CAI-2008-16

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

COAL MINE SAFETY AND HEALTH

REPORT OF INVESTIGATION

Underground Coal Mine
Fatal Machine Accident
July 11, 2008

Nolo Mine
AMFIRE Mining Company LLC
Nolo, Indiana County, Pennsylvania
MSHA ID 36-08850

Accident Investigators

Robert E. Roland
Coal Mine Safety and Health Inspector

Donald R. Foster
Coal Mine Safety and Health Inspector,
Electrical Specialist

Robert Bodenschatz
Coal Mine Safety and Health Inspector

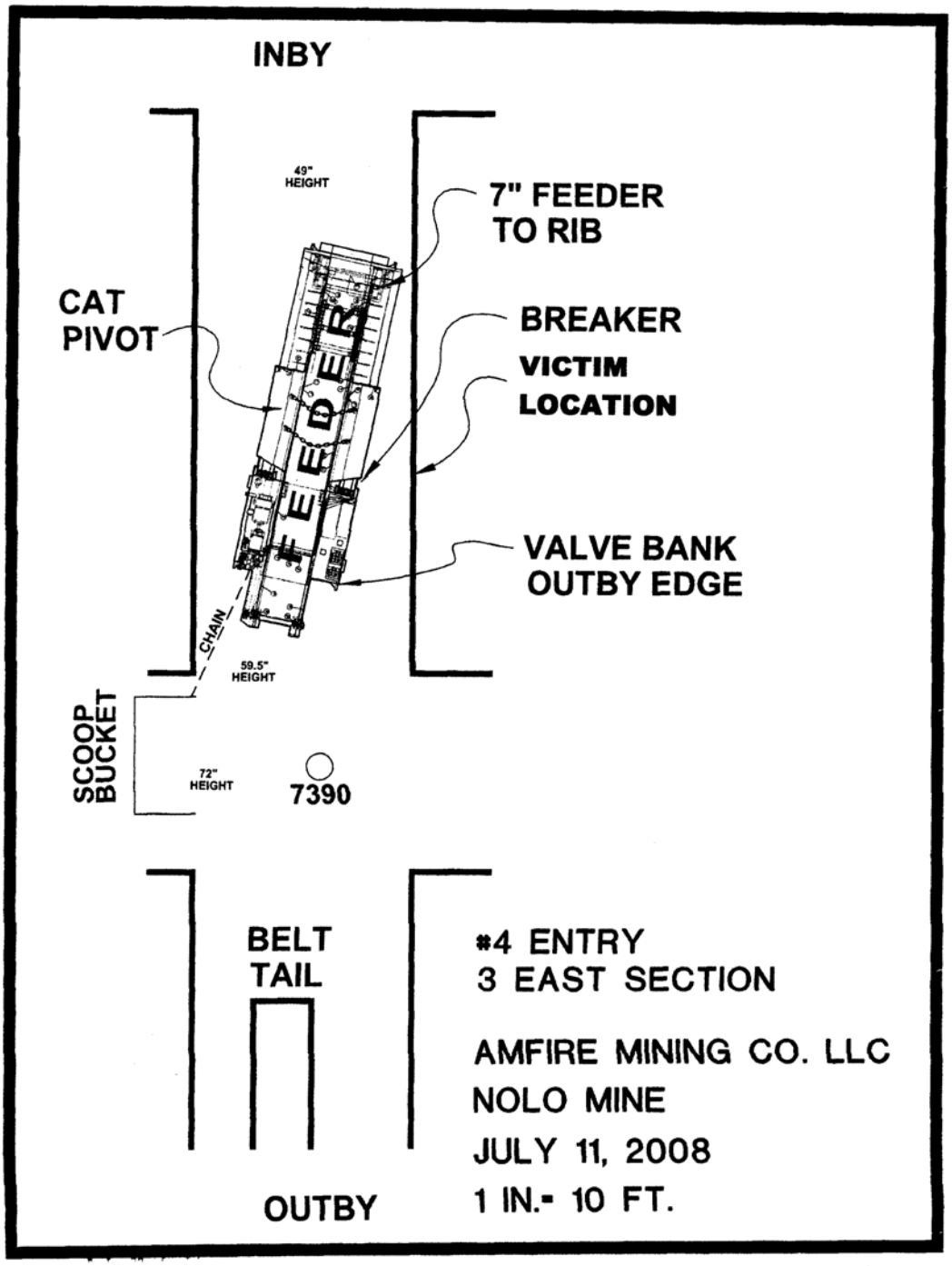
Stephen Dubina
MSHA, Electrical Engineer

Anthony Guley
Assistant District Manager, Inspections

Originating Office
Mine Safety and Health Administration
District 2
319 Paintersville Road
Hunker, Pennsylvania 15639
William Ponceroff, District Manager

TABLE OF CONTENTS

ACCIDENT SITE AFTER REMOVAL OF FEEDER FROM THE RIB AND RECOVERY OF VICTIM
NOLO MINE



OVERVIEW

At approximately 3:50 P.M. on Friday, July 11, 2008, a 62 year old shift foreman was fatally injured at AMFIRE Mining Company's Nolo Mine. The accident occurred while the victim was preparing to tram a belt feeder back onto the belt tail after adding belt to the belt conveyor. The trailing cable, supported by tie wires from the mine roof, was lowered to the mine floor. In the process of lowering the cable, it dropped inadvertently behind the control levers holding the right tram valve in the open position. When the victim started the feeder, it pivoted abruptly pinning him between the feeder and the mine rib.

The accident occurred because the trailing cable was inadvertently positioned behind the hydraulic control levers holding the right cat tram lever in the open position. When the start switch was activated, the machine suddenly pivoted. No means to deenergize the machine was available at the start switch location.

GENERAL INFORMATION

The Nolo Mine, operated by AMFIRE Mining Company LLC, was located at 1127 Simons Rock Road, Penn Run, Indiana County, Pennsylvania.

The mining operation utilized continuous mining machines with shuttle car haulage to produce coal from the Lower Kittanning seam. The average mining height was 48 inches. Total employment at the mine was 100, including 95 underground miners. The mine operated two production shifts and one maintenance shift on a five to six days per week schedule. Three continuous mining sections, two on advance and one on retreat, produced an average of 2,400 tons per day. A system of conveyor belts transported coal from the working sections to the surface where it was trucked to other locations for processing.

The principal officers for the mine at the time of the accident were:

Peter V. Merritts .....President
Gary O. Deemer.....General Manager
Ricky D. Smith……...Superintendent
George R. Bonneau…….Mine Foreman

Prior to the accident, the Mine Safety and Health Administration (MSHA) completed the last regular safety and health inspection on June 13, 2008. The Non-Fatal Days Lost (NFDL) injury incidence rate for the mine in 2007 was 6.04 compared to a National NFDL rate of 4.64.

DESCRIPTION OF ACCIDENT

On the evening of July 10, 2008, William Pardee, shift foreman, reported for the 11 P.M. to 7 A.M. shift. Pardee instructed workmen on their work assignments for the shift which would consist of advancing the section power center and adding 175 feet of conveyor belt in the 3 West section of the mine.

A crew of seven miners and the section foreman entered the mine at approximately 11:30 P.M. and proceeded to the 3 West Section. The section foreman, Stanley Kubat, along with Daniel Huey, Thomas Dyson, and James Strenko started to move the section power center. Daniel Wojno, Joseph Cochran, Raymond McClain, and Paul Whitaker prepared to extend the 3 East section conveyor belt. Pardee traveled to the section via the belt entry to pick up supplies and arrived on the section after the crew.

In preparation to move the belt feeder, Cochran and Wojno cleaned up spilled coal, unblocked the feeder, and disconnected the sequence control cables. Cochran trammed the feeder off the belt tail and moved the machine inby approximately 200 feet in the No. 4 entry to a point just inby Survey Station 7390. The feeder was parked at this location and Cochran hung the feeder trailing cable from the roof bolts because the scoop tractor would be traveling through this area. Hanging the cable would assure that it was placed out of the way. Pardee arrived on the section and joined the belt addition activities already in progress.

As the shift progressed the power move was nearly completed. The cables had been disconnected and pulled around the coal pillar to the new set-up location. The power center had been moved to the new location and cables were being re-connected and power restored. The belt advancement progressed as expected without incident.

