

UNITED STATES  
DEPARTMENT OF LABOR  
MINE SAFETY AND HEALTH ADMINISTRATION

COAL MINE SAFETY AND HEALTH

REPORT OF INVESTIGATION

Underground Coal Mine

Fatal Powered Haulage Accident  
April 22, 2004

No. 7 Mine  
Jim Walter Resources, Inc.  
Brookwood, Tuscaloosa County, Alabama  
ID No. 01-01401

Accident Investigators

John Church  
Coal Mine Safety and Health Inspector  
(Electrical Specialist)

Harry Wilcox  
Coal Mine Safety and Health Inspector

Steve Harrison, P.E.  
Coal Mine Safety and Health Inspector  
(Mining Engineer)

Patrick Retzer  
Electrical Engineer Technical Support

Originating Office  
Mine Safety and Health Administration  
District 11  
135 Gemini Circle  
Birmingham, Alabama  
Richard A. Gates, District Manager

## TABLE OF CONTENTS

OVERVIEW .....	1
GENERAL INFORMATION .....	2
DESCRIPTION OF ACCIDENT .....	3
INVESTIGATION OF ACCIDENT .....	4
DISCUSSION .....	5
Accident Scene Information .....	5
Training .....	6
Conveyor Belt System .....	6
Human Factors .....	7
Equipment Tests.....	9
Possible Accident Scenerios.....	9
ROOT CAUSE .....	11
CONCLUSION .....	12
ENFORCEMENT ACTIONS .....	13
APPENDIX A - Persons participating in the investigation.....	14
APPENDIX B - Persons interviewed.....	15
APPENDIX C - Conveyor belt orientation .....	16
APPENDIX D - Surface area where the victim was recovered .....	17
APPENDIX E - Accident scene time study .....	18

## OVERVIEW



### **Victim's Work Area, North Main Belt Discharges to West "A" Belt**

On Thursday, April 22, 2004, a 57-year old general inside laborer with 30 years of mining experience was fatally injured at the Jim Walter Resources, Inc. No. 7 Mine. The accident occurred when the victim, Gary Keeton, contacted a moving belt conveyor while performing maintenance as a belt cleaner on the West "A" Belt and North Main Belt head roller. After being carried approximately 9000 feet by the conveyor system, the victim was found during search operations on the surface rock pile by a heavy equipment operator.

There were no eye witnesses to the fatal accident. The lack of established safe work practices and procedures, in combination with an absence of physical environmental safeguards and lack of safe means of access for physical chute maintenance were determined to be the contributing causes of the accident.

## GENERAL INFORMATION

Jim Walter Resources, Inc. No. 7 Mine, I.D. No. 01-01401, is located on Hannah Creek Road, Tuscaloosa County, Alabama, approximately eight miles from the city of Brookwood. The mine began production on June 1, 1977. The mine operates in the Blue Creek Coal Seam at a depth of 1,700 feet from the surface and has an average mining height of 80 inches.

At the time of the accident, the mine was accessed by six shaft openings, three of which served as intakes and three as returns. The latest laboratory analysis of return air samples at the fans indicates total methane liberation of 6,375,899 cubic feet per day. The ventilation provided by the three exhausting fans totals 2,417,340 cubic feet per minute of air.

The mine operates three shifts per day, seven days per week, producing approximately 17,600 raw tons of coal per day from two continuous mining sections and one longwall section. The two continuous miner sections are ventilated using double split and exhausting line brattice.

Employment is provided for 314 underground and 101 surface employees. Coal is transported to the production shaft via belt conveyors and out of the mine by hoist driven skip cars. Diesel powered track haulage systems are used to transport personnel and materials in and out of the mine.

The principal officials for Jim Walter Resources, Inc., No. 7 Mine at the time of the accident were:

George R. Richmond	President & Chief Operating Officer
Larry Vines	Mine Manager
John Aldrich	Safety Manager
Gregory H. Dean	Vice President-Finance
Fred Kozel	Vice President-Operations
Richard A. Donnelly	Vice President-Engineering
Dale Byram	Manager, Safety and Training

An MSHA Safety and Health Inspection was completed on March 31, 2004, and another was ongoing at the time of the accident. The Non-Fatal Days Lost (NFDL) injury incidence rate for the mine in 2003 was 5.59 compared to a national NFDL rate of 5.93.

