UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

Office of the Administrator
Coal Mine Safety and Health

ACCIDENT INVESTIGATION REPORT
Underground Coal Mine Multiple Fatal Roof Fall Accident
No. 1 Mine
I.D. No. 44-05668
J & T Coal, Inc.
St. Charles, Lee County, Virginia

February 13, 1991

By

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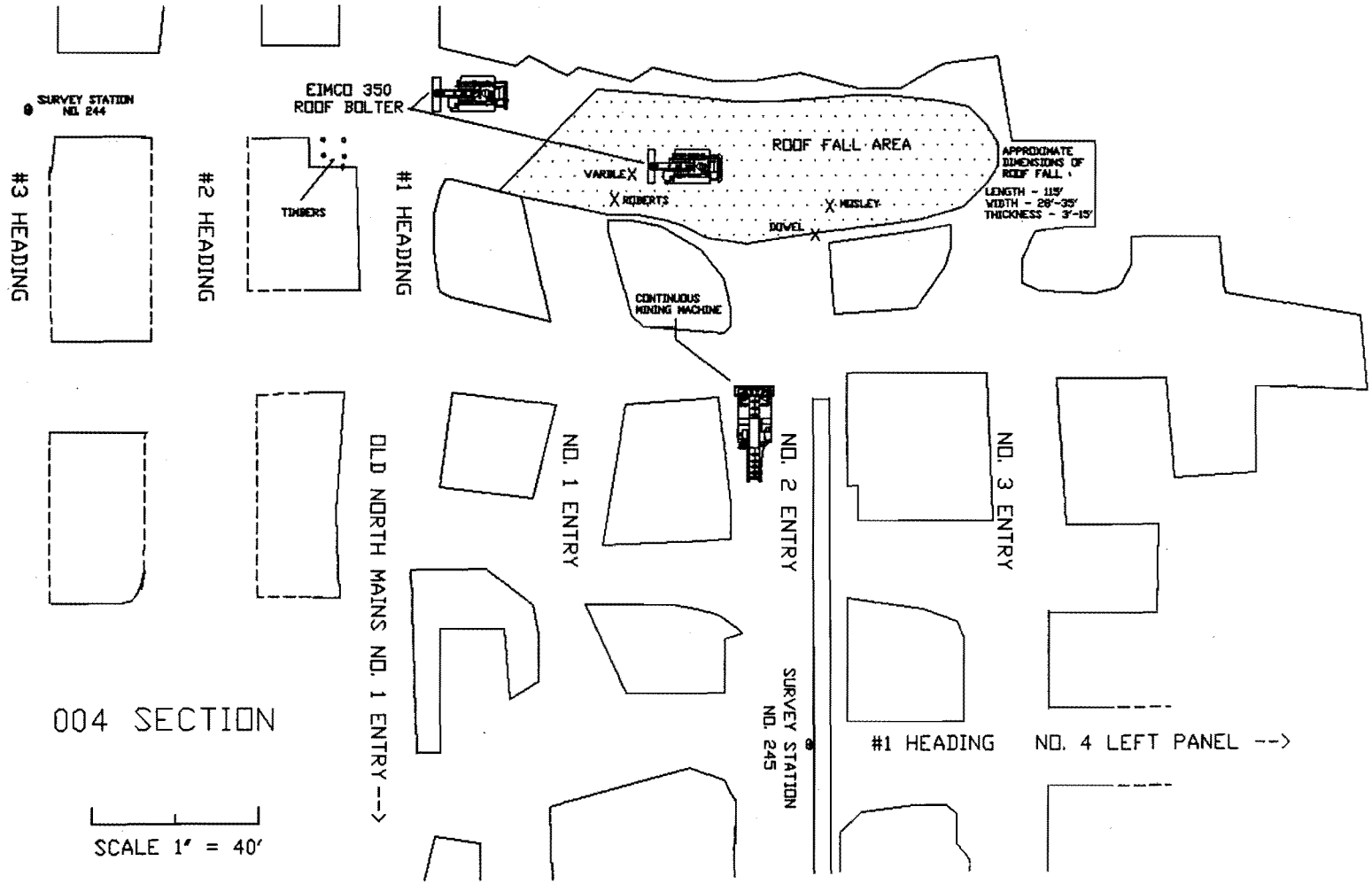

MAP OF ACCIDENT AREA - J&T COAL, INC.
NO. 1 MINE (I.D. NO. 44-05668)
ST. CHARLES, LEE COUNTY, VIRGINIA

Abstract of Investigation

U.S. Department of Labor
Mine Safety and Health Administration

Authority—This report is based on an investigation made pursuant to the Federal Mine Safety and Health Act of 1977, Public Law 91-173, as amended by Public Law 95-164.

Section A—Identification Data

1. Title of investigation: Multiple Fatal Roof-Fatal Accident
2. Date MSHA investigation started: February 19, 1991
3. Report release date: July 24, 1991
4. Mine: No. 1 Mine
5. Mine ID number: 44-05668
6. Company: J & T Coal, Inc.
7. Town, County, State: St. Charles, Lee County, Virginia
8. Author(s): N. Brewer, J. Rosiek, Jr., R. Phillips, R. McKinney, D. Harmon, M. Belcher

Section B—Mine Information

9. Daily production: 1,000 tons
10. Surface employment: 3
11. Underground employment: 25
12. Name of coalbed: No. 3 Mason
13. Thickness of coalbed: 50 inches

Section C—Last Quarter Injury Frequency Rate (HSAC) for:

14. Industry: 12.12
15. This operation: 14.34
16. Training program approved: Yes
17. Mine Profile Rating: N/A

Section D—Originating Office

18. Mine Safety and Health Administration
Coal Mine Health and Safety District No. : 5
Address: P. O. Box 560
Norton, Virginia 24273

Section E—Abstract

At approximately 4:30 p.m., February 13, 1991, a multiple-fatal roof fall occurred in the last open crosscut between the Nos. 1 and 3 Entries of J & T Coal, Inc., No. 1 Mine. Fourteen miners were present on the working section at the time of the accident. Four of the miners died instantly as a result of the massive roof fall. The remaining miners were not injuried.

The roof fall and resultant fatalities occurred because the mine roof, in the last open crosscut between the Nos. 1 and 3 Entries, was not adequately supported when management directed and participated in the shearing of coal ribs throughout that area. This shearing process created excessive widths ranging from 28 to 35 feet, thereby substantially reducing pillar size and support in the area. No supplemental roof support, such as timbering or cribbing, was installed in the area where the shearing was performed. In addition, management failed to mine entries and crosscuts in accordance with proper widths as stipulated in the approved Ventilation System and Methane and Dust Control Plan and the approved Roof-Control Plan. Management failed to provide proper alignment and directional controls. Management also failed to withdraw miners from the area where excessive widths were created and failed to post danger signs to prevent miners from entering the area.

Section F—Mine Organization

Company officials:	Name	Address
19. President:	Carl E. McAfee	Park Avenue Norton, Virginia 24273
20. Superintendent:	Garry L. Williams	P. O. Box M St. Charles, Virginia 24282
21. Safety Director:	None	
22. Principle officer—H&S:	Aubra P. Dean	Rt. 4, Box 914 Jonesville, Virginia 24263
23. Labor Organization:	None	
24. Chairman—H&S Committee:	None	

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APPENDICES

GENERAL INFORMATION

The J & T Coal, Inc., No. 1 Mine, I.D. No. 44-05668, is a coal mine located one mile south off Route 765 on Puckett's Creek and two and one half miles south west of St. Charles, Lee County, Virginia.

The principal management officers of J & T Coal, Inc. at the time of the multiple fatal roof fall accident were:

Carl E. McAfee	President and Secretary
Aubra P. Dean	Vice President and Treasurer
Garry Williams	Mine Superintendent

The No. 1 Mine has four drift openings into the No. 3 Mason Coal Seam, which averages 50 inches in thickness. The mine is approximately 1,720 feet above sea level and extends over an area of approximately 1,000 acres.

The mine was formally opened as the P. and M. Coal Company, No. 3 Mine, a Partnership, and entered active status on June 22, 1981. Mine Safety and Health Administration (MSHA) received notice on December 2, 1982, that this Partnership was changed to a Corporation. On July 19, 1985, MSHA received notice that the mine operator's name was changed to Swift Coal Co., No. 1 Mine, a sole proprietorship, owned and operated by Garry Williams. MSHA received notice on March 21, 1990, that the operation was changed to a corporation and the name changed to LJ's Coal Corporation, No. 1 Mine. On February 12, 1991, the mine operator's name was changed to J & T Coal, Inc., No. 1 Mine. This was a name change only. The Principal Management Officers were the same as LJ's Coal Corporation.

At the time of the accident, the mine employed 28 miners on two shifts per day. Each shift normally worked 10 hours with a daily production of 1,000 tons. The working faces were located approximately 4,150 feet from the surface drift openings.

Mining Methods

A block system of mining was employed using continuous mining methods. A Jeffrey Model No. 102 ripper-type continuous mining machine with two Jeffrey Model No. 506 mobile bridge carriers and conveyor system were used to develop the main entries. Main entries, rooms, and crosscuts were normally developed 20 feet wide with the exception of the belt entry which was normally developed

2 feet wide. Retreat mining methods were not utilized at this ine. The entries and rooms were numbered for identification from eft to right. At the time of the accident there was one active ontinuous mining section.

Federal Mine Inspections

complete MSHA Safety and Health Inspection (AAA) of the entire J T Coal, Inc., No. 1 Mine was conducted from December 3, 1990, hrough December 11, 1990. During the inspection, 10 citations ere issued. An MSHA Safety and Health Spot Inspection (CAA) was onducted on December 19, 1990. The spot inspection focused on ational guidelines related to refurbishing Draeger Self-Contained elf-Rescuers. Inspection activity was confined to the surface rea and no citations were issued.

Roof Support

he roof-control plan in effect at this mine was approved by the SHA District Manager on March 21, 1990. A supplement to the roof-ontrol plan, which permitted the use of fully grouted 5/8-inch iameter resin-grouted rods, was approved on January 10, 1991. The oof-control plan required bolts to be installed on a four-foot aximum lengthwise and crosswise spacing to within four feet of the ace and restricted roof bolt installation to within three feet of he coal rib. Maximum entry and crosscut widths were limited to 20 eet, with the exception of the combination belt-track entry which as permitted to be mined a width of 22 feet. A minimum of five oof bolts was required to be installed in each row of bolts nstalled in the belt-track entry. A minimum of 48-inch resin routed rods or point anchor roof bolts was required to be nstalled by the roof-control plan. Posts were required to be nstalled in the belt-track entry up to the rope belt tailpiece ithin 24 production hours after the tailpiece was advanced.

he plan permitted crosscuts to be mined on 55, 60, 70, or 80 foot enters. The approved Roof-Control Plan dated March 21, 1990, equired the minimum entry and crosscut centers to be at least 55 eet. The Nos. 1, 2 and 3 pillar blocks located immediately outby he last line of open crosscuts of 004 Section ranged from 15 feet o 34 feet in thickness. The blocks were developed on minimum ntry centers of 36 feet and crosscut centers of 46 feet. First ine management personnel (section foremen) measured centers less hat 55 feet and directed mining activity to develop entries and rosscuts on reduced centers. The reduced entry and crosscut enters in the line of last open crosscuts proportionally iminished the pillar block dimensions in these areas. There was o provision for a shearing process in the approved plan.

