MAI-2007-22

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

METAL AND NONMETAL MINE SAFETY AND HEALTH
REPORT OF INVESTIGATION

Surface Nonmetal Mine
(Sand and Gravel)

Fatal Fall of Person Accident
August 29, 2007

Evans Gravel, Inc.
Evans Gravel, Inc.
Milford, Clermont County, Ohio
Mine I.D. No. 33-04358

Investigators

Fred H. Tisdale
Supervisory Mine Safety and Health Inspector

Leland R. Payne
Mine Safety and Health Specialist

Marty J. Gayer
Mine Safety and Health Specialist

Originating Office
Mine Safety and Health Administration
North Central District
515 West First Street, Room 333
Duluth, MN 55802-1302
Steven M. Richetta, District Manager


Hole in Pipe
Slurry Tank

OVERVIEW

Patrick R. Kelley, plant operator, age 41, was fatally injured on August 29, 2007, when he fell into an empty slurry tank. He was making repairs at the plant and was sitting or standing on a rotted board being used as a work platform when it broke.

The accident occurred because management failed to ensure that persons could safely perform maintenance tasks at the plant when working at elevated locations. A work platform of substantial construction, with handrails, and maintained in good condition was not provided.

GENERAL INFORMATION

Evans Gravel, Inc. (mine), a surface sand and gravel mining operation, owned and operated by Evans Gravel, Inc., was located in Milford, Clermont County, Ohio. The principal operating official was Douglas L. Evans, president. The mine normally operated one, 11-hour shift, five days a week. Total employment was three persons.

Sand and gravel was mined from a single bench with an excavator, loaded into haul trucks, and transported to an overland conveyor system. The material was transported to the on-site plant where it was screened, washed, and stockpiled. Finished products were sold for various uses.

The last regular inspection of this mine was completed on June 21, 2007.

DESCRIPTION OF ACCIDENT

On the day of the accident, Patrick R. Kelley (victim) reported for work at 7:00 a.m., his normal starting time. Kelley met with John F. Stagge, Jr., plant supervisor, to discuss maintenance work to be performed that day. Kelley and Stagge jointly performed various maintenance tasks on the crusher until 11:30 a.m. Kelley then informed Stagge he wanted to patch a hole in the sand discharge pipe. At 12:10 p.m., Stagge called Kelley on his cell phone to tell him to eat lunch but Kelley said he wanted to finish patching the hole.

At approximately 12:45 p.m., Stagge walked from the scales to the plant and called for Kelley but did not get a response. He shut off the welder and followed the welding cables to the slurry tank. He found Kelley lying in the bottom of the empty slurry tank against a 12-inch drain pipe surrounded by broken pieces of wood.

Stagge called for emergency medical services (EMS) and then called Joseph E. Clark, loader operator, to stay with Kelley while he went to the main gate to meet the EMS personnel. EMS arrived but Kelley was non-responsive and the coroner pronounced him dead at the scene. Death was attributed to a cervical spine fracture.

INVESTIGATION OF THE ACCIDENT

The Mine Safety and Health Administration (MSHA) was notified of the accident on August 29, 2007 at 2:42 p.m., by a telephone call from Ronald Gilbert, safety consultant, Safety Systems, to MSHA's National Call Center. Gerald D. Holeman, assistant district manager, was called and an investigation began the same day. An order was issued under the provisions of section 103(a) 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 site, interviewed mine employees, and reviewed documents and work procedures relevant to the accident. MSHA conducted the investigation with the assistance of mine management and employees, and the State of Ohio, Division of Mineral Resources Management.

DISCUSSION

Location of the Accident

The accident occurred at the sand plant's steel slurry tank positioned under a sand classifier. The tank was approximately 7 feet wide, 7 feet high, and 17 feet long. It contained a 12-inch pipe that ran along the bottom. The slurry tank was empty at the time and the plant was not operating.

Discharge Pipe

A 12 inch diameter pipe discharged water and sand from the sand classifier into a sand screw for further conveyance. This pipe dropped out of the bottom of the classifier, made a right angle turn, and emptied into a sand screw. A 2- inch hole had worn through the steel pipe where the pipe made a right angle turn (elbow) allowing leakage into the slurry tank.

The pipe's elbow was located about 6 feet above the top middle of the slurry tank and 13 feet above ground.