## DESCRIPTION OF ACCIDENT

Gary Keeton (general inside laborer and victim) arrived at the mine before 3:00 pm to prepare for his normal evening shift work. Keeton changed into his work clothes and talked with co-workers prior to entering the mine on the service elevator. He walked to his normal work area located along the West "A" belt, North Main belt head roller, and Mother belt (see Appendix C). His normal activities included the cleaning of coal spillage along the belts and maintaining discharge chutes clear of blockages. During the shift, personnel located in the mine office CO room/command center viewed Keeton via a closed circuit video system that monitored his work area. Another miner, Michael Maynor, spoke with Keeton at 8:00 pm and 10:35 pm. During their latter meeting, Keeton was standing on the ground near the West "A" belt head roller, washing the discharge chute out with water. This was the last direct communication with the victim.

The production shaft skip feeder areas were also monitored by closed circuit video cameras, which were viewed by the underground production shaft control room operator. At approximately 10:45 pm, the production shaft operator thought she saw legs in the east skip feeder video monitor, but dismissed the idea. At 10:57:22 pm (determined from precise computer belt monitor logs), the North Main belt remote switch contacts opened. At 10:57:23 the North Main belt conveyor stop sequence was initiated. At 10:57:38 the West "A" belt remote switch contacts opened with the stop sequence initiated at 10:57:39. At 10:57:46 the West "A" belt conveyor remote switch contacts closed with the West "A" belt reaching full speed at 10:58:10 pm.

Between 10:57 pm and 11:05 pm, the CO supervisor observed a pair of miner boots on the east catwalk of the North Main head roller via the closed circuit video monitor. The victim contacted with the energized West "A" belt during this time period, which carried him 147 feet to the Mother belt.

Sometime between 11:07 pm and 11:15 pm, underground co-workers noticed that Keeton was missing from his normal work area. At approximately 11:15 pm, the bulldozer operator (who was pushing lifts up on the surface rock dump) was notified, by his supervisor, to lookout for "something" coming down the surface rock belt.

At 11:25 pm, Ned Martin, the victim's midnight shift replacement, received a call from the CO room supervisor instructing him to restart the North Main belt conveyor that had been idled by a remote switch. Martin restarted the North Main belt at 11:26 pm. Keeton remained unaccounted for and a comprehensive search was initiated underground between 11:30 pm and 11:45 pm. At 1:00 am

on April 23, 2004, the coal preparation plant and rock belts were shut down to facilitate an expanded search on the surface. The lower rock bin, upper rock bin, and the rock dump at the radial stacker belt were checked. A front end loader was brought up to the rock pile and the most recently handled refuse material was uncovered in thin lifts. Between 4:20 am to 4:30 am, the victim's body was found approximately 350 feet from the radial stacker under 2 to 4 feet of rock.

The Medical Examiner's preliminary opinion was the victim died from blunt force trauma.

## **INVESTIGATION OF THE ACCIDENT**

Terry Langley, Supervisory Coal Mine Inspector, was notified at 1:30 am, April 23, 2004, that a miner was missing. MSHA was again notified at 4:30 am, the same day, that the missing miner had been located and that he was fatally injured. Coal Mine Inspector/Accident Investigation Team Leader, John Church, was immediately dispatched to the mine site. An investigation of the accident began at approximately 6:00 am, April 23, 2004. MSHA's Technical Support Group, Approval and Certification Center, was contacted and technical assistance requested. MSHA Mining Engineer, Steve Harrison and Coal Mine Inspector, Harry Wilcox, arrived at the mine site at approximately 6:50 am. Initial interviews were conducted with key persons having information relating to the accident and/or who participated in the rescue efforts for the victim.

