MAI-2007-09

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

REPORT OF INVESTIGATION

Surface Metal Mill
(Alumina)

Fatal Fall of Person Accident
April 18, 2007

Parish Abatement Co.
Contractor ID No. M390
at
Almatis Inc.
Arkansas Operations Mill
Bauxite, Saline County, Arkansas
Mine ID No. 03-00257

Investigators
Frederick B. Moore
Supervisory Mine Safety and Health Inspector

Raymond J. Norwood
Mine Safety and Health Inspector

Originating Office
Mine Safety and Health Administration
South Central District
1100 Commerce Street, Room 462
Dallas, TX 75242-0499
Edward E. Lopez, District Manager

OVERVIEW

On April 18, 2007, Alejandro E. Malo, contract laborer, age 52, was fatally injured when he fell about 57 feet from a scaffold. Malo was standing on a horizontal scaffold member passing scaffold materials to a coworker working above him.

The accident occurred because management policies failed to ensure that persons could safely erect scaffolds where there was a danger of falling. The victim was not tied off and floorboards had been removed from the level of the scaffold where he was working.

Additional considerations that might prevent future accidents include providing hand rails around all work platforms, covering large openings in the floor while working above them, and hoisting materials to elevated work locations.

GENERAL INFORMATION

Arkansas Operations Mill, a surface alumina mill, owned and operated by Almatis Inc., was located in Bauxite, Saline County, Arkansas. The principal operating official was Dinesh Moorjani, operations manager. The mill operated multiple shifts, 24 hours a day, 7 days per week. Total employment was 230 persons.

Alumina oxide was shipped by rail to the mill from several sources. The alumina oxide was conveyed to the mill where it was further refined to produce various grades of alumina oxide for industrial uses.

Parish Abatement Co. (Parish), located in Donaldson, Hot Spring County, Arkansas, was an asbestos remediation contractor. The principal operating official was Larry Parish, owner. Parish worked almost exclusively at Almatis performing a variety of projects. On the day of accident, Parish had been contracted to erect two scaffolds for use by another contractor.

A regular inspection was in progress when the accident occurred.

DESCRIPTION OF ACCIDENT

On the day of the accident, Larry Parish arrived at the mill about 8:00 a.m. He and his crew planned to erect two scaffolds on the fifth floor of building 451. Each scaffold was to consist of two 10-foot-high sections set on top of each other. One scaffold was to be situated over a 7-foot by 9-foot opening in the fifth floor walking surface. That opening was directly above similar openings in the fourth, third, and second floors of the building.

Parish had Alejandro Malo (victim) and Joel Mendoza, construction worker, pick up some materials that morning before coming to the mill. They arrived at the mill about 8:20 a.m. Malo and Mendoza attended a safety meeting, where Larry Parish discussed 100 percent tie-off with them and Caleb Parish, construction worker.

Larry Parish then directed Malo to rig scaffold materials to be hoisted from the ground floor to the fifth floor of building 451. Larry Parish, Mendoza, and Caleb Parish went to the fifth floor of building 451 to receive the materials and erect the two scaffolds.

Malo continued to hoist materials from the ground floor until about 3:15 p.m., when he walked up the stairs to the fifth floor to help complete the scaffolds. One scaffold had been completed and the second scaffold only needed hand rails around the top level. The floor boards at the 10-foot level of each scaffold had been removed and placed on the 20-foot level of each respective scaffold, as had been their work practice at Almatis for several years. Almatis personnel that routinely checked on contractors had not instructed Parish to do otherwise in the past and had not checked on them during the day of the accident.

Almatis employees, who were working on the ground level of building 451, were subject to injury from tools, equipment, or materials that could have fallen through the floor openings over which one scaffold was built. Almatis management failed to take action to ensure Parish covered the floor opening.

Mendoza was standing on the 20-foot level of the incomplete scaffold to receive materials to complete the hand rails. Larry Parish directed Malo to climb to the 10-foot level of the scaffold and pass materials to Mendoza.

Malo, who was wearing a full body harness with two lanyards, reportedly climbed up using 100 percent tie-off. He then stood on a horizontal member of the scaffold structure. Still tied off, Malo took an 8-foot hand rail section from Larry Parish and passed it up to Mendoza. Larry Parish then turned to get another section of hand rail from the floor behind him and heard Malo yell. He turned and saw that Malo had fallen into the large opening on the fifth floor. Mendoza and Caleb Parish, who had been passing materials from the materials hoist to Larry Parish, also heard the yell, but did not see Malo fall.