The immediate roof at the accident scene consisted of finely grained laminated shale. Brownish nodules were embedded in the roof close to the coal. Most of these nodules measured less than one-inch in diameter. Four-foot, 5/8-inch diameter, No. 5, grade 60 fully grouted rebar rods were used as the sole means of roof support in the fall area. The exact extent of roof not supported by roof bolts in the area of the fall, prior to the accident, could not be determined.

The roof fall measured approximately 115 feet in length, 28 to 35 feet in width, and 3 to 15 feet in thickness. A high angle slip plane was present near the center of the fall and was more shallow toward the crosscut between the Nos. 2 and 3 Entries. This slip angled from the center of the fall toward the inby rib of the crosscut.

Mapping

The mine map, available at the mine on the day of the accident, was not up-to-date. It did not include any temporary notations indicating the current location of the working faces for the 004 Section. The 004 Section had been relocated approximately 2,400 feet outby its original location and the location of the new working faces had not been noted on the mine map. The section had been operating at the new location for approximately one week, had advanced three entries, and connected three crosscuts to within 160 feet of an abandoned sealed area which contained water.

In addition, the full extent of mining in the entries previously driven to the left of the main entries inby the active section were not plotted on the map, even though mining in this area had ceased approximately two weeks earlier. During the investigation, it became apparent that a disparity existed between the actual entry orientation and pillar configuration indicated on the mine map. Mining performed in these areas did not adhere to the projections on the approved mine map submitted by the operator. A mine-map post dated February 9, 1991, and received by the MSHA District on February 12, 1991, with a proposed Ventilation System and Methane and Dust Control Plan did not indicate the disparity.

Sightlines or other methods of directional control were not used to maintain the projected direction of the entries and crosscuts on the active section. Crosscuts were developed right and left from the belt entry. Failure to develop the crosscuts on at least 55 foot centers (as required by the approved roof control plan) diminished pillar block dimensions throughout the section.

Mine traverses being used to establish and ensure the accuracy of mine maps were not being advanced by the closed loop method or other equally accurate method of traversing. This could result in an inaccurate representation of the area mined.

For the purpose of this report, it was necessary to designate names for certain locations in the mine. Five Left and Four Left (see map in Appendix J) were designated by MSHA to identify specific areas in the mine.

Ventilation/Examinations

The mine was developed with four drift openings. Two openings were designated for intake aircourses, one for a return aircourse, and one was a neutral split for the belt conveyor entry. Ventilation into the mine was induced by a five-foot, 150-horsepower Empire Machinery fan. The fan operated in an exhaust mode and was capable of inducing 86,000 cubic feet per minute (cfm) of air at 1.6 inch water gage. Permanent stoppings were used to separate the intake and return airways. Intake airways were located on the left side of the mine, the return airways were located on the right side, and the belt entry was centrally located with positive ventilation traveling toward the section loading point. The ventilation plan in effect at the mine was approved by the MSHA District Manager on March 20, 1990. The plan required a minimum of 3,000 cfm of air to be maintained at the end of the line curtain in each working place where coal was mined or loaded. Blowing and exhaust systems of face ventilation were both utilized in the face areas.

An adequate preshift examination was not conducted on the active working section MMU 004 for the 4:00 p.m. coal production shift on February 13, 1991. Shearing operations were performed on the prior shift in the line of last open crosscuts, creating excessive widths ranging from 28 feet to 35 feet. Supplemental supports were not installed in this area. Mine Management took no action to withdraw miners from this area or to post danger signs to prohibit unauthorized entry into this area. Preshift record books did not reflect any preshift examination for the 4:00 p.m. shift on February 13, 1991, and the preshift examiner did not physically come to the surface prior to the beginning of the 4:00 p.m. shift. In addition, investigation interviews revealed this information was not phoned to the surface to be recorded in the preshift book.

Combustible Materials/Rock Dusting

Combustible materials were hand loaded or scooped and removed from the mine by the belt haulage system. Rock dust applied by hand was the primary means used for inerting coal dust. A small auger-type dusting machine, connected to a scoop, was also used for initial and secondary rock dust applications. Water sprays and direct ventilation were the primary methods used to control coal dust generated by face mining operations.

Electricity

Three - phase power was purchased from Powell Valley Electric at 12,470 volts alternating current (AC) and reduced to 4,160 volts AC on the surface for transmission underground. The incoming power was reduced to 480 volts AC by an additional bank of transformers in order to provide power for the surface areas and a circuit for the main fan. The secondary neutral was properly grounded through a 25-ampere current-limiting resistor to a safety ground field. The underground high-voltage grounding circuit contained a grounding circuit originating at the grounded side of the grounding resistor and extending to the metallic frames and enclosures of all electric equipment. The underground high-voltage circuit was protected by an oil circuit-breaker equipped with a ground-check circuit and relays to provide overcurrent, short-circuit, grounded-phase, and undervoltage protection. A set of fused disconnect switches was provided to allow disconnecting for each phase conductor of the underground high-voltage circuit. The underground high-voltage circuit provided power to three belt transformers and a 750 kVA section power center. The section power center provided 480 AC volts to a Jeffrey 102 continuous mining machine, two (2) Jeffrey 506 bridges, two (2) Eimco roof drills, and a battery charger.

Fire Protection/Emergency Procedures

The operator's program of instruction, which included the fire-fighting and evacuation plans, was approved by the MSHA District Manager on March 21, 1990. This program also included instruction and training for mine employees in the location and use of fire-fighting equipment, location of escapeways, exits and routes of travel to the surface, proper evacuation procedures to follow in the event of an emergency and proper use of filter-type self rescuers and self-contained self-rescuers (SCSR's).

All underground electric face equipment was equipped with a fire-suppression system that could be activated by the equipment operator. These systems utilized dry chemical powder or water as the extinguishing agent. The water line located at the section conveyor-belt tailpiece was equipped with a fire-hose outlet suitable for connection to a fire hose. All water lines adjacent to conveyor belts were provided with fire-hose outlets at 300-foot intervals. Outlets were also provided at conveyor-belt drives and tailpieces. Portable fire extinguishers and 240 pounds of rock dust were located at or near the electrical installations and where oil was being stored.

Fire drills were conducted so that miners were aware of section fire-fighting procedures and the designated escapeways. The two

designated escapeways from the continuous mining section to the surface were the intake air course entry and the track entry.

Transportation/Haulage

Personnel and materials were transported into the mine by battery-powered track-mounted personnel carriers.

A ripper-type Jeffrey 102 continuous mining machine was used to extract coal from the face on the working section. The mining machine was connected to two Jeffrey 506 mobile bridges that transported the coal to the low-low belt haulage conveyor system that transported the coal to the section loading point where it was discharged onto the main conveyor belt system. This conveyor belt system transported the coal to the surface.

Communications

Two-way voice communication was provided by a telephone system containing pager telephones located on the surface, on the working section, and at appropriate locations underground. Commercial telephones were installed at the mine office on the surface.

Smoking

The smoking search program to prevent smoking articles from being taken underground was approved March 21, 1990, by the MSHA District Manager. The program required that a systematic search be conducted of all persons entering the mine at least weekly at irregular intervals. It also required that records of the searches be kept.

Mine Rescue/Self Rescuers

J & T Coal, Inc., complied with 30 CFR, Part 49, by contracting Mine Rescue Team service from Mine Technology, located in Norton, Virginia. The service agreement was acknowledged by the District Manager, on March 21, 1990. Filter-type self-rescuers and SCSR's were provided for underground employees. Employees had been trained in the use of each type of self-rescuer. Each employee carried the filter-type self-rescuer while underground. The SCSR's were stored in accordance with the storage plan that was approved on March 21, 1990.

Identification Check System

The mine's check-in and check-out system consisted of a time clock, time cards, corresponding metal belt tags, and a check-in and

check-out board. The purpose of the system was to provide identification of mine employees and visitors traveling underground.

Illumination

Permissible electrical cap lamps were worn by all persons in the mine for portable illumination. Permissible light fixtures were installed on the electric face equipment to provide illumination while the equipment was being operated in the working places in the mine.

Training Program

The training and retraining plan which met the requirements of 30 CFR Part 48 was approved by the MSHA District Manager on May 2, 1990. The program for training and retraining of certified and qualified persons and for training and retraining of selected supervisors in first aid, mine rescue, gas detecting devices, self-rescuers, ventilation, roof and rib control, and the Federal Mine Safety and Health Act of 1977 was also approved on May 2, 1990.

Emergency Medical Assistance

Lee County Rescue Squad, Inc., was contracted on January 7, 1991, to provide emergency medical assistance to the mine. The servicing unit is located at Pennington Gap, Lee County, Virginia, which is approximately 10 miles from the mine.

DESCRIPTION OF ACCIDENT

The following is a narrative of the events before, during and after the roof fall. The narrative was developed from interviews with miners who were underground when the roof fall occurred, and from interviews from mine management and other company employees. Additional information was obtained during the investigation of the accident scene and from several employees that were involved in the recovery operations.

Mining operations were completed on the 4th Left off North Mains Panel (004 Section) on February 4, 1991. The section was relocated to a point approximately 2,400 feet outby in order to begin development of the 5th Left off North Mains Panel. The projections on the company's most current MSHA approved map indicated that 5th Left Panel would be developed parallel to 4th Left and in an eastwardly direction. The mine superintendent, Garry Lynn Williams, chose to deviate from the approved projections and

develop the 5th Left Panel in a westwardly direction, identical to the manner that 4th Left Panel was developed. Williams' decision to develop westwardly was altered because of poor bottom conditions created by thick mud and water at the location where 5th Left Panel was to be developed off North Mains. Williams decided to develop 004 Section perpendicular to 4th Left off North Mains and then back into North Mains to establish the 5th Left Entries (Appendix J).

On February 6, 1991, production began on 004 Section with the development of three entries perpendicular to 4th Left. Production operations continued in this area and as the section advanced, two cut-throughs were mined into North Mains to establish future return aircourse entries for the 5th Left Panel off North Mains (Appendix J).

On February 13, 1991, at approximately 6:00 a.m., ten members of the day shift crew entered the mine via a track-mounted, battery-powered personnel carrier. The crew, supervised by Henry Wayne Mosley, arrived on 004 Section (5th Left Panel off North Mains) at approximately 6:20 a.m. Mining operations began under Mosley's supervision and continued until the last line of open crosscuts on 004 Section were mined into North Mains. The cut-through established the future conveyor belt and mine track entry for the 5th Left Panel. After the cut-through process was completed, Mosley attempted to establish a centerline through the last line of crosscuts on 004 Section using Survey Station 244 as a reference point. Mosley determined that the preexisting entries of North Mains and the last line of crosscuts on 004 Section were not aligned to facilitate the installation of a belt conveyor and mine track. Mosley telephoned the mine surface and requested that Garry Lynn Williams come underground. Williams, who was not on mine property, was contacted by phone and Mosley's request was relayed. Mining operations were ongoing in the face areas of 004 Section while Mosley was waiting for Williams to arrive. Williams arrived at the mine at approximately 12:15 p.m. and traveled directly to the section, via a track-mounted personnel carrier. He arrived on the section at approximately 12:35 p.m. Mosley and Williams were seen at different locations on the section having discussions. Normal mining procedures ceased and management gave directions to the continuous mining machine operator, Jeffrey Wayne Longsworth, to begin shearing coal ribs for the purpose of aligning the last open crosscuts and North Main entries. This was done to facilitate installation of a belt conveyor and mine track. The inby rib of the last line of open crosscuts on 004 Section was sheared from the area where the left crosscut of No. 1 Entry of 004 Section mined into North Mains over to and including the crosscut connecting Nos. 2 and 3 Entries, a lineal distance of 115 feet. The shearing operations were performed by Longsworth, except for the crosscut between Nos. 2 and 3 Entries which was sheared by Mosley. The shearing process created excessive widths ranging from 28 to 35 feet and no additional support, except for the usual roof bolts, was installed in the sheared areas. The shearing operations were

ongoing in the last open crosscut between Nos. 2 and 3 Entries when Williams left the section at approximately 3:30 p.m. Williams arrived on the surface at approximately 3:50 p.m. (Appendix I).

The evening shift crew, which consisted of seven miners, entered the mine at approximately 4:00 p.m., via a track-mounted, battery-powered personnel carrier. The day shift crew of ten miners was still underground. The evening shift crew was supervised by Harold D. Dowell, shift foreman. The crew arrived outby the section at approximately 4:20 p.m., and the miners transferred into a scoop mantrip. The scoop stopped at the location where the left crosscut of No. 1 Entry on 004 Section mined into North Mains. A roof bolting machine was being operated in this area by Terry D. Pennington, day shift bolting-machine operator. Floyd N. Varble, Jr., evening shift bolting-machine operator, along with Dowell and four other miners, dismounted from the scoop and traveled through the cut-through into the line of last open crosscuts of 004 Section. Dowell met with Mosley in the vicinity of the No. 2 Entry and Varble traveled to the other roof-bolting machine, located between Nos. 1 and 2 Entries of 004 Section, and met with Daniel E. Roberts, day shift bolting-machine operator. The remainder of the crew walked to their respective work areas and the scoop operator trammed the scoop through the North Main Entries and entered the section through a previously mined cut-through. At approximately 4:30 p.m., a massive roof fall occurred in the line of last open crosscuts resulting in fatal injuries to Mosley, Dowell, Varble and Roberts. Dallas Wayne Parsons, bridge operator, called the surface for help and this initiated the recovery operation. Ten other miners were present on the section at the time of the massive roof fall and were not injured.

Mine Emergency Operations

Harold E. Dolan, Supervisory Mining Engineer, MSHA District Office, Norton, Virginia, was notified by telephone at about 5:15 p.m. on February 13, 1991, of the roof fall accident at J & T Coal, Inc., No. 1 Mine by Harry Childress, Chief, Virginia Department of Mines, Minerals, and Energy. Childress related that this mine was located on Route 765 near St. Charles, Virginia. Childress had already dispatched Virginia State personnel to the mine. The initial report from Childress to Dolan indicated that five people were missing. Dolan, who was at his home when he received this telephone call, contacted Frank C. Young, Jr., Staff Assistant, and Carolyn Archer, Purchasing Agent, for office support. This action implemented the District 5 emergency response plan. Freddie Bradley, MSHA lab technician, of the MSHA district office in Norton, Virginia, was notified of the accident at 5:27 p.m., Wednesday, February 13, 1991, by surface worker Jerry Snowden of J & T Coal, Inc., No. 1 Mine. Bradley immediately notified Wayland Jessee, Supervisory Mine Safety and Health Specialist. MSHA Supervisors, Larry Coeburn, E. C. Rines, and Inspectors Larry

Meade, and Clarence Slone were dispatched to the mine, arriving on the mine site at 6:15 p.m. District Managers, Lawrence D. Phillips, District 4, Mount Hope, West Virginia, and Jesse P. Cole, District 6, Pikeville, Kentucky, were also notified on the day of the accident for back-up response. Jerry Spicer, Administrator, was notified and updated on the accident. Michael Lawless, District Manager, District 5, was notified in Beckley, West Virginia. Lawless departed Beckley on the evening of February 13 enroute to Norton. Officials from District 5, Norton District Office, contacted additional MSHA personnel for recovery crews. Communication was established from the mine site to the Norton District Office. MSHA personnel remained at the mine site throughout the recovery operation until it was completed on February 15, 1991.

Activities of MSHA and State Personnel

MSHA and the Virginia Department of Mines, Minerals, and Energy, after notification of the mine accident on February 13, 1991, dispatched inspection personnel to the mine site. Recovery activities were coordinated between MSHA, State, and company employees to recover the four victims from beneath the roof fall. MSHA and State personnel stayed on the mine scene to monitor and assist with all recovery activities both underground and on the surface. An MSHA inspector was assigned to guard the mine entrance after recovery operations were completed on February 15, 1991. MSHA and Virginia State personnel who participated in the investigation are listed in Appendix E.

Recovery

Upon being notified of the roof fall, MSHA Engineering Coordinator, Harold Dolan, dispatched Larry Coeburn, E. C. Rines, Larry Meade, and Clarence Slone to the mine. They arrived on site at 6:15 p.m. At 7:00 p.m. Sloane issued a 103(k) Order to restrict any work other than recovery operations.

Progress was hampered initially because the personnel carrier (mantrip) malfunctioned inside the mine and blocked passage of the much smaller rail personnel carrier. The need to install additional roof support in areas adjacent to the fall and the mass of roof material that had fallen also hampered the initial recovery process. Coeburn, Rines, Meade and Slone accompanied by Lloyd Robinette, Jr., Gregory Bailey, Doyle Roberts, and John Thomas of the Virginia Division on Mines proceeded walking underground at about 7:45 p.m. At 8:20 p.m. the small personnel carrier pulled the mantrip vehicle to the surface. Once the track way was cleared, the small personnel carrier was used to transport part of the walking recovery members to the section. Coeburn, Meade, and Robinette walked to the section and arrived there at approximately 8:50 p.m. The other members of the recovery team arrived at 8:55 p.m. Company personnel were on the section and had begun recovery.

Recovery efforts were ongoing simultaneously in the No. 1 Entry, the No. 2 Entry, and in the 1 Left crosscut connecting the old No. 1 Entry of North Mains to the newly developed No. 1 Entry of 004 Section.

Harold D. Dowell was located in the No. 2 Entry and was not completely covered by the roof fall. His body was recovered at 12:10 a.m., February 14, 1991, and transported to the surface. The body arrived on the surface at 1:00 a.m. and was taken by an awaiting ambulance to Lee County General Hospital, Pennington Gap, Virginia.

Daniel E. Roberts, day shift roof bolting machine operator, was located in the last open crosscut between Nos. 1 and 2 Entries. Recovery operations proceeded at a much faster pace when two air compressors and jackhammers, along with an additional battery-powered mantrip, were brought to the mine at 5:35 a.m. on February 14, 1991. This equipment was supplied by a nearby mining operation. The MSHA, State, and company crews which had been working throughout the night were relieved by additional MSHA, State and company personnel at 7:00 a.m. February 14, 1991. Work progressed throughout the day, aided by the use of compressors and jackhammers. Evening shift crews relieved day shift crews at 4:30 p.m. on February 14, 1991. Work continued at all three recovery locations. Roberts body was recovered from the first right crosscut at 7:40 p.m. on February 14, 1991. The body was transported to the surface, arriving at 8:10 p.m., and was taken by an awaiting ambulance to Lee County General Hospital.

Henry Wayne Mosley, day shift foreman, was located in the last open crosscut between the Nos. 2 and 3 Entries inby the area where Dowell was recovered. His body was recovered at 8:12 p.m., February 14, 1991, and was transported to the surface, arriving at 9:35 p.m., and was taken by an awaiting ambulance to Lee County General Hospital.

Floyd N. Varble, Jr., roof bolting machine operator, was located next to the roof bolting machine in the last open crosscut between the Nos. 1 and 2 Entries. The evening shift crews (MSHA, State, and Company) were relieved by the midnight crews at 10:30 p.m., February 14, 1991. Varble's body was recovered at 5:11 a.m., February 15, 1991. The body was transported to the surface at 5:35 a.m. and was transported to Lee County General Hospital by ambulance. The medical examiners report indicated all of the victims died as a result of massive or severe crushing injuries to the head and body.

The recovery crews returned to the surface at 6:15 a.m. and left the mine site. The recovery was complete and an MSHA inspector was assigned to guard the mine entrance.

Accident Investigation

The accident investigation began on Thursday, February 14, 1991. Nickie E. Brewer, Subdistrict Manager, District 6, was appointed as the Chief Investigator. MSHA personnel participating in the investigation were: John J. Rosiek, Jr., Supervisory Mine Safety and Health Specialist, District 4; Robert L. Phillips, Mine Safety and Health Specialist, Division of Safety, Arlington; Ray McKinney, Supervisory Mine Safety and Health Inspector, District 6; Danny D. Harmon, Coal Mine Safety and Health Inspector, District 6; and Michael D. Belcher, Coal Mine Safety and Health Inspector, District 6. James B. Crawford, attorney, Office of the Solicitor, assisted as field legal advisor to the team.(Appendix E)

The investigation team members met at the MSHA District Office, Norton, Virginia, on February 15 and 19, 1991. District 5 MSHA personnel, E. C. Rines, Larry Coeburn, Clarence Slone and Larry Meade, who were the initial MSHA persons to arrive at the mine site on February 13, 1991, briefed four members of the accident investigation team concerning the recovery of the four victims. A preliminary investigation of the roof fall area also commenced on February 19, 1991, and was conducted jointly by Brewer of MSHA's investigation team and Virginia Department of Mines, Minerals and Energy Division of Mines personnel. (Appendix E) The underground investigation began on February 20, 1991.

The investigation team arrived on the 004 Section, briefly observed the area, and determined that maps which had been submitted to MSHA for approval were inaccurate in relation to the location of the section. The extent of the inaccuracies necessitated that a sketch be drawn for orientation purposes. The roof fall occurred in the line of last open crosscuts on the 004 Section (a proposed belt conveyor and track entry for the 5th Left Panel off North Mains). The fall measured approximately 115 feet in length, 28 to 35 feet in width, and 3 to 15 feet in thickness. Photographs of the roof fall area were taken by the investigation team. (Appendix H)

The underground investigation was conducted in all accessible locations of the roof fall area and the section. The accident site and portions of the section were mapped and the location of the victims and the roof bolting machines were plotted. Items of evidence (resin and rebar used in the roof bolting process) were collected, identified, and taken from the mine site in accordance with established guidelines. Test and evaluation results revealed that the resin and rebar used in the mine conformed to the manufacturers specifications. The laboratory testing and evaluation of the items collected are shown in Appendix G.

The investigation team conducted 17 voluntary interviews with employees of this mine, beginning on February 26, 1991, and concluding on February 28, 1991. The interviews were conducted at the MSHA District Office in Norton, Virginia. Each interview was re-

corded and transcribed. Copies were made available to each interested party. Those persons interviewed are listed in Appendix F.

FINDINGS

1. On Wednesday, February 13, 1991, at approximately 4:30 p.m., a massive fall of roof occurred on 004 Section in the proposed belt and track entry of 5th Left off the North Mains, at the No. 1 Mine, J & T Coal, Inc., located near St. Charles, Lee County, Virginia.

2. Fourteen miners were present on the section at the time of the roof fall (members of both the day and evening shift crews). Four of the miners on this section died as a direct result of the roof fall (the day shift and evening shift foremen, one day shift and one evening shift roof bolt machine operator). Ten miners survived uninjured.

3. The medical examiners' report indicated all of the victims died as a result of massive or severe crushing injuries to the head and body.

4. At the time of the accident, there was one active continuous mining unit, consisting of one continuous mining machine with two mobile bridge carriers and two roof bolting machines. One scoop was utilized for supply and clean up of the section.

5. The roof fall occurred on the 004 Section in the last line of open crosscuts (a proposed belt conveyor and track entry of the 5th Left Panel off North Mains). The method of mining being used created excessive entry widths which exposed miners to roof hazards. These excessive widths were created by the shearing of ribs throughout the line of last open crosscuts. Information obtained during the investigation revealed the shearing process was supervised by the section foreman and mine superintendent. At one location, the section foreman operated the mining machine and personally performed the shearing operation.

6. The mine roof in the area of the roof fall was not adequately supported or controlled to protect the miners from a roof fall. The widths in this area ranged from 28 feet to 35 feet for a lineal distance of 115 feet. Interview statements revealed there had not been any additional roof support materials installed in the last open line of crosscuts with the exceptions of roof bolts. No additional roof support had been requested to be brought into the area.

7. The approved Roof Control Plan dated March 21, 1990, required the minimum entry and crosscut centers to be at least 55 feet.

The Nos. 1, 2 and 3 pillar blocks located immediately outby the last line of open crosscuts of 004 Section ranged from 15 feet to 34 feet in thickness. The blocks were developed on minimum entry centers of 36 feet and crosscut centers of 46 feet. First line management personnel (section foremen) measured centers less that 55 feet and directed mining activity to develop entries and crosscuts on reduced centers. The reduced entry and crosscut centers in the line of last open crosscuts proportionally diminished the pillar block dimensions in these areas.

8. Sight lines, or other methods of directional control, were not utilized to maintain the projected direction of the entries and crosscuts related to the last line of crosscuts on the 004 Section (proposed belt and track entry for the 5th Left Panel off North Mains). Management's failure to use sight line or other directional controls up to and throughout the last line of crosscuts on the section resulted in reduced pillar block dimensions and excessive widths.

9. An adequate preshift examination of active section MMU 004 was not made for the coal production shift that began at 4:00 p.m., on February 13, 1991. The first shift section foreman and the mine superintendent failed to danger off an extremely hazardous roof condition that had been created in the last line of open crosscuts on the 004 Section.

10. The mine map being maintained in the surface area of the coal mine on February 13, 1991, was not kept up-to-date with daily temporary notations. The 004 Section had been relocated approximately 2,400 feet outby its original location and the location of the new working faces had not been noted on the mine map. The section had been operating at the new location for approximately one week, had advanced three entries, and connected three crosscuts to within 160 feet of an abandoned sealed area which contained water.

11. MSHA and the Virginia Department of Mines, Minerals, and Energy, investigation members, received voluntary statements from seventeen persons, both management and nonmanagement, on February 26, 27, and 28, 1991, with regard to the fatal accidents. An eighteenth interview began with the mine superintendent, Garry Lynn Williams. After Nickie E. Brewer, Chief Investigator, read an introductory statement and introductory questions, Williams declined to answer any further questions until he consulted with his attorney.

CONCLUSIONS

The roof fall and resultant fatalities occurred because the mine roof in the last open crosscut between the Nos. 1 and 3 Entries,

was not adequately supported. Management directed and participated in the shearing of coal ribs throughout this area. This shearing process created excessive widths ranging from 28 to 35 feet thereby reducing support in the area. No supplemental roof support such as timbering or cribbing was installed in the area where the shearing was performed. Management failed to mine entries and crosscuts in accordance with proper widths as stipulated in the approved Ventilation System and Methane and Dust Control Plan and the approved Roof-Control Plan thereby substantially reducing pillar size and support in the area. Management failed to provide proper alignment and directional controls. Also, Management failed to conduct an adequate preshift examination and withdraw miners from the area where excessive widths were created and failed to post danger signs to prevent miners from entering the area.

CONTRIBUTING VIOLATIONS

The following five violations contributed to the cause of the accident and were issued in association with the accident investigation:

1. 30 CFR, 75.202(a), 104(d)(1) Citation: The mine roof in the line of last open crosscuts on the active working section MMU 004 (proposed belt and track entry for 5th Left Panel off the North Mains) was not adequately supported or controlled to protect the miners from a roof fall. Information obtained by direct measurements and statements during the accident investigation indicated excessive widths ranging from 28 feet to 35 feet had been created in this line of last open crosscuts, beginning at a measured point 123 feet 9 inches inby survey station 245, and extending 52 feet to the right and 63 feet to the left of this referenced point for a lineal distance of 115 feet. These excessive widths were a result of shearing operations that were directed or performed by mine management. According to interview statements and direct observations there had not been any additional roof support with the exception of roof bolts installed in the sheared areas and additional support had not been requested to be brought into the area by mine management. Mine management was directly involved with creating the excessive widths in this area and took no action to provide and install additional roof support in this area. Failure to install supplemental roof support in this area of the last open crosscuts on the section was a major factor in causing a massive roof fall.

2. 30 CFR, 75.203(a), 104(d)(1) Order: The method of mining used in the last line of open crosscuts on the active working section MMU 004 (proposed belt and track entry of 5th Left Panel off the North Mains), created excessive

entry widths which exposed the miners to roof hazards. These widths varied from 28 feet to 35 feet throughout this line of crosscuts, beginning at a measured point 123 feet 9 inches inby Survey Station 245, and extending 52 feet to the right and 63 feet to the left of this referenced point for a lineal distance of 115 feet. The approved roof control plan requires the maximum entry width be limited to 22 feet in the entry where the belt conveyor and track are installed. The excessive widths were created by the shearing of ribs throughout the last open crosscuts. Information obtained during the accident investigation revealed that the shearing process was directed by the section foreman and superintendent, and at one location, the section foreman operated the continuous mining machine and personally performed some of the shearing. The excessive widths created in the last line of crosscuts were a major factor in causing a massive roof fall.

3. 30 CFR, 75.203(b), 104(d)(1) Order: Sight lines, or other methods of directional control, were not used to maintain the projected direction of the entries and crosscuts on the active working section MMU 004. Painted or chalked centerlines utilized to turn left or right angles for crosscut development and guide the proper advancement of face areas were not present on the mine roof. Information obtained during the accident investigation indicated that sight lines or other effective methods were not used by management to turn crosscuts and develop face areas. Management's failure to use sight lines or adequate directional controls to maintain projected directions of entries and crosscuts up to and throughout the last line of crosscuts on the active working section MMU 004 resulted in reduced pillar block dimensions and created excessive entry widths throughout the working section beginning at the section tailpiece and extending inby to the last line of open crosscuts. Shearing processes were instituted in the proposed belt conveyor and track entry of 5th Left Panel off the North Mains, beginning at a measured point approximately 123 feet 9 inches inby Survey Station 245, extending 52 feet to the right and 63 feet to the left of this referenced point for a lineal distance of 115 feet. The shearing process was directed by mine management because the proposed belt and track entry was not on centers. The absence of sight lines contributed to creating conditions that caused a massive roof fall.

4. 30 CFR, 75.220, 104(d)(1) Order: The March 21, 1990 approved Roof Control Plan which requires that entry and crosscut centers not be less than 55 feet, was not being complied with on the active working section MMU 004

(proposed belt and track entry of 5th Left Panel off the North Mains). The Nos. 1, 2, and 3 pillar blocks located immediately outby the last line of open crosscuts of the active working section ranged from 15 to 34 feet in thickness. The blocks were developed on minimum entry centers of 36 feet and minimum crosscut centers of 46 feet. The outby ribs of these pillar blocks were located approximately 108 feet 9 inches inby survey station 245. The pillar blocks dimensional shapes were unorthodox and showed no symmetry, thus contributing to the reduction in entry and crosscut centers. According to investigation interviews obtained during the accident investigation, mine management decided to develop the entries and crosscuts in this area on centers of less than 55 feet. The above conditions violated the approved roof control plan dated March 21, 1990 which required measured centers of not less than 55 feet. Entry and crosscut centers in the line of last open crosscuts were reduced proportionally thereby diminishing the pillar block dimensions in these areas. These reduced pillar dimensions were a major factor in causing a massive roof fall.

5. 30 CFR, 75.303, 104(d)(1) Order: The day shift Section Foreman and the Mine Superintendent failed to danger off an extremely hazardous roof condition that had been created in the last line of open crosscuts on the active working section MMU 004 located 123 feet 9 inches inby survey station 245 (proposed belt conveyor and track entry of 5th Left Panel off the North Mains). This hazardous condition was created when the day shift section foreman and mine superintendent directed and/or participated in a shearing process in this line of crosscuts which resulted in widths ranging from 28 feet to 35 feet thereby reducing pillar roof support. This shearing process was performed to accommodate the installation of the belt and track without additional roof support being installed in the area. The hazardous roof condition existed over a lineal distance of approximately 115 feet. Mine management took no action to withdraw miners from the last open crosscut area and to post danger signs to prohibit unauthorized entry until additional roof support materials could be installed. An adequate preshift examination was not made of the active working section MMU 004 for the coal production shift that began at 4:00 p.m. on February 13, 1991. Approximately seven second shift miners entered the areas where the hazardous roof condition existed. A massive roof fall occurred in the line of last open crosscuts resulting in fatal injuries to two day shift miners who had not been withdrawn and two evening shift miners who had been permitted to enter the mine.

Respectfully submitted,

Nickie E. Brewer
Subdistrict Manager, District 6

John J. Rosiek, Jr.
Supervisory Coal Mine
Safety and Health
Specialist, District 4

Robert L. Phillips
Mine Safety and Health
Specialist, Division
of Safety

Ray McKinney
Supervisory Coal Mine
Safety and Health
Inspector, District 6

Danny D. Harmon
Coal Mine Safety and Health
Inspector, District 6

Michael D. Belcher
Coal Mine Safety and Health
Inspector, District 6

Approved by:

Marvin W. Nichols, Jr.
Acting Administrator
for Coal Mine Safety and Health

APPENDIX A

APPENDIX A

List of Persons Working Underground at Time of Fall

1.	Jesse Moore	Beltman	1st Shift
2.	James H. Clouse	Beltman	1st Shift
3.	Willie Ray Hall	Bridge Carrier Operator	1st Shift
4.	Jeffrey Wayne Longsworth	Continuous Miner Operator	1st Shift
5.	Billy H. McKinney	Scoop Operator	1st Shift
6.	Jimmy L. Taylor	Bridge Operator	1st Shift
7.	Terry D. Pennington	Roof Bolting Machine Operator	1st Shift
8.	Daniel E. Roberts	Roof Bolting Machine Operator	1st Shift
9.	Henry Wayne Mosley	Section Foreman	1st Shift
10.	Dallas Wayne Parsons	Bridge Carrier Operator	2nd Shift
11.	Terry Wayne Scott	Bridge Operator	2nd Shift
12.	John M. Mooneyhan	Rail Runner Operator	2nd Shift
13.	Roger W. Phillips	Roof Bolting Machine Operator	2nd Shift
14.	David Harris, Jr.	Beltman	2nd Shift
15.	Floyd N. Varble, Jr.	Roof Bolting Machine Operator	2nd Shift
16.	Howard D. Dowell	Section Foreman	2nd Shift

APPENDIX B

DATA SHEET

APPENDIX B

Section A—Victim Data

1. Name	2. Sex	3. Social Security Number
Harold D. Dowell	☒ Male ☐ Female	228-52-7201

4. Age	5. Job Classification
50	Evening Shift Section Foreman

6. Experience at this Classification	7. Total Mining Experience
3	23

8. What activity was being performed at time of accident?	9. Victim's Experience at this Activity	10. Was victim trained in this task?
Foreman Duties	3 years	Yes

Section B—Victim Data for Health and Safety Courses/Training Received *(related to accident)*	Date Received
11. Supervisory First Aid Training	3-24-90
12. Annual Refresher Training	11-05-90
13.	
14.	

Section C—Supervisor Data *(supervisor of victim)*

15. Name	16. Certified
Garry Lynn Williams	☒ Yes ☐ No

17. Experience as Supervisor	18. Total Mining Experience
13 years	20 years

Section D—Supervisor Data for Health and Safety Courses/Training Received *(related to accident)*	Date Received
19. Supervisory First Aid Training	11-05-90
20. Annual Refresher Training	11-05-90
21.	
22.	

23. When was the supervisor last present at accident scene prior to the accident?	24. What did he do when he was there?
1/2 hour	his account unknown

25. When was he last in contact with the victim?	26. Did he issue instructions relative to the accident?
his account unknown	his account unknown

27. Was he aware of or did he express an awareness of any unsafe practice or condition?

his account unknown

Garry Williams, superintendent, declined to answer most of the questions during an interview attempt.

DATA SHEET APPENDIX B

Section A—Victim Data

1. Name	2. Sex	3. Social Security Number
Daniel E. Roberts	☒ Male ☐ Female	227-92-8321

4. Age	5. Job Classification
30	Roof Bolter Operator (Day Shift)

6. Experience at this Classification	7. Total Mining Experience
1 year	2 1/2 years

8. What activity was being performed at time of accident?	9. Victim's Experience at this Activity	10. Was victim trained in this task?
Roof Bolter Operator	1 year	Yes

Section B—Victim Data for Health and Safety Courses/Training Received *(related to accident)*	Date Received
11. Annual Refresher	10-27-90
12.	
13.	
14.	

Section C—Supervisor Data *(supervisor of victim)*

15. Name	16. Certified
Henry Wayne Mosley	☒ Yes ☐ No

17. Experience as Supervisor	18. Total Mining Experience
9 years	19 years

Section D—Supervisor Data for Health and Safety Courses/Training Received *(related to accident)*	Date Received
19. Supervisory First Aid Training	3-17-90
20. Annual Refresher Training	10-27-90
21.	
22.	

23. When was the supervisor last present at accident scene prior to the accident?	24. What did he do when he was there?
At the scene when the accident occurred.	his account unknown

25. When was he last in contact with the victim?	26. Did he issue instructions relative to the accident?
his account unknown	his account unknown

27. Was he aware of or did he express an awareness of any unsafe practice or condition?

unable to determine his account

DATA SHEET APPENDIX B

Section A—Victim Data

1. Name	2. Sex	3. Social Security Number
Henry Wayne Mosley	☒ Male ☐ Female	401-80-8282

4. Age	5. Job Classification
37	Day Shift Section Foreman

6. Experience at this Classification	7. Total Mining Experience
9 years	19 years

8. What activity was being performed at time of accident?	9. Victim's Experience at this Activity	10. Was victim trained in this task?
Foreman Duties	9 years	Yes

Section B—Victim Data for Health and Safety Courses/Training Received *(related to accident)*	Date Received
11. Supervisory First Aid Training	3-17-90
12. Annual Refresher Training	10-27-90
13.	
14.	

Section C—Supervisor Data *(supervisor of victim)*

15. Name	16. Certified
Garry Lynn Williams	☒ Yes ☐ No

17. Experience as Supervisor	18. Total Mining Experience
13 years	20 years

Section D—Supervisor Data for Health and Safety Courses/Training Received *(related to accident)*	Date Received
19. Supervisory First Aid Training	11-05-90
20. Annual Refresher Training	11-05-90
21.	
22.	

23. When was the supervisor last present at accident scene prior to the accident?	24. What did he do when he was there?
1/2 hour	his account unknown

25. When was he last in contact with the victim?	26. Did he issue instructions relative to the accident?
his account unknown	his account unknown

27. Was he aware of or did he express an awareness of any unsafe practice or condition?

his account unknown

Garry Williams, superintendent, declined to answer most of the questions during an interview attempt.

DATA SHEET APPENDIX B

Section A—Victim Data

1. Name	2. Sex	3. Social Security Number
Floyd N. Varble	☒ Male ☐ Female	229-13-9502

4. Age	5. Job Classification
26	Roof Bolter Operator (Evening Shift)

6. Experience at this Classification	7. Total Mining Experience
1 1/2 years	1 1/2 years

8. What activity was being performed at time of accident?	9. Victim's Experience at this Activity	10. Was victim trained in this task?
Roof Bolter	1 1/2 years	Yes

Section B—Victim Data for Health and Safety Courses/Training Received *(related to accident)*	Date Received
11. Annual Refresher Training	10-27-90
12.	
13.	
14.	

Section C—Supervisor Data *(supervisor of victim)*

15. Name	16. Certified
Harold D. Dowell	☒ Yes ☐ No

17. Experience as Supervisor	18. Total Mining Experience
3 years	23 years

Section D—Supervisor Data for Health and Safety Courses/Training Received *(related to accident)*	Date Received
19. Supervisory First Aid training	3-24-90
20. Annual Refresher Training	11-05-90
21.	
22.	

23. When was the supervisor last present at accident scene prior to the accident?	24. What did he do when he was there?
At the scene.	his account unknown

25. When was he last in contact with the victim?	26. Did he issue instructions relative to the accident?
his account unknown	his account unknown

27. Was he aware of or did he express an awareness of any unsafe practice or condition?

Unable to determine his account

APPENDIX C

APPENDIX C

List of Persons Who Participated in Recovery of Victims

COMPANY PERSONNEL

1. Pete Black
2. Tom Walker
3. Paul Bishop
4. Ronnie Lawson
5. Mike Rogers
6. Carlos Black
7. Bill McKinney
8. Larry Webb
9. Larry Holbrook
10. Terry Pennington
11. James Clouse
12. Mike Thomas
13. Jesse Moore
14. Dwayne Nicely
15. Wilburn Madon
16. David Helton
17. Joe Morales
18. Bob Dean
19. Jerry Snowden
20. Neil Manning
21. Jerry Moore
22. Jeff Webb
23. Roger Webb
24. John Mooneyham
25. James Woodard
26. George Johnson
27. Robert Webb
28. Terry Scott
29. Scott Napier
30. Dennis Caudill
31. Randy Rowe
32. Harold Stewart
33. William Short
34. Clay Yount
35. Dennis Ely
36. Danny Creech
37. Patrick Conley
38. Buddy Davis
39. Arnold Ely
40. Homer Ely
41. David Brewer
42. Thomas Jackson
43. Marty Middleton
44. Danny Altizer
45. Chris Brewer
46. Brutus Metcalf
47. David Hensley
48. John Allen
49. Scott Hatfield
50. Glen Skidmore
51. Tim Skidmore
52. Robert Hawkins
53. Arthur Garrette
54. James Dean
55. Larry Webb
56. Steve Muse
57. Jimmy Taylor
58. Willie Mack Yount
59. Jack Allen
60. Doug Williams
61. Garry L. Williams
62. David Harris
63. Wayne Parsons
64. Roger Phillips
65. Jeff Longsworth
66. Dave Dean
67. Willie Hall
68. Carter Turner

Appendix C

MSHA PERSONNEL

1. Ewing C. Rines
2. Larry Coeburn
3. Clarence Slone
4. Larry Meade
5. Elmer Simmons
6. Doug Evans
7. Bill Foutch
8. Ralph Reasor
9. Veral Hileman
10. Burnis Austin
11. Bill Strength
12. Gene Stanley
13. Dennis Carter
14. Jim Kiser
15. Mike Clemens
16. Richard Salyers
17. Hargis Ison
18. Jim Bowman
19. Al Castaneda
20. John Godsey
21. Charlie F. Reece
22. Michael Lawless
23. Gary Jessee
24. Robert Cledenon
25. Roy Davidson
26. Paul Fuller
27. Manuel Hairston
28. Andrew Moore
29. Charles Strunk

VIRGINIA DIVISION OF MINES

1. Lloyd Robinette, Jr.
2. Gregory Bailey
3. Doyle Roberts
4. John Thomas
5. Charles B. Ray
6. Harry D. Childress
7. Caroll Green
8. Charles Jessee
9. Dennis Harrison
10. Mitchell Fisher
11. Ronald Hamrick
12. Jerry Scott
13. Opie McKinney
14. Danny Altizer
15. David Elswick
16. Dwight Miller
17. Vernon Johnson
18. John Thomas

APPENDIX D

APPENDIX D

MSHA Persons Who Participated in Surface Control Center Supervision

1. Wayland Jesse, Surface Supervisor
2. Joseph Tankersley, Surface Recorder
3. Eugene W. Graham, Surface Supervisor
4. Roy D. Davidson, Fan Monitor
5. Manuel Hairston, Surface Recorder
6. Andrew C. Moore, III, Surface Supervisor
7. Charles Strunk, Underground Inspector
8. Kenneth F. Owens, Surface Supervisor

APPENDIX E

APPENDIX E

MSHA Personnel Who Participated in the Investigation

1.	Nickie E. Brewer	-	(Chief Investigator) Subdistrict Manager, District 6
2.	John J. Rosiek, Jr.	-	Supervisory CMS&H Inspector, District 4
3.	Robert L. Phillips	-	MS&H Specialist, Division of Safety
4.	Ray McKinney	-	Supervisory CMS&H Inspector, District 6
5.	Danny D. Harmon	-	CMS&H Inspector, District 6
6.	Michael D. Belcher	-	CMS&H Inspector, District 6
7.	Joseph Cybulski	-	Specialist, Technical Support
8.	Michael Evanto	-	Specialist, Technical Support
9.	James B. Crawford	-	Attorney, Office of the Solicitor

State Personnel Who Participated in the Investigation

1.	Harry D. Childress	-	Chief, Virginia Division of Mines
2.	Lewis F. Wheatley	-	Deputy Director, Virginia Division of Mines
3.	Robert Milici	-	Department of Mines , Minerals and Energy
4.	Lloyd Robinette, Jr.	-	Mine Inspector Supervisor
5.	David Elswick	-	Inspector
6.	Charles P. Jesse	-	Inspector
7.	Jerry E. Scott	-	Inspector

Appendix E

Company Personnel Who Participated in the Investigation

1.	Garry Lynn Williams	- Superintendent
2.	Larry Wayne Holbrook	- General Inside
3.	Aubra Paul Dean	- Vice President/Treasurer
4.	Ralph Orlinger	- Engineer
5.	Bill McKinney	- Scoop Operator
*6.	Gary Collins	

* Gary Collins was not an employee of this company but served as an advisor for the mine owners.

APPENDIX F

APPENDIX F

Persons Who Provided Voluntary Statements

February 26 - 28, 1991

1.	Jerry Wayne Snowden	-	Outside Man
2.	Larry Wayne Holbrook	-	General Inside
3.	Johnny M. Mooneyhan	-	General Inside
4.	Terry Pennington	-	Roof Bolt Machine Operator
5.	Dallas W. Parsons	-	Bridge Carrier Operator
6.	Terry Scott	-	Bridge Carrier Operator
7.	Roger Phillips	-	Roof Bolt Machine Operator
8.	Jesse Moore	-	Belt Man
9.	Bill McKinney	-	Scoop Operator
10.	Jeffrey Wayne Longsworth	-	Continuous Mining Machine Operator
11.	Jimmy Taylor	-	Bridge Carrier Operator
12.	Willie Ray Hall	-	Bridge Carrier Operator
13.	James H. Clouse	-	Cable and Dolly Man
14.	Ralph Orlinger	-	Engineer
15.	Bruce Moretz	-	Engineer
16.	Aubra Dean	-	Vice President/Treasurer
17.	Carl McAfee	-	President/Secretary
*18.	Garry L. Williams	-	Superintendent

*Garry L. Williams - appeared for interview but declined to answer further questions after initial, introductory statements and questions were stated.

APPENDIX G

U.S. Department of Labor

Mine Safety and Health Administration
Bruceton Safety Technology Center
Cochrans Mill Road
P.O. Box 18233
Pittsburgh, Pennsylvania 15236

February 28, 1991

MEMORANDUM FOR: NICKIE E. BREWER
Subdistrict Manager, Pikeville Subdistrict Office
CMS&H District 6

THROUGH: M. TERRY HOCH M. Terry Hoch
Chief, Roof Control Division

FROM: RAYMOND A. MAZZONI Raymond A. Mazzoni
Mechanical Engineer, Roof Control Division

SUBJECT: Laboratory Tests of DuPont Fasloc ID Resin and Commonwealth Bolt Company No. 5, Grade 60 Rebar Obtained from L.J.'s Coal Company Mine

Attached are the data sheets summarizing the results of our tests of the ten DuPont Fasloc ID resin cartridges (FAS0418) and ten Commonwealth Bolt Company No. 5, Grade 60 rebar that were obtained from the subject mine and submitted for evaluation by Bob Phillips. Five of the 5-foot equivalent resin cartridges were cut into 12-inch-long sections and used to grout 18-inch-long sections of the No. 5 rebar in a 12-inch-deep, nominal 1-inch-diameter hole drilled in an Indiana limestone test block. A total of ten resin tests were conducted.

DuPont's installation procedure recommends mixing the resin from 3-8 seconds at 350-500 rpm. Since we use a hand drill that has a rotation speed of 250 rpm, the mixing time for all of these tests was increased to 10 seconds.

After mixing the resin 10 seconds and allowing it to cure for 5 minutes, each rebar was pull tested to 20,000 pounds or 0.500-inch displacement. Displacement was recorded at 2,000-pound intervals. Of the ten tests conducted, 8 achieved the 20,000-pound anchorage level with permanent displacements averaging 0.132 inch. In the remaining 2 tests, the rebar exceeded 0.500-inch displacement at 9,000 and 19,000 pounds, indicating failure of the resin anchor.

In test No. 2, the middle section of the cartridge was used and it was noted that a substantial amount of catalyst came out of the hole during installation. At the time it was felt that this was the reason for the low anchorage (9,000 pounds). So for the 8 remaining tests, only end sections were used to reduce the amount of catalyst being lost during installation. With the exception of test No. 5 (19,000 pounds), all of the remaining tests achieved 20,000 pounds.

Overall, the permanent displacements of these tests are comparable to the results obtained from previous resin tests using No. 5 rebar in a 1-inch hole, which are typically higher than the results obtained when using No. 6 rebar.

In addition, one section of rebar was tested to determine the yield and ultimate loads of the rebar. The yield and ultimate loads were 19,500 pounds and 30,600 pounds, respectively. The ASTM minimum loads are 18,600 pounds yield and 27,900 pounds ultimate.

In summary, based on the tests conducted, it can be concluded that both the resin and rebar submitted for evaluation performed in an acceptable manner and met relevant standards governing their use.

If we can be of further assistance, do not hesitate to contact us.

Attachments

cc: Bob Phillips ✓

RESIN CARTRIDGE DATA SHEET

MANUFACTURER: DuPont FAS0418 DATE: 2-25-91

REQUESTED BY: Bob Phillips

BAR LENGTH: 18" CARTRIDGE LENGTH: 5' eq. HOLE SIZE: 1"

GEL RANGE: 1/2 minute TEMPERATURE: 72° ROCK SAMPLE: Ind.

TEST DATA

PULLING LOAD (lbs)	DISPLACEMENT (.001 inch)									
	1	2	3	4	5	6	7	8	9	10
1,000										
2,000	0	0	0	0	0	0	0	0	0	0
4,000	9	25	9	12	11	4	8	6	19	6
6,000	22	75	21	26	24	12	18	13	31	15
8,000	35	130	29	37	38	25	31	28	43	26
10,000	50	over 1/2	41	48	50	39	41	40	52	35
12,000	67		53	61	69	56	53	57	64	49
14,000	94		71	71	98	75	65	78	78	62
16,000	111		91	92	134	94	82	103	95	79
18,000	140		110	113	200	116	103	134	120	101
20,000	210		150	160	over 1/2	160	170	227	200	152
*Return To Zero	162		106	112		112	123	181	154	107

Max Load(lbs)	20K	9K	20K	20K	19K	20K	20K	20K	20K	20K
MIX(sec)	10	10	10	10	10	10	10	10	10	10
CURE(min)	5	5	5	5	5	5	5	5	5	5

FINDINGS: Tested with Commonwealth Bolt Company No 5, Grade 60 rebar. Resin exp. date Jan. 1992.

APPENDIX G

REBAR DATA SHEET

MANUFACTURER: Commonwealth Bolt Company DATE: 2-25-91

REQUESTED BY: CMS&H Arlington

BOLT LENGTH: 48" BOLT DIAMETER: 5/8" BOLT GRADE: 60

HEAD DESIGNATION: O

TEST DATA

	THREAD DIMENSIONS			HEAD DIMENSIONS		PHYSICAL PROPERTIES		
No.	GO GAGE (Y/N)	NO-GO GAGE (Y/N)	MAJOR DIAMETER (G/NG)*	HEIGHT (G/NG)*	FLATS (G/NG)*	YIELD (Lbs.)	ULTIMATE (Lbs.)	ELONGATION (%)
1						19,500	30,600	

* Good (G) No Good (NG)

FINDINGS: This bolt met the minimum ASTM F432-88 strength requirements.