Harrison secured and examined the immediate surface accident recovery area at approximately 7:15 am. The entire surface travel path of the accident victim, including the recovery scene on the refuse pile extending to the production shaft skip discharge area, was also secured and examined. A seven-foot long drill steel was found in the ductwork above the rotary breaker on the surface below the mine skip discharge area. This drill steel was identified as being identical to the drill steel typically used by the victim, and other miners, in clearing discharge chutes under their responsibility in the accident scene area (North Main belt head roller area).

Church and Wilcox traveled underground to secure the accident scene and initiate the underground phase of the investigation. The underground accident scene was investigated by MSHA's accident team in cooperation with participants of Jim Walter Resources, Inc., United Mine Workers of America, the State of Alabama Industrial Relations Department, the Tuscaloosa County Sheriff Homicide Unit and Tuscaloosa County Medical Examiner.

On April 24, 2004, Accident investigation team members consisting of Patrick Retzer (MSHA's Approval and Certification Center) and Harrison examined

electronic computer logs detailing belt system events the day the fatality occurred. Hard copies of the computer records were provided by the Jim Walter Resources, Inc. training center.

On April 25, 2004, Retzer, Harrison and Wilcox conducted a second examination of the underground areas adjacent to the accident scene. The examination included the West "A" belt, North Main head roller, Mother belt, bunker and production shaft area. The remote belt switches associated with the belt motor control circuit were individually examined. Functional remote switch tests were conducted on remote belt conveyor switches, located near the North Main belt head roller, associated with the North Main and West "A" belts (Appendix C).

MSHA obtained custody of the three West "A" belt conveyor switches, located on the northeast and northwest sides of the North Main head roller and on the north side of the West "A" head roller. These switches were sent to MSHA's Approval and Certification Center in Triadelphia, West Virginia, for testing after independent belt restart was observed with an improperly activated remote switch.

From April 26 to May 3, 2004, all remaining persons having information relating to the accident and/or who participated in the rescue efforts for the victim were interviewed.

## **DISCUSSION**

### **Accident Scene Information:**

It is likely the accident occurred at the North Main belt discharge to the West "A" belt. (See appendix C, North Main Head Roller). This had been the normal work area for the victim during the past two years. The victim's duties were to clean the belts and keep the head roller discharge chutes free of obstructions.

The daily pre-shift examination record showed no hazardous conditions recorded for the North Main belt and West "A" belt areas. There were no irregularities in the roof, rib, and mine floor. The head rollers and discharge chutes for the North Main belt, West "A" belt, and Mother belt were adequately illuminated.

Tests and measurements in the victim's work area indicated that air quality contaminants did not likely contribute to the accident. A ventilating current of intake air measured 158,220 cfm on the West "A" Belt, 20 feet east of the North Main Belt head roller. An air sample was collected (gas bottle no. E8761) on the West "A" Belt, 20 feet east of the North Main Belt head roller. The results of the

laboratory analysis of the bottle sample were 20.91 % oxygen, 0.010% methane and 0.060% carbon dioxide.

### **Training:**

The victim had 30 years experience as an underground coal miner, including 13 ½ years experience working in face and outby areas of the No. 7 Mine. A review of the records and information provided by the mine operator indicated the victim received the required Part 48 experienced miner training when he was first employed at the mine. He most recently received annual refresher training on September 6, 2003. The victim received general belt task training in March 2000.

### **Conveyor Belt System:**

A line diagram of the conveyor belt system in the accident area is provided in Appendix C. The 60 inch North Main belt has one belt drive pulling a 9000-foot flight at a velocity of 630 feet per minute. The belt drive consists of four 300 horsepower, 480 volt alternating current motors manufactured by FMC. The belt is controlled by a solid state, Benshaw starter. The head roller is manufactured by Precision Pulley, Inc. The North Main belt discharges onto the West "A" belt. The North Main belt head roller has an elevated catwalk system located on both sides of the head roller support structure. The elevated catwalk does not provide access into the discharge chute. The North Main belt head roller and West "A" belt head roller, with associated structures, are the oldest conveyor system installations in use at this mine.

The configuration of the North Main Belt head roller discharge chute lends itself to plugging by large rocks being conveyed from active mining areas. The discharge chute has a replaced interior liner with seams protruding approximately ¼-inch into the chute. Rocks can hang up against these protrusions, blocking the chute. Witness statements indicate North Main Belt head roller discharge chute blockages have occurred on a relatively frequent basis.

The 60 inch West "A" belt has one belt drive pulling a 250-foot flight at 630 feet per minute. The belt drive consists of two 300 horsepower, 480 volt alternating current motors manufactured by FMC. The belt is controlled by a solid state, Benshaw starter. The head roller is manufactured by Continental Conveyor. The West "A" belt discharges onto the Mother belt. The West "A" belt head roller



structure has an elevated catwalk system located on both sides of the head roller. The elevated catwalk does not provide access into the discharge chute.

The 60 inch Mother belt has one belt drive pulling a 372-foot flight at 660 feet per minute. The belt drive is a 250 horsepower, 480 volt alternating current, unit manufactured by Continental Conveyor. The belt is controlled by a standard resistor bank system starter. The head roller is manufactured by Continental Conveyor. The Mother belt discharges into the bunker and production shaft pocket. The Mother belt head roller structure has an elevated catwalk system located on both sides of the head roller.

The mined material is transported in the production shaft skips 1873 feet from the underground skip loading area to the surface skip dump point above the sizing screens and rotary breaker. The production shaft hoist is a Nordberg unit powered by two 1750 horsepower, 700 volt direct current motors.

The east side of the North Main belt head roller is directly monitored in the surface CO room using a closed circuit video surveillance camera. The feeders below the skip landing in the production shaft bottom area are also under constant video surveillance and monitored underground in the production shaft control room.

The travel time for the West "A" conveyor belt to carry an object from the North Main head roller discharge chute to the West "A" head roller that dumps on the Mother Belt is 10 seconds when running at normal speed. When the belt is idle, it takes 28 seconds for an object to cover the same distance after the belt is started.

### **Human Factors:**

The mine operator's policy directed miners to contact a responsible person in the CO room prior to stopping any belt conveyor, unless an emergency condition existed. This primarily verbal policy was also posted on signs at some telephones, but was not consistently followed. Miners stated that when they contacted the CO room supervisor to authorize a spillage-related belt conveyor shut-off, they were often directed to wait as much as 40 minutes, until the longwall face conveyor and North Main belt conveyor were clear of coal, before shutting the belt off. This could result in excessive spillage and considerable work for the miner. Some miners would shut off a belt conveyor and clear a chute obstruction, without calling out for approval, to avoid the associated clean-up. Miners primarily used the remote switches on the West "A" and North Main belts to turn belts off prior to clearing chute blockages (see Accident Scenarios).

The design of the North Main belt head roller discharge chute restricted access for clearing obstructions from the chute. Witnesses stated that miners must position themselves in one of three locations to clear jammed material:

1. *Stand on the West "A" belt and use a long drill steel or bar to clear any hung rock.* A seven foot long drill steel was found in the ductwork above the rotary breaker on the surface below the mine skip discharge area. This drill steel was identified as being identical to the drill steel typically used by the victim, and other miners, when clearing discharge chutes in the accident scene area.
2. *Stand on the catwalk or ladder beside the chute and use a bar to clear the obstruction.*
3. *Stand inside the top of the North Main belt head roller discharge chute and use a sledge hammer to clear the blockage from the upper side.* Miners clearing obstructions from the top end of the North Main head roller discharge chute cannot be seen while in the chute.

A miner stated an occasional chute blockage removal practice was to initiate a shut down of the West "A" belt conveyor with an immediate restart. This action would "jog" the material at the chute discharge and occasionally clear the chute obstruction.

Miners stated that they had helped Keeton clear rock from the North Main belt head roller discharge chute by climbing over the head roller and positioning themselves at the top of the chute. Due to Keeton's stature, he normally would not climb above a chute obstruction, directly below the top of the head roller.

Miners stated they felt pressured to limit conveyor belt downtime when clearing chute obstructions. Miners had been observed clearing North Main head roller discharge chute blockages while positioned on a ladder or at the end of the east side catwalk with the West "A" belt conveyor running.

Difficulty in restarting the longwall face conveyor and the 9,000-foot long North Main conveyor, when loaded with coal, may have influenced work practices. Depending on the mining cycle, component failure could occur when the face conveyor chain is restarted under load. As a result, belt shutdown is further discouraged. Miners stated that they have thrown rocks on the land-mine switch to avoid calling out and facing possible discipline for shutting the belts off when, in their judgment, the action was warranted. The land mine switch is monitored by the CO room and is designed to shut off power to the assigned conveyor belt when excessive spillage occurs. Miners stated that there have been large spills at

the North Main head roller area created by following the instructions from the CO Room operator. The CO room operator has, on occasion, required the responsible miner to move the land mine/spillage switch away from the North Main head roller spillage area to maintain belt operation.

### **Equipment Tests:**

Comprehensive laboratory tests were conducted on the three remote switches recovered from the accident scene by specialists from the MSHA Approval and Certification Center in Triadelphia, West Virginia. These tests indicated the “push button” on all three remote switches could be depressed a slight distance and the switch contacts would be opened without the switch being latched. Occasionally the “push button”, once released, would retract and close switch contacts restoring electric current flow. This finding was consistent with the results of functional tests conducted underground at the accident scene. The West “A” belt switch located on the east side of the North Main belt conveyor head roller and the North Main belt switch located on the west side of the north main belt head roller reacted, when lightly depressed and not “latched”, by stopping the associated belt conveyor and restarting independently 20 to 30 seconds later. The West “A” belt conveyor stop time was measured at 5.89 seconds and the North Main belt stop time was measured at 19.26 seconds. Remote switch testing did not identify any switch component failure when the “push button” was pressed to the “latched” position.

Evaluation of data from underground functional tests, in combination with the electronic belt conveyor computer time log, indicates that the West “A” belt conveyor was stopped for approximately 22 seconds.

### **Possible Accident Scenarios**

The MSHA accident investigation team conducted an underground travel timestudy, in the established accident site “work area”, to evaluate possible accident scenarios (see appendices C and E).

1. The victim may have activated the North Main remote switch located on the northwest side of the North Main head roller, walked under the north main belt to the northeast side and improperly activated the West “A” conveyor belt switch, climbed onto the North Main header discharge chute, at the top, and attempted to dislodge a blockage with a 7-foot drill steel. When the West “A” belt restarted, the victim may have fallen through the chute onto the moving West “A” belt conveyor, which carried him out of the mine.

The victim's physical stature would have made it difficult for him to access the chute through the limited clearance between the top of the North Main head roller structure and mine roof. The 7-foot drill steel found on the surface was too large to be effectively used in the upper portion of the discharge chute. Witness statements indicated a sledge hammer and short drill steel/rock bar were typically used in this instance. This scenario was therefore unlikely.

2. The victim may have activated the North Main belt remote switch located on the northwest side of the North Main head roller, walked under the North Main belt to the northeast side, and improperly activated the West "A" conveyor belt switch (without "latching" the switch). The victim may have then attempted one of two actions: (1) The victim may have, while the West "A" belt conveyor coasted to a stop, climbed the east catwalk, positioned himself over the north edge of the stopped West "A" belt conveyor, and used a 7-foot drill steel to reach up the chute to dislodge jammed rock or (2) The victim may have climbed the east catwalk, while the West "A" belt conveyor coasted to a stop, stepped onto and straddled the stopped West "A" belt, and positioned himself to thrust a 7-foot drill steel up the discharge chute to clear an obstruction. Either action could have resulted in the victim contacting the West "A" belt conveyor when it independently restarted.
3. The victim may have activated the North Main remote switch on the northwest side of the North Main head roller and then walked to and used the West "A" remote switch (northeast side) to "jog" the belt with a stop and restart to clear the chute obstruction. When the West "A" belt conveyor restarted and failed to clear the chute obstruction, the victim may have walked to the end of the catwalk, on the east side of the North Main head roller structure, and attempted to lean over the operating belt to thrust a 7-foot drill steel up the chute discharge. This effort to dislodge the blockage may have caused the victim to fall onto the moving West "A" belt.
4. The victim may have activated the North Main belt remote switch located on the northwest side of the North Main head roller, waited 16 seconds until the West "A" belt cleared, and then shut off the adjacent "West "A" remote switch. Once stopped, the victim may have immediately restarted the West "A" belt conveyor in an attempt to "jog" the jammed rock and coal out of the chute. When this action failed, the victim may have crossed under the North Main belt conveyor to the east side, walked to the end of the east catwalk and positioned himself over the north edge of the moving West "A" belt conveyor to clear the obstruction with a 7-foot drill steel. This action could have easily resulted in the victim contacting the moving West "A" belt conveyor.