At approximately 3:45 A.M. Pardee told Wojno that they would prepare to set the belt feeder back on the belt tail. Pardee dropped the trailing cable to the mine floor as Wojno waited at the belt tail, some 30 feet away, to help direct the feeder onto the belt tail. Pardee positioned himself between the feeder and the coal rib in preparation to operate the feeder. As he pushed the start button, the feeder abruptly moved, pivoting against the rib pinning him between the machine and the rib.

Wojno, realizing immediately that Pardee was pinned, ran to the feeder to push the emergency stop switch located on the opposite side of the machine. Wojno yelled to Pardee and received no response. Pardee's position could not be reached due to the close proximity of the machine to the mine rib. Kubat was summoned and informed of the accident. A call was placed to the surface, reporting the accident and requesting medical assistance. Gary Deemer, General Manager, was contacted and instructed the underground miners, via telephone, to take whatever measures necessary to free Pardee. A scoop tractor was used to pull the feeder away from the rib and free Pardee.

Strenko, an emergency medical technician (EMT), was located and brought to the scene. Once the feeder was pulled away from the rib, the victim was freed and access to his location was possible. The EMT made an assessment and no signs of life were found. The victim was placed on a backboard and transported to the surface where he was pronounced dead at 5:39 A.M. by the Indiana County Coroner. The victim was transported to Conemaugh Hospital by Citizens Ambulance Service.

INVESTIGATION OF THE ACCIDENT

On July 11, 2008, at 4:20 A.M, David Weakland, MSHA Field Office Supervisor for the Indiana Field Office, was notified that an accident had occurred at the Nolo Mine. MSHA personnel were dispatched to the mine. A 103(k) order was issued to ensure the safety of all persons during the accident recovery and investigation. The accident investigation was conducted in cooperation with Pennsylvania Bureau of Deep Mine Safety, the mine operator, and MSHA's Technical Support Branch. The investigation consisted of visits to the accident scene and other locations within the mine, a review of pertinent mine records, and interviews conducted with ten miners.

DISCUSSION

Mining Type and Equipment

The 3 East section is an advancing section with six entries spaced on 60 foot centers utilizing various pillar lengths. The entries are numbered 1 through 6. left to right. The belt entry and loading point (belt feeder/belt tail) is located in the No. 4 entry at the end of the section belt. The coal is mined with a Joy 14CMAA continuous mining machine and transported to a belt feeder by three Joy 21SC shuttle cars. A Fletcher twin boom roof drill and a Lee Norse single head drill are utilized to install roof supports.

The belt feeder was a Stamler; model CF44LPH1CAE, serial number 04-011, rebuilt by Cogar Mine Products, Beckley, West Virginia. It is a self-propelled, track mounted machine, designed with a floor level conveyor bed onto which the coal is dumped from the shuttle car. The belt feeder is positioned with the boom end (discharge end) over the belt tail. The coal is fed, at a regulated rate, by a flight chain from the conveyor bed, over the boom end of the feeder and onto the conveyor belt which transports the coal to the surface. MSHA Technical Support personnel did not identify mechanical equipment defects affecting operation of the belt feeder.

The section power distribution center (power center) was located in the No. 5 entry, adjacent to the feeder/belt tail. The power center receives high voltage (typically 7200 Volts AC) and reduces it to the desired voltage to operate the section equipment. The

power center also contains the required electrical safety devices for each circuit on the working section.

The addition of belt and advancement of the power system is typically done for every one to three hundred feet of section advancement. Depending on the rate of section advancement, the frequency of this process will vary from a few days, up to two weeks.

Physical Factors

1. The accident occurred 25 feet inby Survey Station 7390 in the No. 4 entry of the 3 East section.
2. The feeder was parked on a roll or raised hump in the mine floor, which greatly increased the ease with which the machine would pivot when trammed.
3. The mining height at the accident location measured 51 inches and the width of the entry was 19 feet 4 inches.
4. The area was dry.
5. No obstructions were present in the area along the rib where the accident occurred.