Larry Parish called Ken Zuber, guard, at 3:45 p.m. who then called the plant alert team and emergency medical services. Larry Parish, Mendoza, and Caleb Parish went down the stairs to the second floor. They found Malo lying on a cable tray and conduit pipes about 10 feet above the ground floor.

Christopher White, alert team member, quickly arrived and attended to Malo who was non-responsive. Emergency medical services arrived about 3:50 p.m. and Malo was pronounced dead at 4:50 p.m. by the Saline County Coroner. The cause of death was listed as multiple injuries.

INVESTIGATION OF ACCIDENT

On the day of the accident, MSHA was notified at 4:28 p.m., by a telephone call from Rusty Griffin, environmental heath and safety specialist, to MSHA's emergency hotline. Fred Gatewood, assistant district manager, was notified and 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.

While having no bearing on the cause of the accident, a citation was issued for the failure to immediately contact MSHA and report the accident. 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, contractor management and employees, and the miners' representative.

DISCUSSION

Location of Accident

The accident occurred on the fifth floor of building 451 where two scaffolds were being erected. The victim was standing on a horizontal scaffold support located on the 10-foot level of the second scaffold. The weather was warm and dry with temperatures reaching 75 degrees Fahrenheit.

Scaffolds

Each of the two scaffolds to be erected was to consist of two 10-foot vertical sections stacked on top of each other. One scaffold had been completed and the other scaffold only needed hand rails around the top level to complete it. Six-inch pads were placed under the corners of each scaffold to provide stability.

Each 10-foot section of the scaffolds was 8 feet long and 8 feet wide and was constructed by connecting 2-inch diameter steel tubing sections that were equipped with snap-locks to hold them together. Vertical tubing sections had 6-inch metal rings around the circumference at 24-inch intervals. Each ring had eight holes to accept the pins that secured the different configurations of hand railing, bracing supports, and floorboards.

The floorboards consisted of common lumber pieces 2 inches high by 10 inches wide by 10 feet long. Floorboards had been placed at the 10-foot level of each scaffold as they were erected but were removed and placed on the 20-foot level after those support members had been installed.

A fixed ladder had been erected on the outside of the incomplete scaffold. It was placed near a corner away from the completed scaffold. The ladder was three feet short of reaching the 20-foot level and was not in use at the time of the accident.

Fall Protection

At the time of the accident, Malo and Mendoza were each wearing fall protection. Larry Parish and Caleb Parish, who were standing on the fifth floor walking surface, were not wearing fall protection. They had removed their fall protection just prior to lunch and did not put it back on afterward.

Larry Parish, Caleb Parish, and Mendoza each had a Phoenix model full-body harness, manufactured by Traclet/FallStop, which was designed for persons weighing up to 300 pounds. The harnesses were equipped with two 6-foot lanyards manufactured by AO Safety.

Malo was wearing a full-body harness, manufactured by Elk River, designed for persons weighing up to 400 pounds. It was equipped with two 6-foot shock-absorbing lanyards manufactured by Elk River. The harness and lanyards worn by Malo were inspected and no defects were found.

Training and Experience

Larry Parish, Malo, and Mendoza had worked as individual contractors at the mill for about 10 years. When Almatis, Inc. bought the mill from the previous owner about two years ago, Larry Parish formed Parish Abatement Co. and hired Malo and Mendoza. In June 2006, Larry Parish hired Caleb Parish. All four individuals had received training in accordance with 30 CFR, Part 46.

ROOT CAUSE ANALYSIS

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

Root Cause: Management policies and procedures were inadequate and failed to ensure that persons could safely erect scaffolds. Floorboards were not maintained at the 10-foot level of the scaffold where persons were directed to perform work.

Corrective Action: Management should establish policies and procedures for erecting scaffolds safely. Floorboards should be provided at all levels where persons will work. Prior to beginning work, possible risks should be discussed and procedures should be established to safely complete the task.

Root Cause: Management policies and work procedures failed to ensure that fall protection was properly used by persons working where there was a danger of falling.

Corrective Action: Management should establish policies and procedures that ensure fall protection is used continuously by all persons working where there is a danger of falling. Management should evaluate the use of retractable lanyard mechanisms that enable users to change positions without unfastening and reconnecting the lanyard.

CONCLUSION

The accident occurred because management policies failed to ensure that persons could safely erect scaffolds where there was a danger of falling. The victim was not tied off and floorboards had been removed from the level of the scaffold where he was working.

ENFORCEMENT ACTIONS

Almatis Inc.

Order No. 6242345 was issued on April 18, 2007, under the provisions of Section 103(k) of the Mine Act:

A fatal accident occurred at this operation on April 18, 2007, when a contract worker fell from the scaffolding he was helping to erect. This order is to ensure the safety of all personnel at this operation. It prohibits all activity at the accident site until MSHA has determined that it is safe to resume normal operations. The mine operator shall obtain

prior approval from an authorized representative for all actions before restoring activity in this area.

This order was terminated on April 20, 2007, after conditions that contributed to the accident no longer existed.

Citation No. 6240115 was issued on May 11, 2007, under the provisions of Section 104(a) of the Mine Act for a violation of 30 CFR, 56.11027.

A fatal accident occurred at this operation on April 18, 2007, when a construction worker fell from scaffolding through the openings in four floors below. Floorboards had been removed from the working platform at the 10-foot level from which he was working.

This citation was terminated on May 17, 2007, after the mine operator ensured that floorboards will be provided at each level of scaffolds where persons work.

Parish Abatement Co.

Citation No. 6240113 was issued on May 11, 2007, under the provisions of Section 104(d)(1) of the Mine Act for a violation of 30 CFR, 56.15005:

A fatal accident occurred at this operation on April 18, 2007, when a construction worker fell 57 feet from scaffolding through the openings in 4 floors below. The victim was not tied off. Larry Parish, owner of Parish Abatement Co., engaged in aggravated conduct constituting more than ordinary negligence in that he was present and directing the work.

This citation was terminated on May 15, 2007, after the contractor discussed 100 percent tie-off with all employees. The contractor will monitor employees to ensure they comply with the policy.

Order No. 6240114 was issued on May 11, 2007, under the provisions of Section 104(d)(1) of the Mine Act for a violation of 30 CFR, 56.11027:

A fatal accident occurred at this operation on April 18, 2007, when a construction worker fell from scaffolding through the openings in four floors below. Floorboards had been removed from the working platform at the 10-foot level from which he was working. Larry Parish, owner of Parish Abatement Co., engaged in aggravated conduct constituting more than ordinary negligence in that he was present and directing the work.

This citation was terminated on May 15, 2007, after the contractor adopted work procedures that require floorboards to be installed at each level of scaffolds.

Approved:_____ Date:_____

Edward E. Lopez
District Manager

APPENDIX A

Person Participating in the Investigation

Almatis Inc.

Roger Allison	miners' representative
Rusty Griffin	environmental health and safety specialist
Dinesh Moorjani	operations manager
John Simpson	construction superintendent

Parish Abatement Co.

Joel Mendoza	construction worker
Caleb Parish	construction worker
Larry Parish	owner

Mine Safety and Health Administration

Frederick B. Moore	supervisory mine safety and health inspector
Raymond J. Norwood	mine safety and health inspector

APPENDIX B

Accident Investigation Data - Victim Information
Event Number: 1 0 4 1 8 0 5

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. Last Four Digits of SSN:	5. Degree of Injury:
Alejandro E. Malo	*M*	*52*	*0000*	*01 Fatal*

6. Date(MM/DD/YY) and Time(24 Hr.) Of Death: *a. Date: 04/18/2007 b.Time: 16:50*

7. Date and Time Started: *a. Date: 04/18/2007 b.Time: 8:30*

8. Regular Job Title: *199 Laborer*

9. Work Activity when Injured: *013 Erecting Scaffolding*

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

11. Experience	Years	Weeks	Days		Years	Weeks	Days		Years	Weeks	Days		Years	Weeks	Days
a. This Work Activity:	*10*	*0*	*0*	b. Regular Job Title:	*2*	*10*	*5*	c: This Mine:	*10*	*0*	*0*	d. Total Mining:	*10*	*0*	*0*

12. What Directly Inflicted Injury or Illness? *088 Landed on conduit pipes and wire tray*

13. Nature of Injury or Illness: *370 Multiple injuries*

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

15. Company of Employment:(If different from production operator) *Parish Abatement Company Inc.*
Independent Contractor ID: (if applicable) *M390*

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

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

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

Victim Information:

1. Name of Injured/Ill Employee:	2. Sex	3. Victim's Age	4. Last Four Digits of SSN:	5. Degree of Injury:

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

7. Date and Time Started

8. Regular Job Title:

9. Work Activity when Injured:

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

11. 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:			

12. What Directly Inflicted Injury or Illness?

13. Nature of Injury or Illness:

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

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

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

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

18. Union Affiliation of Victim:

Victim Information:

1. Name of Injured/Ill Employee:	2. Sex	3. Victim's Age	4. Last Four Digits of SSN:	5. Degree of Injury:

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

7. Date and Time Started:

8. Regular Job Title:

9. Work Activity when Injured:

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

11. 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:			

12. What Directly Inflicted Injury or Illness?

13. Nature of Injury or Illness:

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

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

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

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

18. Union Affiliation of Victim: