

UNITED STATES  
DEPARTMENT OF LABOR  
MINE SAFETY AND HEALTH ADMINISTRATION

District 4

NATIONAL MINE HEALTH & SAFETY ACADEMY  
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REPORT OF INVESTIGATION  
(UNDERGROUND COAL MINE)

FATAL POWERED HAULAGE ACCIDENT

No. 4 Mine (ID No. 46-03082)  
P. M. Charles Coal Company  
Rawl, Mingo County, West Virginia

March 11, 1980

by

James E. Davis  
Coal Mine Inspector

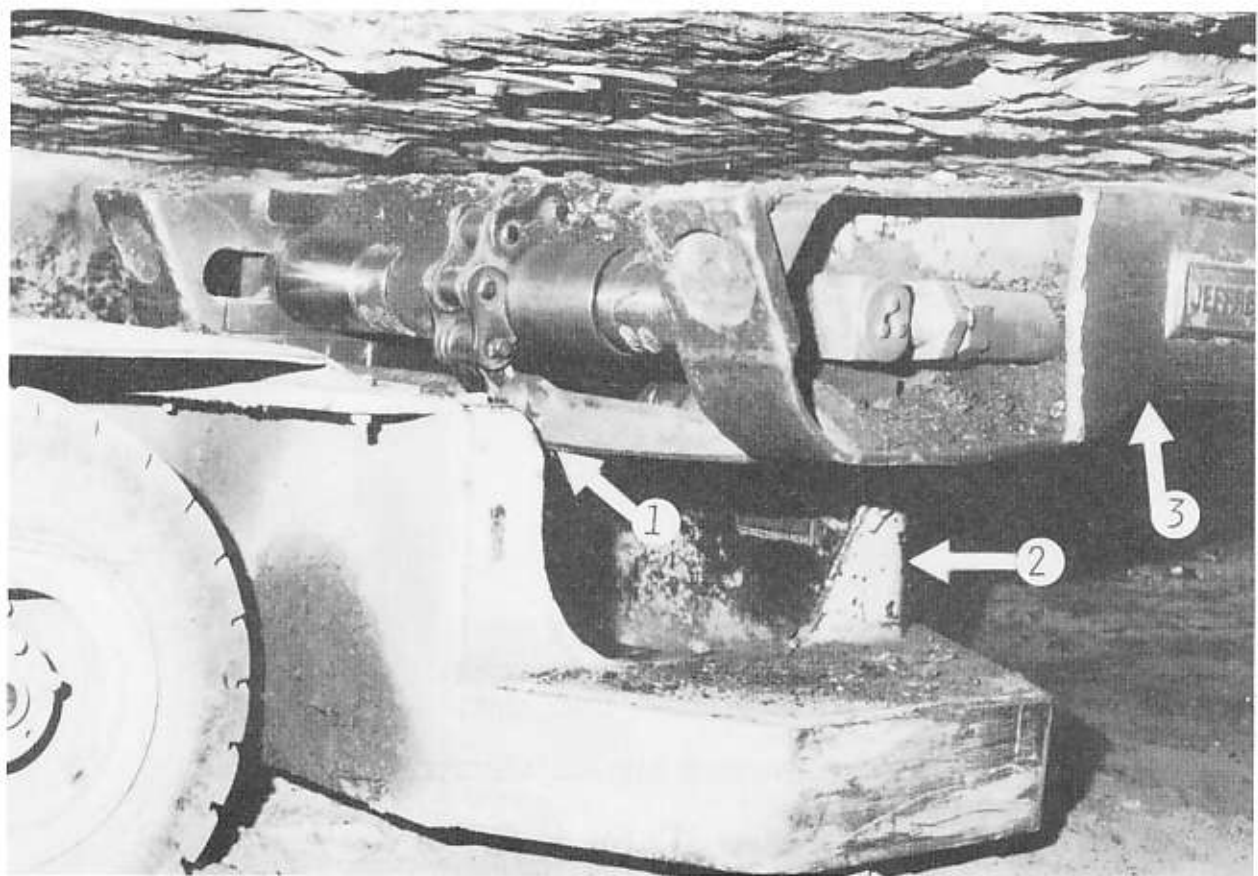
Originating Office - Mine Safety and Health Administration  
P. O. Box 112, Mount Hope, West Virginia 25880  
J. M. Krese, District Manager

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*Legend:*

1. Bowen (victim) was found here following the accident.
2. Battery tractor which victim was operating.
3. Conveyor boom of continuous-mining machine.

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# ABSTRACT OF INVESTIGATION

Title of Investigation: Fatal Powered Haulage Accident

Report Release Date: July 9, 1980

Mine: No. 4 Mine

Mine I.D. Number: 46-03082

Company: P. M. Charles Coal Company

Town, County, State: Rawl, Mingo County, West Virginia

Author(s): James E. Davis

## Mine Information

Daily Production.....200 tons.....

Surface Employment.....4.....

Underground Employment..30.....

Name of Coalbed.....Upper Cedar Grove.....

Thickness of Coalbed.....37 inches.....

Last Quarter Injury Frequency Rate (HSAC) for:

Industry.....8.08.....

This Operation.....8.70.....

Training Program Approved..Yes.....

Mine Profile Rating..Not currently rated...

Originating Office - Mine Safety and Health Administration, Coal Mine Health and Safety District 4

Address: P.O. Box 112.....  
Mount Hope, West Virginia 25880.....

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)

## Abstract

On Tuesday, March 11, 1980, at about 11 p.m., a battery-powered haulage accident occurred in the No. 5 entry, 1 left section (006), off the mains in the No. 4 Mine of the P. M. Charles Coal Company. The accident resulted in the death of Eleanor R. Bowen, who was operating a S. and S. Model 100 tractor. Bowen was classified as a general laborer but operated the tractor intermittently as a part of her duties. Bowen had 1 year and 8 months mining experience, with approximately 3½ months as a battery-powered tractor operator. The tractor was trammed to within 5 feet of the conveyor boom of a parked continuous-mining machine. The tractor was then trammed toward the machine for some unknown reason with the deck of the tractor traveling under the conveyor boom crushing the victim between the deck of the tractor frame and the conveyor boom. An examination of the tractor revealed no mechanical or electrical defects.

Information for this report was compiled through a MSHA investigation that was started .....  
March 12, 1980.....

## Company Officials:

### Name

### Address

President.....Sidney R. Young, III.....Rawl, WV 25691.....

Superintendent.....Adery Pacific.....Rawl, WV 25691.....

Safety Director.....Glenn Justice.....Rawl, WV 25691.....

Principle Officer - H&S.....Glenn Justice.....Rawl, WV 25691.....  
UMWA Building

Labor Organization.....UMWA, District 17.....Charleston, WV 25301.....

Chairman - H&S Committee.....Danny McCoy.....Rawl, WV 25691.....

### Commentary

On Tuesday, March 11, 1980, at approximately 4 p.m., the 1 left section (006) crew entered the mine, under the supervision of Russell Elkins, Jr., arriving on the section at about 4:15 p.m. Elkins stated that Eleanor R. Bowen (victim) general laborer, and Larry Ward, continuous-mining machine helper, were instructed to shovel the loose coal from along the ribs into the middle of the No. 3 entry. Elkins continued to state that he instructed Bowen, Ward, and Church, continuous-mining machine operator, to rock dust the No. 3 entry and connecting crosscuts upon completion of the cleaning. At approximately 7:30 p.m., according to Elkins, the crew took their lunch period in the No. 5 entry near the accident scene. Afterwards Bowen and Ward proceeded to the No. 3 entry where they completed the rock-dusting.