STAMLER BELT FEEDER (Cogar rebuild):

a. The belt feeder measured 9 feet in width by 31 feet in length.
b. The reset (start) button was located 63 inches inby the operator control levers and the emergency stop switch (panic bar).
c. The hydraulic control levers extended two inches beyond the top pan (or cover) of the machine. *
d. The trailing cable entered the electrical control panel on the end of the panel located by the hydraulic control levers. *
e. The position of the strain clamp on the trailing cable was such as to align the cable with the control levers when the cable was under tension. *
f. The feeder trailing cable was positioned behind the hydraulic control levers with the weight of the cable holding the right tram control valve in the open position. *

*See Appendix C

Training and Experience

William Pardee had a total of 40 years underground mining experience, with 20 years experience as a shift foreman. Of Pardee's 40 years of underground experience, the last 4 years and 32 weeks were at AMFIRE's Nolo Mine. Pardee possessed the following certifications from the Commonwealth of Pennsylvania: Assistant Mine Foreman, Mine Foreman, Miner's Certificate of Qualification and Machine Operators Certificate. Pardee was given required training as per the applicable MSHA approved training plans.

ROOT CAUSE ANALYSIS

An analysis was conducted to identify the most basic causes of the accident that were correctable through reasonable management controls. During the analysis, causal factors were identified that, if eliminated, would have either prevented the accident or mitigated its consequences.

Listed below are root causes identified during the analysis and their corresponding corrective actions implemented to prevent a recurrence of a similar accident:

1. *Root Cause:* The START switch of the belt feeder was located 63 inches away from the operator's control station, which placed the victim out of reach of the operator controls and the emergency stop switch while starting the feeder.

   Corrective Action: The mine operator has made modifications to all belt feeders used at Nolo Mine. The change assured that any feeder operator is capable of easily reaching a stop switch and deenergizing the machine, if needed, while starting or tramming the feeder.

   The operator developed written Safe Job Procedures for each type belt feeder in use at Nolo Mine.

   A revision of the operator's Part 48 Training Plan was submitted and approved by the District Manager. The task of Belt Feeder Operator and Safe Job Procedures for the task was added to the plan.

   The mine operator re-trained all belt feeder operators per the operator's approved training plan under Part 48.7(a), which included modifications made to the feeders.

2. *Root Cause:* The hydraulic control levers extended beyond confines of the feeder frame, exposing the levers to unexpected activation. When the trailing cable was lowered from its supported position, the cable fell onto the hydraulic levers and held the tram lever in the open position.

   Corrective Action: The mine operator fabricated a metal guard over the hydraulic control levers to prevent unexpected activation of the levers.

3. *Root Cause:* The trailing cable for the belt feeder entered the end of the electrical control box near the hydraulic control levers. A strain clamp attached to the cable was installed in a manner that aligned the trailing cable with the control levers when the cable was under tension. When taken down from its suspended location, the cable fell behind the control levers, holding the tram lever in the open position.

Corrective Action: The trailing cable was repositioned away from the hydraulic control levers. The mine operator re-routed the cable to the inby end of the electric control box and installed a strain clamp on the cable at this location.

CONCLUSION

The accident occurred because a means was not provided to prevent unintentional activation of the hydraulic controls. The machine operator (victim) did not see the trailing cable positioned behind the right tram lever, which held the tram lever in the open position. When the start switch was pushed, the sudden, unintentional movement pinned the victim between the coal rib and the feeder unit.

The emergency stop switch (panic bar) was located 63 inches from the start switch, making it difficult to deenergize the machine quickly in an emergency.

Approved By:

William [illegible]
District Manager

2/19/09
Date

ENFORCEMENT ACTIONS

1. A 103(k) Order No. 7048350 was issued to AMFIRE Mining Company, LLC. Nolo Mine to ensure the safety of all persons at this mine until MSHA has determined that it is safe to resume normal mining operations.