The time study, conducted at the accident scene to determine the most plausible scenarios (Appendix E) in combination with the physical limitations associated with the victim, indicates scenarios 2, 3, or 4 as the most likely to have occurred. These scenarios are supported by a comparative analysis of time study results and electronic belt control computer logs.

## 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.

1. *Causal Factor:* The West "A" conveyor belt was not de-energized while maintenance activities were being conducted on the belt.

*Corrective Action:* The mine operator has developed, and implemented, a belt conveyor safety policy to prevent contact between miners and moving belt conveyors.

2. *Causal Factor:* The method used to unblock obstructions in the North Main belt head roller discharge chute was not adequate to prevent miners from contacting the West "A" belt conveyor.

*Corrective Action:* Safe access into the North Main Belt Head roller discharge chute has been provided above the West "A" Belt.

3. *Causal Factor:* The North Main belt conveyor discharge chute liner, with a replaced internal steel section with protruding seams, catches and holds rock obstructions which must be broken loose by miners.

*Corrective Action:* This chute has been completely redesigned and replaced to prevent blockages.

## CONCLUSION

On April 22, 2003, Keeton sustained fatal injuries when he contacted the moving West "A" belt conveyor at the Jim Walter Resources No. 7 Mine. There were no witnesses to the accident. The lack of established safe work practices and procedures, in combination with an absence of physical environmental safeguards and lack of safe access for physical chute maintenance were determined to be the contributing causes of the accident.

**Approved By:**

---

Richard A. Gates  
District Manager

---

Date

## ENFORCEMENT ACTIONS

Order No. 7680965 was issued on April 23, 2004, under the provisions of Section 103(k) of the Mine Act:

A fatal accident has occurred related to underground mine haulage. This order is issued to ensure the safety of all persons at this operation. It prohibits all activity until MSHA has determined that it is safe to resume normal operations at the following locations:

Underground areas: West "A" Belt, North Main Belt, Mother Belt, Production Shaft Feeder and Pocket

Surface areas: Production Shaft, Run of Mine Breaker, Belt No. 8, Lower Rock Belt and Bin, Upper Rock Belt and Bin, Radial Stacker, Rock Dump and Refuse Pile

The mine shall obtain prior approval from an authorized representative for all actions to recover and/or restore operations to the affected area.

Citation No. 7679925 was issued on July 19, 2004 under provision of Section 104(a) of the Mine Act, 30 CFR 75.1725(c).

Based on information revealed during an accident investigation, maintenance was being conducted on April 22, 2004 between 10:57 PM and 11:15 PM at the North Main Belt Header and West "A" belt conveyor without removing power and blocking the West "A" belt from motion. As a result, a miner contacted the moving belt conveyor while attempting to perform assigned belt maintenance, that included removing blockages, and was fatally injured as he contacted the moving belt or as he was subsequently transported on the belt 9000 feet through belt transfers and a rock breaker to the surface mine refuse pile.