Plank

The wooden plank involved in the accident was approximately 2-inches by 8-inches by 7 feet long. The plank had been placed over the sides of the tank to provide a work platform to weld a patch on a pipe. The same plank had been used as a work platform previously. The plank was rotted and decayed from age and exposure to weather. It broke into 4 larger pieces and numerous smaller portions.

Welder

The welder to be used to make the repairs at the plant on the day of the accident was a Miller Bobcat 225. It was an engine-driven welder and generator. No defects were found on the welder.

Weather

On the day of the accident, the weather conditions were clear with temperatures approximately 95 degrees Fahrenheit. Weather was not considered a factor in the accident.

Training and Experience

Patrick R. Kelley had 1 year, 5 months, and 21 days mining experience and had received training in accordance with 30 CFR, Part 46.

ROOT CAUSE ANALYSIS

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

Root Cause: Management policies, procedures, and controls were inadequate and failed to ensure that persons could safely perform maintenance tasks at the plant while working at elevated work positions.

Corrective Action: Management should establish policies, procedures, and controls to ensure that persons can safely perform tasks when working at elevated locations of the plant. A work platform should be substantially constructed. Persons should be monitored to ensure hazards from falling are discussed and safe work procedures are established before beginning work.

CONCLUSION

The accident occurred because management failed to ensure that persons could safely perform maintenance tasks at the plant when working at elevated locations. A work platform of substantial construction, with handrails, and maintained in good condition was not provided.

ENFORCEMENT ACTIONS

Order No. 6169328 was issued on August 29, 2007, under the provisions of Section 103(k) of the Mine Act:

> A fatal accident occurred at this operation on August 29, 2007, when one employee was attempting to repair a hole in a discharge pipe. This order is issued to assure the safety of all persons at this operation. It prohibits all activity in the plant until MSHA has determined that it is safe to resume normal mining operations in this 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 October 30, 2007. Conditions that contributed to the accident no longer exist.

Citation No. 6178215 was issued on October 29, 2007, under the provisions of Section 104(a) of the Mine Act for a violation of 30 CFR 56.11027:

A miner was fatally injured at this mine on August 29, 2007, while working in the area of a sand discharge pipe at the wash plant. The miner worked from a platform that was positioned over a surge tank adjacent to the sand discharge pipe in order to weld a patch on a hole in the pipe. This platform was not of substantial construction or maintained in good condition and was not provided with handrails. The miner fell approximately 7 feet to the bottom of the empty surge tank.

This citation was terminated on November 26, 2007. The mine operator established safety policies and procedures addressing access to elevated areas of the plant. The procedures were discussed with all persons required to perform tasks in these areas.

Approved by: Date:

Steven M. Richetta
District Manager
North Central District

APPENDIX A

Persons Participating in the Investigation

Evans Gravel, Inc

Anthony J. Muto	safety director
John F. Stagge, Jr.	plant supervisor
Christopher Ferguson	operations manager
Joseph E. Clark	loader operator

State of Ohio, Division of Mineral Resources Management

Robert Broecker	mine safety inspector

Mine Safety and Health Administration

Fred H. Tisdale	supervisory mine safety and health inspector
Leland R. Payne	mine safety and health specialist
Marty J. Gayer	mine safety and health specialist

Accident Investigation Data - Victim Information

Event Number: 1 0 0 7 0 8 1

APPENDIX B

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:
Patrick R. Kelley	*M*	*41*		*01 Fatal*

6. Date(MM/DD/YY) and Time(24 Hr.) Of Death: *a. Date: 08/29/2007 b.Time: 12:30*

7. Date and Time Started: *a. Date: 08/29/2007 b.Time: 6:30*

8. Regular Job Title: *145 Plant Operator*

9. Work Activity when Injured: *093 arc welding*

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

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

12. What Directly Inflicted Injury or Illness? *013 Bottom of steel slurry tank.*

13. Nature of Injury or Illness: *220 cervical spine fracture*

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

15. Company of Employment:(If different from production operator) *Operator*

Independent Contractor ID: (if applicable)

16. On-site Emergency Medical Treatment:
Not Applicable: | | First-Aid: | | CPR: | | EMT: | X | Medical Professional: | | 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
a. This Work Activity:			
b. Regular Job Title:			
c: This Mine:		Week	
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
a. This Work Activity:			
b. Regular Job Title:			
c: This Mine:		Week	
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: