

UNITED STATES  
DEPARTMENT OF LABOR  
MINE SAFETY AND HEALTH ADMINISTRATION

District 2

REPORT OF INVESTIGATION  
(UNDERGROUND COAL MINE)

FATAL HOISTING ACCIDENT

Mathies (ID No. 36 00963)  
Mathies Coal Company  
Courtney, Washington County, Pennsylvania

September 19, 1979

by

Gerald F. Moody, Jr.  
Coal Mine Inspector

Joseph S. Tortorea  
Mining Engineer

Originating Office - Mine Safety and Health Administration  
Jonnet Building, 4099 William Penn Highway, Monroeville, Pennsylvania 15146  
J. D. Breedon, Subdistrict Manager

REPORT OF INVESTIGATION  
(UNDERGROUND COAL MINE)

FATAL HOISTING ACCIDENT

Mathies (ID No. 36 00963)  
Mathies Coal Company  
Courtney, Washington County, Pennsylvania

September 19, 1979



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: Fatal Hoisting Accident

2. Date MESA investigation started: 9/19/79

3. Report release date: 2/11/80

4. Mine: Mathies

5. Mine ID number: 36 00963

6. Company: Mathies Coal Company

7. Town, County, State: Courtney, Washington County, Pennsylvania

8. Author(s): Gerald F. Moody, Jr.  
Joseph S. Tortorea

**SECTION B—MINE INFORMATION**

9. Daily production: 6,639 tons

10. Surface employment: 81

11. Underground employment: 619

12. Name of coalbed: Pittsburgh

13. Thickness of coalbed: 66 inches

**SECTION C—LAST QUARTER INJURY FREQUENCY RATE (HSAC) FOR:**

14. Industry: 7.75

15. This operation: 9.83

16. Training program approved: Yes

17. Mine Profile Rating: 768

**SECTION D—ORIGINATING OFFICE**

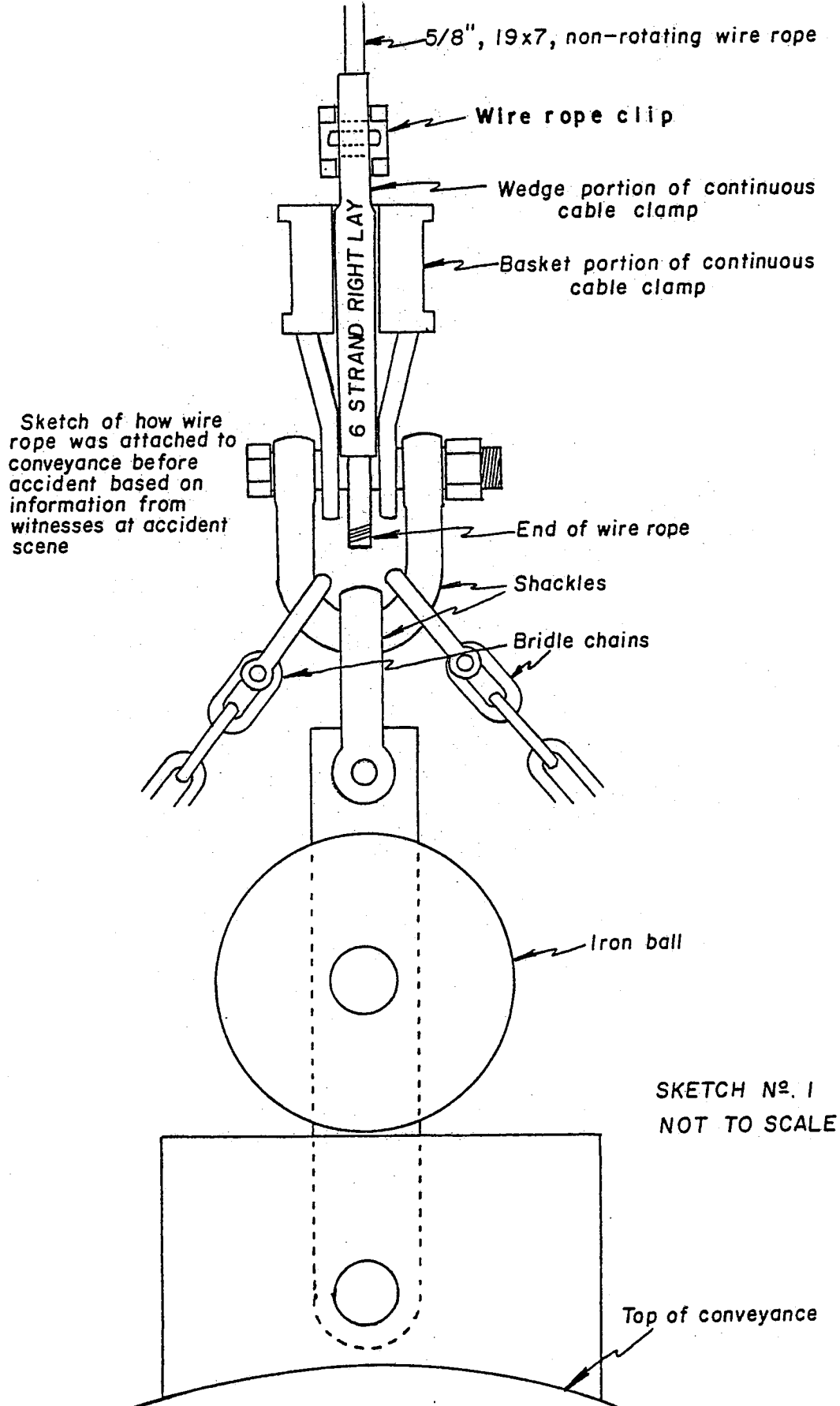
18 Mine Safety and Health Administration  
 Coal Mine Health and Safety District No.: 2  
 Address: Monroeville, PA

