Information
Event Number: 1 1 4 0 8 8 0

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:
Michael J. Murray	*M*	*39*	*01 Fatal*

5. Date(MM/DD/YY) and Time(24 Hr.) Of Death: *a. Date: 06/04/2011 b.Time: 19:49*

6. Date and Time Started: *a. Date: 06/04/2011 b.Time: 19:49*

7. Regular Job Title: *181 Mill / crusher operator*

8. Work Activity when Injured: *011 Cleaning Dump Floor of crusher building*

9. Was this work activity part of regular job? Yes | X | No |

10. Experience	Years	Weeks	Days		Years	Weeks	Days		Years	Weeks	Days		Years	Weeks	Days
a. This Work Activity:	0	26	0	b. Regular Job Title:	0	40	0	c: This Mine:	1	14	0	d. Total Mining:	1	14	0

11. What Directly Inflicted Injury or Illness? *002 Fall of 60 feet*

12. Nature of Injury or Illness: *370 Blunt Force Trauma, Multiple Fractures*

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: | X | CPR: | X | EMT: | Medical Professional: | X | None: |

16. Part 50 Document Control Number: (form 7000-1) *220111600020*

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

Victim Information:

1. Name of Injured/Ill Employee:	2. Sex	3. Victim's Age	4. Degree of Injury:

5. Date(MM/DD/YY) and Time(24 Hr.) Of Death:

6. Date and Time Started:

7. Regular Job Title:

8. Work Activity when Injured:

9. Was this work activity part of regular job? Yes | No |

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

11. What Directly Inflicted Injury or Illness?

12. Nature of Injury or Illness:

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

14. Company of Employment: (If different from production operator)
Independent Contractor ID: (if applicable)

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

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

17. Union Affiliation of Victim:

Victim Information:

1. Name of Injured/Ill Employee:	2. Sex	3. Victim's Age	4. Degree of Injury:

5. Date(MM/DD/YY) and Time(24 Hr.) Of Death:

6. Date and Time Started:

7. Regular Job Title:

8. Work Activity when Injured:

9. Was this work activity part of regular job? Yes | No |

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

11. What Directly Inflicted Injury or Illness?

12. Nature of Injury or Illness:

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

14. Company of Employment: (If different from production operator)
Independent Contractor ID: (if applicable)

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

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

17. Union Affiliation of Victim:

MSHA Form 7000-50b, Mar 2008

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