Elkins further stated that he, Bowen, and the other crew members proceeded to the No. 3 entry to cut down some loose roof with the continuous-mining machine. Elkins instructed Darius Honaker, tractor operator, to obtain a torque wrench from the roof-bolting machine that was being operated in the No. 4 crosscut left.

At approximately 10:45 p.m., Elkins stated that Bowen (victim) remarked she did not like working around the faulty roof area. At this time, J. D. Hatfield, second shift mine foreman, told Bowen to take the torque wrench to the roof-bolting machine in the No. 4 entry working place. According to Elkins, Bowen started crawling through a curtain between the Nos. 3 and 4 entries with the torque wrench. Elkins stated he instructed Howard Hodge, Jr., continuous-mining machine operator, to cut down the loose roof in the No. 3 entry and upon completing the loading of four to five cars of materials to timber the unsupported areas. Upon completion of the timbering, the crew proceeded to the mantrip station. Elkins further revealed that he did not see Bowen (victim); however, Honaker informed Elkins that he (Honaker) observed Bowen operating the tractor in the direction of the No. 4 entry. Elkins explained that he proceeded to the section telephone and called outside and asked Hatfield, who left the section at about 11:15 to 11:20 p.m., if Bowen (victim) had arrived outside. Hatfield informed Elkins that Bowen was not on the surface and instructed him to use the crew members to search for Bowen. According to Elkins, he and other crew members began immediately searching for Bowen.

While traveling in the direction of the No. 5 entry face, Ward stated that he observed the energized light on the battery tractor near the parked continuous-mining machine. According to Ward, as he proceeded towards the tractor, he found Bowen (victim) pinned between the discharge end of the conveyor boom of the continuous-mining machine and the operator's deck of the tractor. Ward stated that he immediately went to the telephone and called Hatfield, informing him of the accident. According to Ward, Hatfield instructed him to inform Elkins and the other crew members of the accident and in doing so, the crew proceeded to the scene of the accident in the No. 5 entry at approximately 11:45 p.m. Elkins stated that he checked Bowen for vital signs but to no avail.

Elkins stated that he immediately instructed Hodge to tram the continuous-mining machine toward the face to free the victim and, after freeing the victim, checked for vital signs of life to no avail. Elkins explained that he and Ward removed the victim from the deck of the tractor and placed her on the mine floor.

The victim was placed on a stretcher, loaded on the mantrip sled, and transported to the surface. A registered nurse, accompanying the waiting ambulance from the Williamson-Delbarton Ambulance Service, examined Bowen for vital signs of life. The nurse stated that the victim was dead, but the body could not be moved until pronounced dead by the Mingo County Coroner, Gerald L. Chafin. Chafin was contacted and arrived at the mine at approximately 12:45 a.m. on March 12, 1980. He examined Bowen and then pronounced her dead at 12:50 a.m.

#### Discussion and Evaluation

The investigation of the accident revealed the following factors relevant to the occurrence:

1. The accident involved an S. and S. Model No. 100, Serial No. 100-577M, battery-powered tractor, Company No. 1, and a Jeffrey Model 101 continuous-mining machine, Serial No. 36535. The tractor was examined for mechanical and electrical defects and was found to be in a safe operating condition.
2. According to Ward when he arrived at the tractor (accident scene) and observed Bowen (victim) fouled between the tractor frame and the conveyor boom of the continuous-mining machine, he crawled under the conveyor boom and made a futile attempt to free the victim by energizing the main circuit breaker on the tractor. However, due to the conveyor boom and the victim's body depressing the panic bar which deenergizes the tram control circuit, the circuit breaker would not stay in.
3. The neck and head of the victim was fouled between the end of the conveyor boom and the top of the tractor. Evidence at the scene of the accident revealed that the continuous-mining machine was trammed in the forward direction for approximately 73 inches in order to free and remove the victim.
4. The micro-lock for the hydraulic brake system on the tractor was in the release position.
5. Howard Hodge, Jr., stated that he observed the tractor's tram control lever in the forward position and placed the lever in the centered position.
6. The tractor's main circuit breaker was found to be in the "on" position when the crew arrived at the accident scene and the headlight on the operator's deck was on.
7. Observations at the accident scene revealed that the victim trammed the tractor through the curtain that was installed immediately outby the connecting cross-cut in the No. 5 entry (See Sketch). The victim trammed the tractor straight for a short distance and then gradually cut the wheels in the direction of the left coal rib and based on the impressions of the tire tracks on the mine floor, the victim stopped the tractor approximately 5 feet outby the end of the conveyor boom. The forward (inby) tires were slightly cut toward the left coal rib and for some undetermined reason, she trammed the tractor into the discharge end of the conveyor boom of the continuous-mining machine.
8. Observations of the markings on top of the panic bar on the tractor and the discharge end of the conveyor boom of the continuous-mining machine, indicated