APPENDIX H

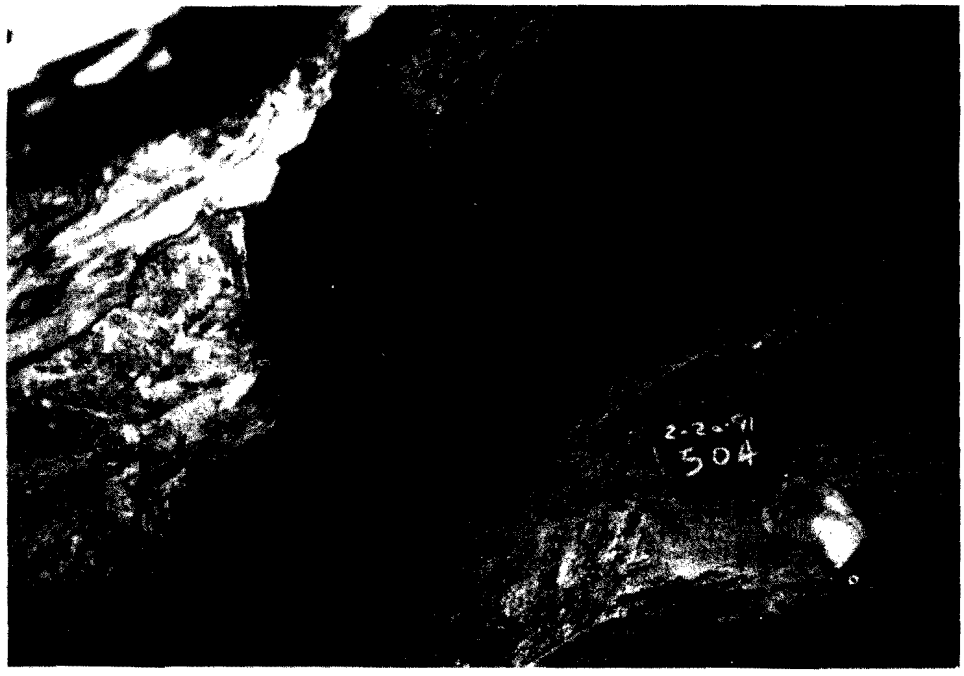
APPENDIX H

1. View of roof fall from No. 2 Entry.

2. Viewing over top of roof fall from No. 2 Entry.

APPENDIX H

3. View of roof fall from No. 1 Entry, left crosscut.



4. View of inby side of roof fall from No. 1 Entry, left crosscut.

APPENDIX H

5. View of roof fall from No. 3 Entry.

6. View of roof fall from No. 1 Entry, left crosscut.

APPENDIX I

(see map packet)

APPENDIX J

(see map packet)

APPENDIX K

APPENDIX K

Mine Citation/Order

U.S. Department of Labor
Mine Safety and Health Administration

Section I – Violation Data

1. Date: Mo 06 Da 17 Yr 91 | 2. Time (24 Hr. Clock): 1030 | 3. Citation/Order Number: 2962921

4. Served To: Aubra Dean

5. Operator: J & T COAL, INC. (formerly named LJ's Coal Corparation)

6. Mine: #1 MINE

7. Mine ID: 44-05668 (contractor)

8. Condition or Practice — 8a. Written Notice (103g) ☐

The mine roof in the line of last open crosscuts on the active working section MMU 004 (proposed belt and track entry for 5th Left Panel off the North Mains) was not adequately supported or controlled to protect the miners from a roof fall. Information obtained by direct measurements and statements during the accident investigation indicated excessive widths ranging from 28 feet to 35 feet had been created in this line of last open crosscuts, beginning at a measured point 123 feet 9 inches inby survey station 245, and extending 52 feet to the right and 63 feet to the left of this referenced point for a lineal distance of 115 feet. These excessive widths were a result of shearing operations that were directed or performed by mine management. According to interview statements and direct observation there had not been any supplemental roof support materials installed in this area and supplementary roof support materials had not been requested for this area by mine management. Mine management was directly involved with creating the excessive widths in this area and took no action to provide and install additional roof support in this area. The failure to install supplemental roof support in this area was a major factor in causing a massive roof fall. This condition or practice was observed on February 20, 1991, by MSHA's accident investigation team during its underground investigation of the February 13, 1991 massive roof fall accident that resulted in the death of four miners. This was also supported by information obtained from investigation interviews.

See Continuation Form (MSHA Form 7000-3a) ☐

9. Violation: A. Health ☐ Safety ☒ Other ☐ | B. Section of Act: | C. Part/Section of Title 30 CFR: 75.202(a)

Section II – Inspector's Evaluation

10. Gravity:
A. Injury or Illness has: No Likelihood ☐ Unlikely ☐ Reasonably Likely ☐ Highly Likely ☐ Occurred ☒
B. Injury or Illness could reasonably be expected to be No Lost Workdays ☐ Lost Workdays or Restricted Duty ☐ Permanently Disabling ☐ Fatal ☒
C. Significant and Substantial (See Reverse): Yes ☒ No ☐ | D. Number of Persons Affected: 014

11. Negligence (check one)
A. None ☐ B. Low ☐ C. Moderate ☐ D. High ☐ E. Reckless Disregard ☒

12. Type of Action: 104-d-1, | 13. Type of Issuance (check one): Citation ☒ Order ☐ Safeguard ☐

14. Initial Action: A. Citation ☐ B. Order ☐ C. Safeguard ☐ D. Written Notice ☐ | E. Citation/Order Number: | F. Dated: Mo Da Yr

15. Area or Equipment
Last open crosscuts on the active working section MMU 004.

16. Termination Due: A. Date: Mo 06 Da 17 Yr 91 | B. Time (24 Hr. Clock): 1035

Section III – Termination Action

17. Action to Terminate
This area of the mine has been sealed. Proper roof control training has been given to all employees of the mine.

18. Terminated: A. Date: Mo 06 Da 17 Yr 91 | B. Time (24 Hr Clock): 1040

Section IV – Automated System Data

19. Type of Inspection (activity code): AFA | 20. Event Number: 5743356 | 21. Primary or Mill:

22. Signature: Ray McKinney
Danny Harmon

23. AR Number: 2123987

MSHA Form 7000-3 Mar 85

APPENDIX K

Mine Citation/Order

U.S. Department of Labor
Mine Safety and Health Administration

Section I – Violation Data

1. Date: Mo 06 Da 17 Yr 91 | 2. Time (24 Hr. Clock): 1030 | 3. Citation/Order Number: 2962922

4. Served To: Aubra Dean | 5. Operator: J & T COAL, INC. (formerly named LJ's Coal Corparation)

6. Mine: #1 MINE | 7. Mine ID: 44-05668 (contractor)

8. Condition or Practice | 8a. Written Notice (103g) ☐

The method of mining used in the last line of open crosscuts on the active working section MMU 004 (proposed belt and track entry of 5th Left Panel off the North Mains), created excessive entry widths which exposed the miners to roof hazards. These widths varied from 28 feet to 35 feet throughout this line of crosscuts, beginning at a measured point 123 feet 9 inches inby survey station 245, and extending 52 feet to the right and 63 feet to the left of this referenced point for a lineal distance of 115 feet. The approved roof control plan requires the maximum entry width be limited to 22 feet in the entry where the belt conveyor and track are installed. The excessive widths were created by the shearing of ribs throughout the last open crosscuts. Information obtained during the accident investigation revealed that the shearing process was directed by the section foreman and mine superintendent, and at one location, the section foreman operated the continuous mining machine and personally performed some of the shearing. The excessive widths created in the last line of crosscuts were a major factor in causing a massive roof fall.

This condition or practice was observed on February 20, 1991, by MSHA's accident investigation team during its underground investigation of the Februrary 13, 1991 massive roof fall accident at the No. 1 Mine which resulted in the death of four miners. This was also supported by information obtained from investigation interviews.

See Continuation Form (MSHA Form 7000-3a) ☐

9. Violation | A. Health ☐ Safety ☒ Other ☐ | B. Section of Act: | C. Part/Section of Title 30 CFR: 75.203(a)

Section II – Inspector's Evaluation

10. Gravity:

A. Injury or Illness has: No Likelihood ☐ Unlikely ☐ Reasonably Likely ☐ Highly Likely ☐ Occurred ☒

B. Injury or Illness could reasonably be expected to be: No Lost Workdays ☐ Lost Workdays or Restricted Duty ☐ Permanently Disabling ☐ Fatal ☒

C. Significant and Substantial (See Reverse): Yes ☒ No ☐ | D. Number of Persons Affected: 014

11. Negligence (check one)

A. None ☐ B. Low ☐ C. Moderate ☐ D. High ☐ E. Reckless Disregard ☒

12. Type of Action: 104-d-1, | 13. Type of Issuance (check one): Citation ☐ Order ☒ Safeguard ☐

14. Initial Action: A. Citation ☒ B. Order ☐ C. Safeguard ☐ D. Written Notice ☐ | E. Citation/Order Number: 2962921 | F. Dated: Mo 02 Da 20 Yr 91

15. Area or Equipment

Last open crosscuts on the active working section MMU 004.

16. Termination Due | A. Date: Mo Da Yr | B. Time (24 Hr. Clock):

Section III – Termination Action

17. Action to Terminate

This area of the mine has been sealed. Proper roof control training has been given to all employees of the mine.

18. Terminated | A. Date: Mo 06 Da 17 Yr 91 | B. Time (24 Hr Clock): 1040

Section IV – Automated System Data

19. Type of Inspection (activity code): AFA | 20. Event Number: 5743356 | 21. Primary or Mill:

22. Signature: Ray McKinney, Danny Hanson | 23. AR Number: 21239

MSHA Form 7000-3 Mar 85

Mine Citation/Order

U.S. Department of Labor
Mine Safety and Health Administration

Section I – Violation Data

1. Date: Mo 06 Da 17 Yr 91 | 2. Time (24 Hr. Clock): 1030 | 3. Citation/Order Number: 2962923

4. Served To: Aubra Dean | 5. Operator: J & T COAL, INC. (formerly named LJ's Coal Corparation)

6. Mine: #1 MINE | 7. Mine ID: 44-05668 (contractor)

8. Condition or Practice | 8a. Written Notice (103g) ☐

Sight lines, or other methods of directional control, were not used to maintain the projected direction of the entries and crosscuts on the active working section MMU 004. Painted or chalked centerlines utilized to turn left or right angles for crosscut development and guide the proper advancement of face areas were not present on the mine roof. Information obtained during the accident investigation indicated that sight lines or other effective methods were not used by management to turn crosscuts and develop face areas. Management's failure to use sight lines or adequate directional controls to maintain projected directions of entries and crosscuts up to and throughout the last line of crosscuts on the active working section MMU 004 resulted in reduced pillar block dimensions and created excessive entry widths throughout the working section beginning at the section tailpiece and extending inby to the last line of open crosscuts. Shearing processes were instituted in the proposed belt conveyor and track entry of 5 Left Panel off the North Mains, beginning at a measured point approximately 123 feet 9 inches inby survey station 245, extending 52 feet to the right and 63 feet to the left of this referenced point for a lineal distance of 115 feet. The shearing process was directed by mine management because the proposed belt and track entry was not on centers. The absence of sight lines contributed to creating conditions that caused a massive roof fall.

See Continuation Form (MSHA Form 7000-3a) ☒

9. Violation | A. Health ☐ Safety ☒ Other ☐ | B. Section of Act | C. Part/Section of Title 30 CFR: 75.203(b)

Section II – Inspector's Evaluation

10. Gravity:

A. Injury or Illness has: No Likelihood ☐ Unlikely ☐ Reasonably Likely ☐ Highly Likely ☐ Occurred ☒

B. Injury or Illness could reasonably be expected to be: No Lost Workdays ☐ Lost Workdays or Restricted Duty ☐ Permanently Disabling ☐ Fatal ☒

C. Significant and Substantial (See Reverse): Yes ☒ No ☐ | D. Number of Persons Affected: 014

11. Negligence (check one)

A. None ☐ B. Low ☐ C. Moderate ☐ D. High ☐ E. Reckless Disregard ☒

12. Type of Action: 104-d-1, | 13. Type of Issuance (check one): Citation ☐ Order ☒ Safeguard ☐

14. Initial Action: A. Citation ☒ B. Order ☐ C. Safeguard ☐ D. Written Notice ☐ | E. Citation/Order Number: 2962921 | F. Dated: Mo 02 Da 20 Yr 91

15. Area or Equipment

The active working section MMU 004.