2. Safeguard No. 7054957 was issued:
   The hydraulic control levers on the Stamler (Cogar rebuilt) belt feeder, model CF44LPH1CAE, serial number 04-011, being used to transport material (coal) in the 3 West, MMU 004 active section, were not guarded from unintentional activation. An employee was fatally injured while preparing to tram the feeder. The trailing cable, which was supported against the mine roof, was lowered to the mine floor. Unknowingly, the cable was dropped and positioned behind the control levers holding the tram lever in the open position. When the operator pushed the start button on the feeder, it immediately began to tram, pinning the victim between the machine and the mine rib. The emergency stop switch (panic bar) was located 63 inches from the start button and out of reach of the operator to deenergize the machine quickly in an emergency. The lack of a guard over the control levers to prevent unintentional activation of the levers and the inability of the machine operator to reach the emergency stop switch quickly from the location of the start switch creates a hazard to the machine operator and any miner(s) in the vicinity of the feeder. This is a Notice to Provide Safeguard requiring that a substantial guard be installed and maintained over the control levers of the belt feeder. Such guard shall be installed and maintained in a manner as to prevent unintentional activation of the control levers. The start and emergency stop (panic bar) switches on belt feeders shall be located at the control station in close proximity to permit quick deenergization of the machine. The requirements of this Safeguard apply to all belt feeders at this mine with on-board controls.

Appendix A
Persons Participating in the Investigation

Listed below are persons furnishing information and/or were present during the investigation:

Company Officials

Peter Merritts…….....President
Gary Deemer……..General Manager
Ricky Smith…….Superintendent
George Bonneau…….……Mine Foreman
Samuel Marra…….....Mine Electrician
Allen Dupree……..V.P. Safety, Alpha Natural Resources
James Pablic……....Safety Director
Richard Kinter……Assistant Safety Director
Stanley E. Kubat…….Section Foreman

Nolo Mine employees

Joseph E. Cochran…….....General Labor
Thomas K. Dyson…….....General Labor
Scott D. Huey…….....Prep Crew
Raymond D. McClain……Mechanic
Gregory T. Shultz……...Outby Laborer
James A. Strenko…….Scoop Operator
Paul Whitaker…….....General Laborer
Daniel E. Wojno…….General Laborer

Pennsylvania Department of Environmental Protection

Joseph Sbaffoni ……Director, Bureau of Mine Safety
Alan Martin……Approval and Certification Program Manager
Robert Ceschini……..Electrical Inspection Supervisor
Dennis Walker……Bituminous Division Program Manager
Jeffry Kerch…….Underground Mine Inspection Supervisor
David Stalnaker…….....District Inspector

John Kuzio……...Electrical Inspector

Mine Safety and Health Administration

David Weakland……Supervisory Coal Mine Safety and Health Inspector
Anthony Guley……..Assistant District Manager, Inspections
Edward Tersine……..Coal Mine Safety and Health Inspector, Ventilation Specialist
Donald Foster……....Coal Mine Safety and Health Inspector, Electrical Specialist
Robert Roland…….... Coal Mine Safety and Health Inspector, Accident Investigator
Robert Bodenschatz…….. Coal Mine Safety and Health Inspector
Stephen Dubina…….....Electrical Engineer, Technical Support

Attorneys

R. Henry Moore……Counsel for AMFIRE Mining Co.

Equipment Manufacture

Stephen M. Campbell ……Electrician, Cogar Mine Supply

Appendix B

Accident Investigation Data - Victim Information
Event Number: 4 0 4 2 5 5 2

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:
William Pardee	*M*	*62*	*6373*	*01 Fatal*

6. Date(MM/DD/YY) and Time(24 Hr.) Of Death: *a. Date: 07/11/2008 b.Time: 5:39*

7. Date and Time Started: *a. Date: 07/10/2008 b.Time: 23:30*

8. Regular Job Title: *049 Shift Foreman*

9. Work Activity when Injured: *041 energizing feeder*

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:	*20*	*0*	*0*	b. Regular Job Title:	*10*	*0*	*0*	c: This Mine:	*4*	*32*	*0*	d. Total Mining:	*40*	*0*	*0*

12. What Directly Inflicted Injury or Illness: *077 Belt Feeder (Undg.)*

13. Nature of Injury or Illness: *170 Crushed between belt feeder ond coal rib*

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

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		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:

MSHA Form 7000-50b, Dec 1994

Printed 10/07/2008 12:12:23 PM

Appendix C