that the conveyor boom traveled over top of the bumper into the deck of the tractor and over the panic bar for a distance of approximately 6 to 8 inches at the time of the accident.

9. It is relevant to note that the deck of the tractor involved in the accident had been modified in the company shop. The bumper on the deck end of the tractor was raised 14 inches above the deck for an additional safety precaution for the tractor operators.

10. According to Elkins, the victim was sitting in the upright position in the deck of the tractor and her hard hat was on her head when the crew arrived at the scene.

11. The overall mining height at the scene of the accident was 33 to 37½ inches.

12. Mine management had elected not to mine coal on this shift in order to perform other necessary work.

13. Hatfield stated that he entered the mine at approximately 4:45 p.m. and traveled to the section via the No. 1 S. and S. tractor that was involved in the accident. According to Hatfield, the tractor was in a safe operating condition. Hatfield stated that there was no apparent reason for Bowen (victim) to use the tractor to take the torque wrench from the No. 3 entry to the No. 4 entry working place, a distance of about 120 feet, and he was not aware that the tractor had been parked between the Nos. 3 and 4 entries. Furthermore, Bowen (victim) was not authorized to use the tractor on the night of the accident. On several occasions in the past, Bowen was instructed to take a tractor with fully-charged batteries to the section and change out the tractors on the section.

14. The width of the No. 5 entry (accident scene) was about 19 feet and the width of the tractor was about 7 feet 4 inches. The vertical clearance over the tractor at the scene of the accident was about 12½ inches. The overall height of the S. and S. tractor, Model No. 100, was about 24½ inches. The roadway in the No. 5 entry was relatively smooth and the ventilation check curtain installed across the No. 5 entry immediately outby the scene of the accident was properly installed. (See Sketch.)

15. The two Jeffrey continuous-mining machines, Model No. 101, are normally used intermittently for the production of coal on the section to reduce the tramming time across the section.

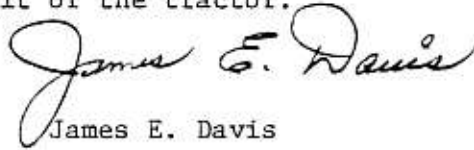
16. Hatfield stated that the victim had operated the tractors intermittently while performing utility-type work. She was eager to learn and was receptive to suggestions or instructions. According to the statements received from the employees during the investigation, the management personnel at the mine cautioned the tractor operators frequently concerning the hazards of operating battery-powered tractors.

#### Findings of Fact

The investigation did not reveal any violations that contributed to the occurrence of the accident.

### Conclusion

The accident occurred when the victim, for some unknown reason, inadvertently trammed the battery-powered tractor forward into the discharge end of the conveyor boom of the continuous-mining machine, which resulted in the tractor traveling under the boom, pinning the victim between the frame of the tractor and the discharge end of the conveyor boom. The forward motion of the tractor was stopped when the body of the victim depressed the panic bar, deenergizing the electrical tram control circuit of the tractor.

  
James E. Davis

Approved by:

  
Subdistrict Manager

  
District Manager



## APPENDIX

List of persons furnishing information and/or present during the investigation:

### P. M. Charles Coal Company Officials

Sidney Young, III	Consultant
Adery Pacific	Superintendent
Glen Justice	Safety Director
J. D. Hatfield	Mine Foreman - 2nd Shift
Ed Macinal	Chief Electrician
Russell Elkins, Jr.	Section Foreman

### P. M. Charles Coal Company Employees

Larry Ward	Continuous-Mining Machine Helper
David Spence	Electrician
Ronald Spence	Motorman
Darius Honaker	Motorman
Howard Hodge, Jr.	Continuous-Mining Machine Operator

### Representatives of Miners United Mine Workers of America

Richard C. Cooper	Region 2 Inspector
Danny McCoy	Chairman, Mine Safety Committee

### West Virginia Department of Mines

Joaquine Ferrell	Assistant Inspector-at-Large
Charles Baisden	District Inspector
Clyde Lucas	District Inspector (Electrical)

### Mine Safety and Health Administration

Fred T. Casteel	Subdistrict Manager
Kennis A. Mullins	Coal Mine Inspector (Electrical)
Leighton C. Farley, Jr.	Special Investigator
James E. Davis	Coal Mine Inspector

# DATA SHEET

## Victim Data:

Name..... Eleanor Bowen..... Sex..... Female..... SSN..... 235-90-5439.....  
 Age..... 25..... Job Classification..... General Laborer..... Experience at this  
 Classification..... 1 year, 8 months and 27 days..... Total Mining Experience and 27 days...  
 What activity was being performed at time of accident? ..Operating battery-powered tractor..  
 Victim's experience at this activity..... 3½ months.....  
 Was victim trained in this task? ..Yes.....

## Health and Safety Courses/Training Received (Related to Accident) Date Received

Training for Inexperienced Miner	9/77
Annual Refresher	10/78, 12/79
Experienced Miner Training	11/79

## Supervisor Data: [Supervisor of Victim]

Name..... Russell Elkins..... Certified: Yes ☒ No ☐  
 Experience as Supervisor..... 3½ years..... Total Mining Experience..... 10 years.....

## Health and Safety Courses/Training Received (Related to Accident) Date Received

Annual Refresher	12/79
.....	.....
.....	.....