**SECTION E—ABSTRACT**

See attached sheet.

**SECTION F—MINE ORGANIZATION**

Company officials:	Name	Address
19. Senior Vice President - Mining	Joseph Kristoff, Jr.,	450 Racetrack Road, Washington, PA 15301
20. General Superintendent:	R. A. McGregor,	Drawer D, Finleyville, PA 15332
21. Safety Manager	Stanley R. Kretoski, Sr.,	450 Racetrack Road, Washington, PA 15301
22. Vice President - Allegheny Operations	Frank J. Ucciardi,	450 Racetrack Road, Washington, PA 15301
23. Labor Organization:	United Mine Workers of America	15012
24. Chairman—H & S Committee:	Jimmy H. Smith, R.D. 1,	Box 213, Belle Vernon, PA



Sketch of how wire rope was attached to conveyance before accident based on information from witnesses at accident scene

SKETCH No. 1  
NOT TO SCALE

SKETCH OF FATAL HOISTING ACCIDENT  
MATHIES (ID NO. 36 00963)  
MATHIES COAL COMPANY  
COURTNEY, WASHINGTON COUNTY, PENNSYLVANIA

September 19, 1979

## Abstract

On Wednesday, September 19, 1979, at approximately 10 a.m., a fatal hoisting accident occurred at the Kerr intake air shaft of Mathies Coal Company, Mathies mine, which resulted in John Marn, Safety Supervisor, being fatally injured. Marn, age 33, had 4 years 7 months mining experience, 2 years 2 months at this position. Marn was being lowered in an emergency escape conveyance (capsule) in the intake air shaft when the hoist rope became disengaged from the capsule at about 101 feet. The conveyance fell about 184 feet to the shaft bottom. The victim was riding the conveyance to the shaft bottom in order to assist in checking the escape hoist communication system and perform his other normal work duties. The accident occurred when the victim rode a conveyance which had a continuous cable clamp installed as the only means of attaching the wire rope to the conveyance. The wire rope slipped through the continuous cable clamp and the conveyance fell to the shaft bottom.

### Commentary

On Wednesday, September 19, 1979, at approximately 9:45 a.m., John Marn, Safety Supervisor, Clinton Walters, outside electrician, Richard Geimer, Mining Engineer, Jimmy Smith, Safety Committee Chairman, Basil Zaycosky, MSHA Coal Mine Inspector, and Edward Nogal, MSHA Civil Engineer, arrived at Kerr intake air shaft to examine the hoist installation for continued approval for use as an emergency escape hoisting facility.

After the group examined the recently installed continuous cable clamp used to attach the wire rope to the conveyance, the empty conveyance was lowered to the shaft bottom, raised to the surface, swung over, and positioned to be loaded for a load test. At about 10 a.m., as Walters and Smith prepared to load the conveyance, Marn notified them that he wanted to ride the conveyance to the bottom of the shaft to check out the communication system (phones) and do some other work.

Marn got on the conveyance; Walters, operating the hoist controls swung the conveyance over the shaft opening and began lowering it in the shaft. The conveyance had been lowered about 101 feet when Walters noticed that the wire rope went slack; seconds later a banging noise was heard at the bottom of the shaft. Walters shouted to Marn but received no response. While Walters notified mine management of the occurrence, Smith ran down the stairs of the shaft. When Smith opened the door of the conveyance, which was leaning against the side of the shaft at the bottom, he looked at Marn and notified Walters by phone that "it doesn't look good." Meanwhile, workmen had been dispatched underground to the accident scene. Marn was placed on a stretcher and transported to the surface. Robert McMurray, Deputy Washington County Coroner, pronounced Marn dead at 11 a.m.; cause of death was massive internal injuries.

### Discussion and Evaluation

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

1. The Kerr intake air shaft was rectangular shaped (approximately 14 by 18 feet) concrete lined, and approximately 285 feet in depth. A stairway was provided from the surface to the shaft bottom. The shaft opening was covered with cyclone fencing attached to a channel framework, and a hinged panel was raised during hoisting operations. A cyclone fence was provided around the perimeter of the surface installation.

2. The hoisting equipment consisted of a Scott-Midland, Model No. 15 S.T., Serial No. 74352, Scott rotodraulic hoist, powered by a 240-cubic-inch Ford gasoline motor. The Bethlehem purple strand 19 x 7 S. C., nonrotating, 5/8-inch wire rope was attached to a Sauerman Bros., Inc., continuous cable clamp, Model No. cc4192 (see sketch No. 1). The clamp was attached to a 4-man conveyance approximately 4 feet in diameter, 7 feet in height, and weighing 1,800 pounds.

3. The emergency escape facility had been approved by the MSHA District Manager on February 11, 1976. At that time, clips on 4-inch spacings were required to attach the wire rope to the conveyance. Subsequently, periodic investigations were made by MSHA District personnel to upgrade the approved emergency escape hoisting facility.

On November 15, 1978, an investigation of this facility revealed that:

- a. Six 5/8-inch wire rope clips with little or no spacing between them secured the wire rope bridle connections.
- b. The wire rope was attached to the conveyance using three 5/8-inch wire rope clips at 1-inch spacings.

In addition, there were 8 other items identified for correction.

Subsequently, on December 11, 1978, the MSHA District Manager notified the mine operator by letter that 10 changes were required before this facility could be granted continued approval. Item 3 from the list of changes required a nondestructive connection to be used for the bridle connection. Item 4 required four 5/8-inch wire rope clips at 3-3/4 inch spacings to be used to attach the wire rope to the conveyance with a 3-foot spacing between the uppermost clip and the bottom of the nondestructive connection. The letter required these changes be made by January 12, 1979. On January 30, 1979, mine management requested, by letter, additional time due to a problem of obtaining the necessary parts. The time for completion was extended to March 30, 1979.

On April 11, 1979, a followup investigation of this facility revealed that:

- a. A nondestructive bridle chain connection was not provided.
- b. There were only three 5/8-inch wire rope clips at 3-3/4 inch spacings used to attach the wire rope to the conveyance. A 6-inch spacing was provided between the top of the uppermost clip and the bottom of the bridle connection.

Subsequently, on April 23, 1979, the MSHA District Manager notified the mine operator by letter that changes were still required before this facility could be granted continued approval. Item 2 required the wire rope shall be reterminated, lubricated, and thoroughly inspected for any damage. Item 3 again required a nondestructive bridle connection shall be used to attach the bridle chains to the rope. Item 5 required four 5/8-inch wire rope clips at 3-3/4 inch spacings shall be used to attach the wire rope to the conveyance with as close to a 3-foot spacing that can be obtained between the top of the uppermost clip and the bottom of the nondestructive connection.

The mine operator was informed that when these changes were completed, the District office was to be notified. The above letters and investigation reports were sent to Robert A. McGregor, General Superintendent, along with copies to the following as indicated:

B. R. Brown, President and Chief Operating Officer, Consolidation Coal Company (April 23, 1979)

Joseph Kristoff, Jr., Senior Vice President-Mining, Eastern Region, Consolidation Coal Company (December 11, 1978, April 23, 1979)

Marshall W. Hunt, Regional Manager of Engineering and Environmental Affairs, Eastern Region, Consolidation Coal Company (April 23, 1979)

Stanley R. Kretoski, Safety Manager, Eastern Region, Consolidation Coal Company (December 11, 1978, April 23, 1979)

Frank J. Ucciardi, Manager of Mines - Allegheny Operations, Eastern Region, Consolidation Coal Company (April 23, 1979)

Hugh H. Lucas, Regional Engineering Manager-Eastern Region, Consolidation Coal Company (December 11, 1978)

Thomas G. Norris, Vice President-Washington Operations, Consolidation Coal Company (December 11, 1978)

4. Walters stated that he had inquired if a Dover (Sauerman) continuous cable clamp would be acceptable as a nondestructive bridle chain attachment, and he was informed by MSHA District 2 personnel that it was being accepted. Walters and Marn prepared purchase order No. 11-73-7591, dated April 24, 1979, to Dover Conveyor and Equipment Company, requesting 4 items, including 1 continuous cable clamp with shackle. A statement included on the purchase order was "all of the above used with 5/8-inch wire rope, above used on a Dover four (4) man capacity emergency mine hoist. Model MSH-72-600. Reference drawing No. MCO-101."

5. On August 27, 1979, Walters, John Redshaw, Maintenance Foreman, and Sam Gallo and John Blackburn, mechanics, installed the continuous cable clamp near the end of the wire rope and attached the other end of the clamp by shackles (2) to the top of the conveyance. The bridle chains were attached to the first shackle below the clamp (see sketch No. 1). Walters stated that he had no written or verbal instructions on how to install the clamp; however, he had seen the continuous cable clamp attached to the eye bolt atop a Dover conveyance stored at the outside supply warehouse. Therefore, he had the clamp installed in the same manner. Walters had seen the December 11, 1978, letter from the MSHA District Manager which required 4 wire rope clips installed on 3-3/4 inch spacings to be used to attach the wire rope to the conveyance. However, he did not have the letter with him on August 27, 1979, when the clamp was installed and it was his understanding that MSHA did not approve the use of any wire rope clips. Therefore, the 4 wire rope clips were not installed.



6. Redshaw stated that Walters instructed him, Gallo, and Blackburn on how to install the clamp. Gallo stated that a big (about 2 pound) ball-peen hammer had been used to drive the wedge until it was tight in the basket portion of the clamp. He used a 14-inch long ratchet wrench to tighten the nuts on the wire rope clip portion of the clamp. A torque wrench was not used to determine how tight the nuts were. The conveyance was not operated nor were the wire rope clip nuts retightened or torqued after the installation was completed.

7. Walters stated that on September 4, 1979, he performed a load test at the hoisting facility. He used 3 of the 8 steel wheels provided for the load test, which varied in weight between 136-161 pounds each. Walters normally used only 3 steel wheels to load test the hoisting facility unless there was someone else to help put the other 5 steel wheels in the conveyance. No one told him what specific total weight was required for a monthly load test. He had participated in the investigation conducted by Nogal on April 11, 1979, at which time the 8 steel wheels (1,177 pounds) were used for the load test.

8. Zaycosky stated that on September 18, 1979, as a part of his regular inspection, he, Walters, and John Schmidt, Safety Committeeman, examined the emergency mine hoist at Kerr shaft. The conveyance was laid on the ground and a visual examination was made of the conveyance, continuous cable clamp, and wire rope. The empty conveyance was then placed in the shaft and four complete cycles were made without incident. Zaycosky stated that Walters told him he would not ride the conveyance since the Federal (MSHA) had made us (company) change the hook up and that Schmidt told him he didn't like the hook up because there was no secondary hook up and the primary could slip through. Zaycosky made no reply to Walters' or Schmidt's comments, because he had never seen that type of connection before. Furthermore, he didn't believe there was a hazard with the connection since Walters had explained it to him and stated that this was what MSHA wanted. Zaycosky stated that he could not recall reading the MSHA District Manager's letters of February 11, 1976, December 11, 1978, and April 23, 1979, in preparing for his regular inspection at this mine. Copies of the above letters were sent to the Subdistrict Manager and field office supervisor.

Approximately one week prior to the accident, Zaycosky was instructed by his supervisor to meet Nogal at Thomas portal on September 19, 1979, at 9 a.m. Zaycosky was to accompany Nogal on his investigation of the hoisting facility in order to become more familiar with the hoist installation.

9. On September 19, 1979, Nogal met Zaycosky at Thomas portal at about 9 a.m. Zaycosky stated that he told Nogal what Walters and Schmidt had told him about the hoisting facility the previous day.

Nogal stated that while at Thomas portal he told Marn that he would need a man at the bottom of Kerr shaft during the investigation to determine that the conveyance was resting properly on the bottom when the digital depth

indicator read 285 feet and to test both communication systems. Nogal stated that Marn told him that he would ride the conveyance to the shaft bottom. At about 9:45 a.m., Marn, Geimer, Smith, Walters, Zaycosky, and Nogal arrived at Kerr shaft to conduct the investigation. Walters used the hoist to lay the conveyance on the ground and the group started to examine and discuss the continuous cable clamp attachment which had about 3 inches of wire rope extending below the wedge. According to Smith, he pointed out his doubts about the attachment, which included that the wire rope could possibly slip from the clamp, and stated that Marn replied that the clamp was federally approved and that a sledge hammer had been used to get the wedge in the clamp. Walters commented that he didn't like the looks of this clamp compared to the old set up. Zaycosky stated that while he and Nogal were alone, he told Nogal that the conveyance had no secondary hook up as the bridle chains were not hooked to the wire rope. Nogal stated that no one at any time told him directly that there were doubts about the way the connection was made.

10. According to statements made by Nogal, he made a sketch of the hook up, took photographs of the clamp, and noted on his investigation notes: "is this good???" in reference to the attachment of the clamp to the wire rope and conveyance. He asked Walters if the conveyance had been load tested, and Walters replied yes. Walters lowered the conveyance into the shaft and when it rested on the shaft bottom, the hoist digital depth indicator read 288 feet. He told Walters that there was 3 feet of slack in the wire rope if the indicator was correct (should have read 285 feet  $\pm$  1 foot). Walters raised the conveyance to where the depth indicator read 286 feet and stated it should be resting properly on the bottom and then quickly hoisted the conveyance up the shaft. Nogal observed the rope jump and swing as tension was taken on the rope.

11. Nogal stated he told Walters to swing the empty conveyance over to the landing area after it reached the surface, and prepare to make a load test. He then walked outside the fence around the shaft to take photographs of the overall installation. (See sketch No. 2). While taking photographs, Marn approached him and asked if there was anything wrong which might affect approval of the facility. Nogal told him that the absence of an external braking system and the way the bridle connection and wire rope was installed might affect approval, and he was not sure if the connection was or wasn't safe. He also told Marn he would review the photographs and diagram with other personnel who had more experience with hoists.