## Appendix A

Persons participating in the investigation:

Jim Walter Resources, Inc.:

Richard A. Donnelly, Vice President-Operations

Dale Byram, Manager of Safety and Training

Larry Vines, Mine Manager

John Aldrich, Safety Supervisor

Frank Stewart, Safety Supervisor

Guy Hensley, Legal Consultant

Alabama Department of Natural Resources:

Gary Sparks, Mine Inspector

Mine Safety and Health Administration:

John Church, MSHA Accident Investigation Team Leader, District 11

Steve Harrison, Coal Mine Safety and Health Inspector, District 11

Harry Wilcox, Coal Mine Safety and Health Inspector, District 11

Patrick Retzer, Electrical Engineer, Technical Support, Electrical Safety Division

United Mine Workers of America:

Thomas F. Wilson, International Representative

Daryl Dewberry, International Board Member, District 20

Larry Spencer, President, Local 2397

Keith Plylar, Chairman, Safety Committee, Local 2397

Bradley Berryhill, Safety Committee, Local 2397

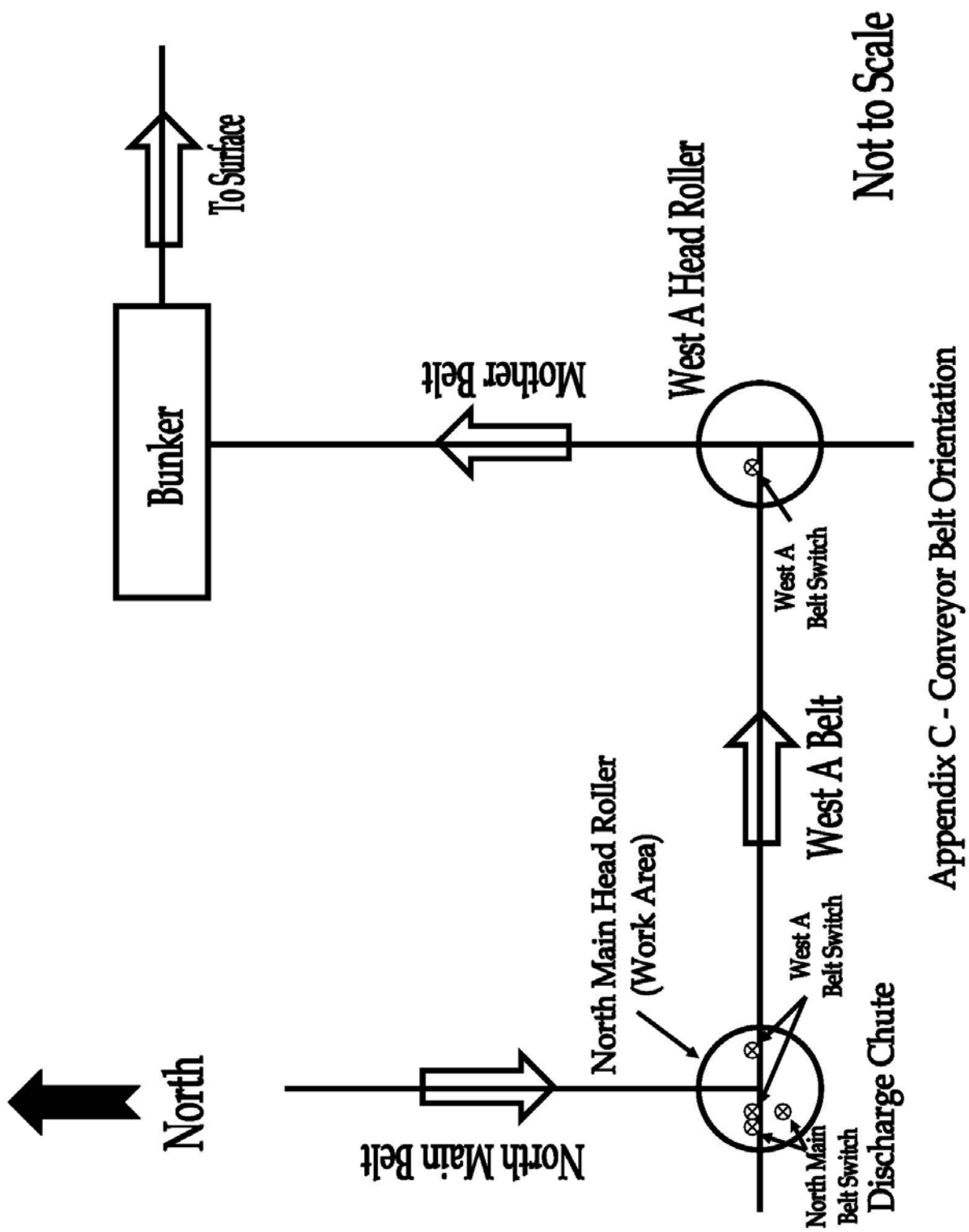
Dwight Cagle, Safety Committee, Local 2397