16. Termination Due | A. Date: Mo Da Yr | B. Time (24 Hr. Clock)

Section III – Termination Action

17. Action to Terminate

This area of the mine has been sealed. Proper roof control training has been given to all employees of the mine.

18. Terminated | A. Date: Mo 06 Da 17 Yr 91 | B. Time (24 Hr Clock): 1040

Section IV – Automated System Data

19. Type of Inspection (activity code): AFA | 20. Event Number: 5743356 | 21. Primary or Mill: 21239

22. Signature: Ray McKenney, Danny Hamner | 23. AR Number: 2-17-91

MSHA Form 7000-3 Mar 85

APPENDIX K

Mine Citation/Order
Continuation

U.S. Department of Labor
Mine Safety and Health Administration

Section I – Subsequent Action/Continuation Data

1. Subsequent Action	1a. Continuation	2. Dated (Original Issue)	Mo	Da	Yr	3. Citation/Order Number
☐	☒		06	17	91	2962923-01

4. Served To: Aubra Dean

5. Operator: J & T COAL, INC. (formerly named LJ's Coal Corparation)

6. Mine: #1 MINE

7. Mine ID: 44-05668- (contractor)

Section II – Justification for Action

centers. The absence of sight lines contributed to creating conditions that caused a massive roof fall.

This condition or practice was observed on February 20, 1991, by MSHA's accident investigation team during its underground investigation of the February 13, 1991 massive roof fall at the No. 1 Mine which resulted in the death of four miners. This was also supported by information obtained from investigation interviews.

See Continuation Form ☐

Section III – Subsequent Action Taken

8. Extended To	A. Date	Mo	Da	Yr	B. Time (24 Hr. Clock)	C. Vacated	D. Terminated	E. Modified
		06	17	91	1040	☐	☒	☐

Section IV – Inspection Data

9. Type of Inspection	10. Event Number	AR Number	12. Date	13. Time (24 Hr. Clock)
AFA	5743356	21239	06/17/91	1030

11. Signature: Roy McKinney
Danny Adkins

MSHA Form 7000-3 a, Mar 85 (revised)

Mine Citation/Order

U.S. Department of Labor
Mine Safety and Health Administration

Section I – Violation Data

1. Date: Mo 06 Da 14 Yr 91 | 2. Time (24 Hr. Clock): 1030 | 3. Citation/Order Number: 2962924

4. Served To: Aubra Dean

5. Operator: J & T COAL, INC. (formerly named LJ's Coal Corparation)

6. Mine: #1 MINE

7. Mine ID: 44-05668 (contractor)

8. Condition or Practice — 8a. Written Notice (103g) ☐

The March 21, 1990 approved roof control plan which requires that entry and crosscut center not be less than 55 feet, was not being complied with on the active working section MMU 004 (proposed belt and track entry of 5th Left Panel off the North Mains). The Nos. 1, 2, and 3 pillar blocks located immediately outby the last line of open crosscuts of the active working section ranged from 15 to 34 feet in thickness. The blocks were developed on minimum entry centers of 36 feet and minimum crosscut centers of 46 feet. The outby ribs of these pillar blocks were located approximately 108 feet 9 inches inby survey station 245. The pillar blocks dimensional shapes were unorthodox and showed no symmetry, thus contributing to the reduction in entry and crosscut centers. According to investigation interviews obtained during the accident investigation, mine management decided to develop the entries and crosscuts in this area on centers of less than 55 feet. The above conditions violated the approved roof control plan dated March 21,1990 which required measured centers of not less than 55 feet. Entry and crosscut centers in the line of last open crosscuts were reduced proportionally thereby diminishing the pillar block dimensions in these areas. These reduced pillar dimensions were a major factor in causing a massive roof fall.

This condition or practice was observed on February 20, 1991, by MSHA's accident investigation team during its underground investigation of the February 13, 1991 massive roof fall at the No. 1 Mine which resulted in the death of four miners. This was also supported by information obtained from investigation interviews. See Continuation Form (MSHA Form 7000-3a) ☐

9. Violation: A. Health ☐ Safety ☒ Other ☐ | B. Section of Act: | C. Part/Section of Title 30 CFR: 75.220

Section II – Inspector's Evaluation

10. Gravity:

A. Injury or Illness has: No Likelihood ☐ Unlikely ☐ Reasonably Likely ☐ Highly Likely ☐ Occurred ☒

B. Injury or Illness could reasonably be expected to be: No Lost Workdays ☐ Lost Workdays or Restricted Duty ☐ Permanently Disabling ☐ Fatal ☒

C. Significant and Substantial (See Reverse): Yes ☒ No ☐ | D. Number of Persons Affected: 014

11. Negligence (check one): A. None ☐ B. Low ☐ C. Moderate ☐ D. High ☐ E. Reckless Disregard ☒

12. Type of Action: 104-d-1, | 13. Type of Issuance (check one): Citation ☐ Order ☒ Safeguard ☐

14. Initial Action: A. Citation ☒ B. Order ☐ C. Safeguard ☐ D. Written Notice ☐ | E. Citation/Order Number: 2962921 | F. Dated: Mo 02 Da 20 Yr 91

15. Area or Equipment

The active working section MMU 004.

16. Termination Due: A. Date Mo Da Yr | B. Time (24 Hr. Clock)

Section III – Termination Action

17. Action to Terminate

This area of the mine has been sealed. Proper roof control training has been given to all employees of the mine.

18. Terminated: A. Date Mo 06 Da 17 Yr 91 | B. Time (24 Hr Clock) 1040

Section IV – Automated System Data

19. Type of Inspection (activity code): AFA | 20. Event Number: 5743356 | 21. Primary or Mill:

22. Signature: Ray McKinney
Danny Harmon

23. AR Number: 21234

MSHA Form 7000-3 Mar 85

APPENDIX K

Mine Citation/Order

U.S. Department of Labor
Mine Safety and Health Administration

Section I – Violation Data

1. Date	Mo	Da	Yr	2. Time (24 Hr. Clock)		3. Citation/Order Number
	02	11	91	1030		2962925

4. Served To: Aubra Dean

5. Operator: J & T COAL, INC. (formerly named LJ's Coal Corparation)

6. Mine: #1 MINE

7. Mine ID: 44-05668 (contractor)

8. Condition or Practice — 8a. Written Notice (103g) ☐

An adequate preshift examination was not made of the active working section MMU 004 for the coal production shift that began at 4:00 p.m. on February 13, 1991. Approximately 7 second shift miners entered the areas where the hazardous roof condition existed. A massive roof fall occurred in the line of last open crosscuts resulting in fatal injuries to two day shift miners who had not been withdrawn and two evening shift miners who had been permitted to enter the area. The day shift Section Foreman and the Mine Superintendent failed to danger off an extremely hazardous roof condition that had been created in the last line of open crosscuts on the active working section MMU 004 located 123 feet 9 inches inby survey station 245 (proposed belt conveyor and track entry of 5th Left Panel off the North Mains). This hazardous condition was created when the day shift section foreman and mine superintendent directed and/or participated in a shearing process in this line of crosscuts which created crosscut widths ranging from 28 feet to 35 feet thereby reducing pillar roof support This shearing process was performed to accommodate the installation of the belt and track without additional roof support being installed the area. The hazardous roof condition existed over a lineal distance of approximately 115 feet. Mine management took no action to

See Continuation Form (MSHA Form 7000-3a) ☒

9. Violation — A. Health ☐ Safety ☒ Other ☐ — B. Section of Act: — C. Part/Section of Title 30 CFR: 75.303(a)

Section II – Inspector's Evaluation

10. Gravity:

A. Injury or Illness has: No Likelihood ☐ Unlikely ☐ Reasonably Likely ☐ Highly Likely ☐ Occurred ☒

B. Injury or Illness could reasonably be expected to be No Lost Workdays ☐ Lost Workdays or Restricted Duty ☐ Permanently Disabling ☐ Fatal ☒

C. Significant and Substantial (See Reverse): Yes ☒ No ☐ — D. Number of Persons Affected: 014

11. Negligence (check one)

A. None ☐ B. Low ☐ C. Moderate ☐ D. High ☐ E. Reckless Disregard ☒

12. Type of Action: 104-d-1, — 13. Type of Issuance (check one): Citation ☐ Order ☒ Safeguard ☐

14. Initial Action: A. Citation ☒ B. Order ☐ C. Safeguard ☐ D. Written Notice ☐ — E. Citation/Order Number: 2962921 — F. Dated: Mo 02 Da 20 Yr 91

15. Area or Equipment

The last open crosscuts on the active working section MMU 004.

16. Termination Due — A. Date: Mo Da Yr — B. Time (24 Hr. Clock):

Section III – Termination Action

17. Action to Terminate

This area of the mine has been sealed. Proper roof control training has been given to all employees of the mine.

18. Terminated — A. Date: Mo 02 Da 20 Yr 91 — B. Time (24 Hr Clock): 1040

Section IV – Automated System Data

19. Type of Inspection (activity code): AFA — 20. Event Number: 5743356 — 21. Primary or Mill:

22. Signature: Ray McKinney / Danny Hamaker — 23. AR Number: 21239

MSHA Form 7000-3 Mar 85

Mine Citation/Order
Continuation

U.S. Department of Labor
Mine Safety and Health Administration

Section I – Subsequent Action/Continuation Data

1. Subsequent Action	1a. Continuation	2. Dated (Original Issue)	Mo	Da	Yr	3. Citation/Order Number
☐	☒		06	17	91	2962925-01

4. Served To: Aubra Dean

5. Operator: J & T COAL, INC. (formerly named LJ's Coal Corparation)

6. Mine: #1 MINE

7. Mine ID: 44-05668- (contractor)

Section II – Justification for Action

withdraw miners from the last open crosscut area and to post danger signs to prohibit unauthorized entry until additional roof support materials could be installed.

This condition or practice was observed on February 20, 1991, by MSHA's accident investigation team during its underground investigation of the February 13, 1991 massive roof fall at the No. 1 Mine which resulted in the death of four miners. This was also supported by information obtained from investigation interviews.

See Continuation Form ☐

Section III – Subsequent Action Taken

8. Extended To — A. Date: Mo 06 Da 17 Yr 91 — B. Time (24 Hr. Clock): 1040 — C. Vacated ☐ D. Terminated ☒ E. Modified ☐

Section IV – Inspection Data

9. Type of Inspection: AFA — 10. Event Number: 5743356

11. Signature: Ray McKinney / Danny Hammond — AR Number: 2123 7 — 12. Date: Mo 06 Da 17 Yr 91 — 13. Time (24 Hr. Clock): 1030

MSHA Form 7000-3 a,Mar 85 (revised)