12. Nogal stated that Marn left him and walked over to where Smith and Walters were preparing to load the 8 steel wheels onto the conveyance. Nogal walked towards Zaycosky who was standing near the gate entrance. According to Smith and Walters, when Marn got close to the conveyance, he told them not to put the steel wheels on because he was going to ride down. Zaycosky stated that when Marn was about 6 feet from the conveyance, Marn asked him if he wanted to ride down in the capsule with him. Zaycosky did not reply. Nogal stated that he did not hear Marn tell Zaycosky he was going to ride the conveyance down. Marn got on the conveyance and Walters started lowering the conveyance in the shaft. While Nogal and Zaycosky were standing outside the fence, talking, they heard a loud boom come from the bottom of the shaft. Nogal told Zaycosky that Walters had landed the conveyance quite hard.

13. Glenn W. Roley, Sales Manager, Dover Conveyor and Equipment Company, stated that his company received purchase order No. 11-73-7591 on April 26, 1979. Based on the information supplied on that purchase order, the continuous cable clamp involved in the accident was shipped along with the other items requested. Instructions for installing the continuous cable clamp as a bridle connection are normally sent when a complete hoisting facility is shipped. However, these instructions were not sent when this continuous cable clamp was purchased. Roley stated that his company uses a 5/8-inch, U. S. Steel 3 x 19 torque balanced wire rope with this clamp. The continuous cable clamp was purchased from Sauerman Bros., Inc.

14. C. H. Hubbell, Vice President - Chief Engineer, Sauerman Bros., Inc. stated that the continuous cable clamp is sold as a hardware item and that his company had no control over its use. He also pointed out that Sauerman's Bulletin No. 164 emphasizes in bold letters the following statement: "IT IS DESIGNED FOR USE WITH 6 x 19 RIGHT LAY, REGULAR LAY WIRE ROPE, EITHER FIBER CORE OR IWRC."

15. During this investigation, MSHA investigators determined that on April 11, 1979, an open wedge socket with 3 wire rope clips was used to attach the wire rope to the conveyance. Normally only one wire rope clip is required with this type of socket. A steel plate using 2 wire rope clips was used to attach the bridle chains to the wire rope. Subsequently, on August 27, 1979, the wire rope was reterminated and the 19 x 7 nonrotating wire rope was attached to the conveyance using a Sauerman Bros., Inc., continuous cable clamp No. cc4192. The clamp consisted of three parts, the "basket" No. c-4193, the "wedge" No. W-2136, and a 5/8-inch wire rope clip used to secure the wedge to the wire rope. The wedge was stamped with the following statement, "6 strand right lay."

The continuous cable clamp and the first 20-foot long section of wire rope involved in this accident, along with a new continuous cable clamp, were hand carried to the MSHA Technical Support Center, Denver, Colorado, for examination and testing.

Observations and measurements made during the examination and testing of the two clamps indicated:

- a. With the wire rope clip torqued to 95 foot-pounds, as recommended by the manufacturer, slippage did not occur between the 19 x 7 nonrotating wire rope and the clamp until a load of 10-11 thousand pounds was applied. (The estimated weight of the conveyance and the victim at the time of the accident was 2,000 pounds).
- b. When the wire rope clip was installed using lower torque values, slippage occurred at lower loads, i.e., slippage occurred at 3,040 pounds with the clip torqued at 50 foot-pounds. (During this investigation Gallo and Blackburn simulated the installation of how they installed the continuous cable clamp. Torque values of 85 to 100 foot-pounds were obtained on the wire rope clip nuts).