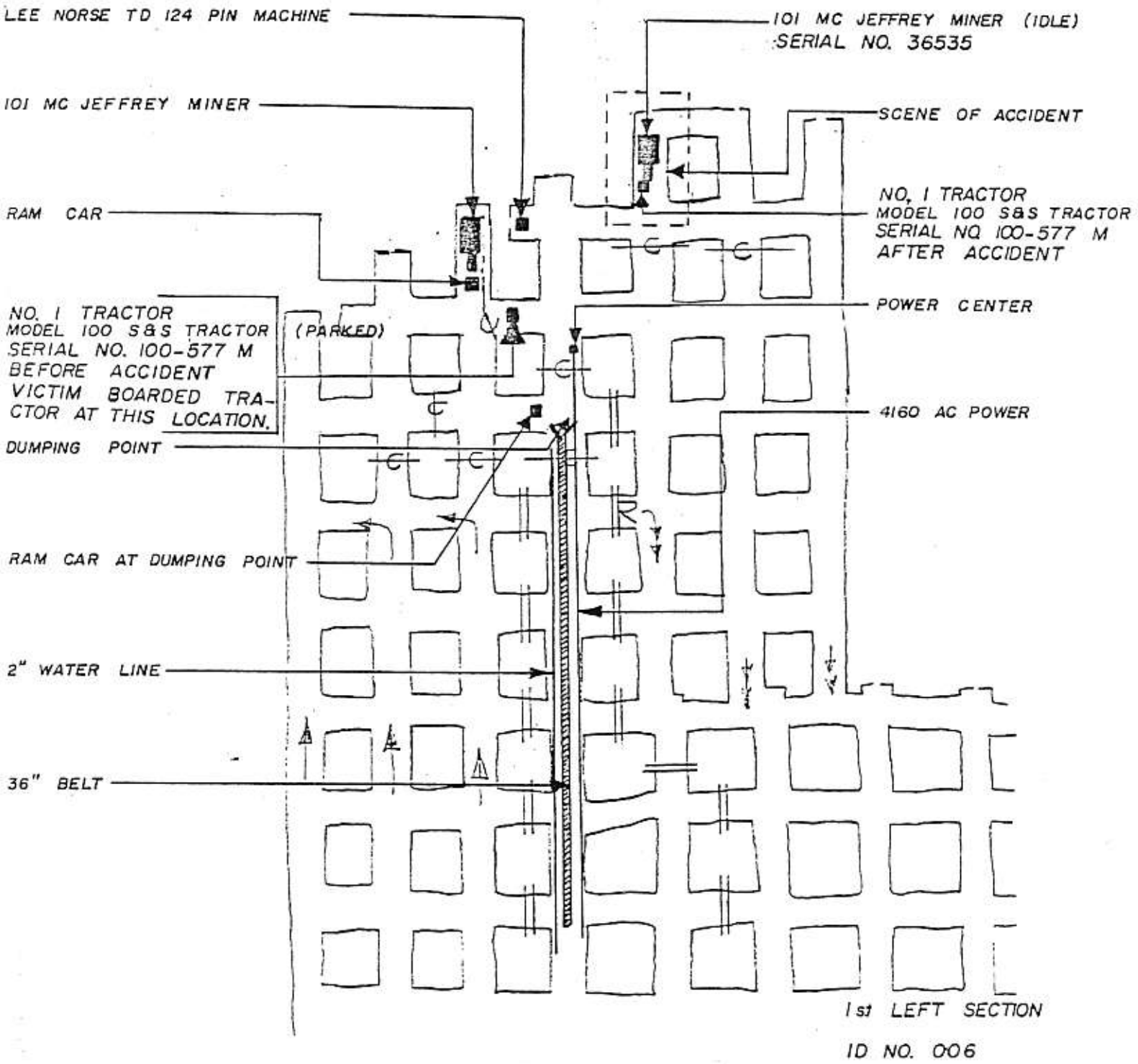
When was the supervisor last present at accident scene prior to accident? ..10 p.m. ....

What did he do when he was there? Coming back across the section using scoop in Nos. 6 and  
 7 entries and crosscut.....

When was he last in contact with victim? 10:45 P.M. ....

Did he issue instructions relative to the accident? ..... No.....

Was he aware of or did he express an awareness of any unsafe practice or condition? ..No.....



## SPECIAL DATA SHEET

### Information required in electrical accident reports:

Voltage of circuit involved.....  
Voltage of which victim was exposed.....  
Type of supply circuitry (trolley wire, portable rectifier, wye connected summary, delta connected secondary).....  
Type, size, and insulation rating of conductor involved.....  
Electrical protection for circuit.....  
Ground fault trip value (3 phase only).....  
Wiring diagram of circuit involved. (Attach separate drawing)  
Condition of mine floor.....  
Was victim wearing rubber boots? ..... Leather boots..... Condition of boots.....  
Was victim wearing gloves? ..... Type..... Condition.....  
Type of frame grounding for equipment.....

### Information required in accidents involving equipment:

Name of manufacturer of machine involved. 100 S & S tractor.....  
Model, approval number, and type of machine. Model 100, 2G-2704, Tractor.....  
Machine voltage. 128 volts d.c.....  
Did design of machine contribute to accident? ..No.....  
Did maintenance deficiencies contribute to accident? ..No.....  
Name of official responsible for maintenance of equipment. Dave Spence.....  
Experience of operator... 3 1/2 months.....  
Was machine being operated within safe limits of its capacity? Yes.....

REMARKS: .....  
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