## **Appendix B**

### **List of Persons Interviewed**

Pearlie Lawhorne, Inside Laborer  
John Holleman, CO Supervisor  
James Burt, Heavy Equipment Operator  
Robert Ethridge, Heavy Equipment Operator  
Charlie Augustus, Motorman  
Delma Battles, Inside Laborer  
Carlos M. Maynor, Inside Laborer  
Tommy Phillips, Inside Laborer  
Carol Johnson, Degas Driller  
Jerry Hicks, Belt Cleaner Foreman  
Ned Martin, Inside Laborer  
Benny Sivley, Haulage Foreman  
Jerry Mullins, Outby Maintenance Foreman  
Richard Lovelady, Surface Foreman  
Michael Ross, Inside Laborer  
Harmon Hovan, Heavy Equipment Operator  
Roger Stephenson, Rock Dust / Motorman  
Carl Poe, Underground Welder  
Willie Hughes, Inside Laborer  
Dennis Herring, CO Supervisor  
Authur Tennyson, Belt Coordinator  
Willis Payne Jr., Belt Crew





**Appendix D – Surface area where victim was recovered.**

## Appendix E

### JWR # 7 –Fatal Accident Investigation

An investigation was conducted on June 8, 2004 at the North Main belt head roller to determine representative times for traveling between certain belt switches and other locations. The inspectors walked at a normal and a moderate pace consistent with the footing and walking surfaces in the area.

1. Walked from North Main belt switch located on the west side of the North Main head roller to the West “A” belt switch located on the east side of the North Main head roller.
  - A. John Church – 26 seconds (normal pace)
  - B. Steve Harrison – 17 seconds (moderate pace)
  - C. Harry Wilcox – 17 seconds (moderate pace)
2. Walked from West “A” belt switch located on the east side of the North Main head roller to the end of the elevated platform located on the east side of the North Main head roller.
  - A. John Church – 19 seconds (normal pace)
  - B. Steve Harrison – 12 seconds (moderate pace)
  - C. Harry Wilcox – 12 seconds (moderate pace)
3. Walked from North Main belt switch located on the west side of the North Main head roller to the end of the elevated platform located on the east side of the North Main head roller.
  - A. John Church – 32 seconds (normal pace)
  - B. Steve Harrison – 20 seconds (moderate pace)
  - C. Harry Wilcox – 21 seconds (moderate pace)
4. Walked from North Main belt switch located on the south side of the west “A” belt across from the North Main head roller to the North Main belt switch located on the west side of the North Main head roller. (using the belt cross over west of the North Main belt head roller)
  - A. John Church – 21 seconds (moderate pace)
  - B. Steve Harrison – 24 seconds (moderate pace)
  - C. Harry Wilcox – 22 seconds (moderate pace)

Note: The walking times from the west side remote switch for the North Main belt head roller to the belt switch for the West “A” belt located on the east side of the North Main belt head roller (17 seconds) demonstrates that a miner can travel this distance in the time (16 seconds) shown on the computer records for the West “A” belt shutting down and restarting (provided the miner walks slightly faster than a “moderate” walking pace to cover the indicated distance in 16 seconds). This time was necessary for scenarios 1 and 2 to have occurred (refer to “Possible Accident Scenarios” section of this report).