### Findings of Fact

The 5/8-inch 19 x 7 nonrotating wire rope used on the emergency escape hoisting facility at Kerr shaft was not properly attached to the conveyance (capsule) in that a continuous cable clamp (Sauerman Bros., Inc., Part Nos. 4193 and W-2136) was used to attach the wire rope to the conveyance. The MSHA District Manager approved the facility on February 11, 1976, when 5/8-inch wire rope clips installed on 4-inch spacings were used to attach the wire rope to the conveyance and he required on April 23, 1979, that four 5/8-inch wire rope clips installed on 3-3/4 inch spacings shall be used to attach the wire rope to the conveyance. A violation of Section 75.1704.

### Conclusion

The accident occurred when the victim rode a conveyance which had a continuous cable clamp installed as the only means of attaching the wire rope to the conveyance. The wire rope slipped through the continuous cable clamp and the conveyance fell to the shaft bottom.

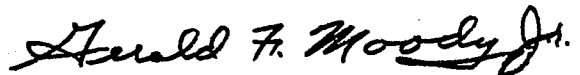
The accident resulted from the failure of management, including the victim, who was the Safety Supervisor, to have the conveyance attached to the wire rope in accordance with the plan approved by the MSHA District Manager.

At the time of the accident two MSHA authorized representatives were present at the shaft. Neither required the wire rope attachment to meet this approval.

Approved by:



J. D. Breedon  
Subdistrict Manager--Coal Mine  
Safety and Health District 2



Gerald F. Moody, Jr.



Donald W. Huntley  
District Manager--Coal Mine  
Safety and Health District 2



Joseph S. Tortorea

APPENDIX

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

Mathies Coal Company Officials

Joseph Kristoff, Jr.	Senior Vice President - Mining
Frank J. Ucciardi	Vice President - Allegheny Operations
Robert A. McGregor	General Superintendent
George A. Karazsia	Underground Superintendent
Austin Gillingham	Mine Foreman
Richard L. Geimer	Mining Engineer (Eyewitness)
John Redshaw	Maintenance Foreman - Library Shop
Ralph W. Hatch	Vice President - Safety
C. William Parisi	Safety Director
Stanley R. Kretoski, Sr.	Regional Manager - Safety
William Barack	Chief Safety Inspector
William H. Dickey, Jr.	Counsel
Ronald J. Florjancic	Assistant to the Vice President of Safety
William Schlaupitz	Chief Inspector
Jesse Sheppard	Assistant to the Vice President Safety Engineering

Mathies Coal Company Employees

John Blackburn	Mechanic - Library Shop
Sam Gallo	Mechanic - Library Shop
Clinton Walters	Outside Electrician - Hoist Operator (Eyewitness)

Representatives of Miners

Marty Connors	U.M.W.A. International Executive Board Member
James Paul	U.M.W.A. District 5 Safety Inspector
Miller Savage	U.M.W.A. District 5 Safety Inspector
Jimmy H. Smith	Chairman, Health and Safety Committee, Local Union No. 2244 U.M.W.A. (Eyewitness)
Dennis Pietroboni	Member, Health and Safety Committee, Local Union No. 2244 U.M.W.A.
John R. Schmidt	Member, Health and Safety Committee, Local Union No. 2244 U.M.W.A.
Ronald L. Stipanovich	Miners Representative

Dover Conveyor and Equipment Company

Glenn W. Roley

Sales Manager

Sauerman Bros., Inc.

C. H. Hubbell

Vice President - Chief Engineer

Washington County Coroner's Office

Farrell Jackson

Coroner

Pennsylvania Department of Environmental Resources

James P. Andrews

Electrical Inspector

Jesse L. Bolen

State Deep Mine Inspector

John F. Funka

Electrical Inspector

Anthony M. Pawlosky

State Deep Mine Inspector

Mine Safety and Health Administration

Fred A. Williams

Supervisory Mine Inspector  
(Electrical)

Gerald E. Davis

Coal Mine Inspector (Electrical)

Martin F. Kimes

Coal Mine Inspector

Robert C. McCabe

Coal Mine Inspector

Edward J. Nogal

Civil Engineer (Eyewitness)

Basil E. Zaycosky

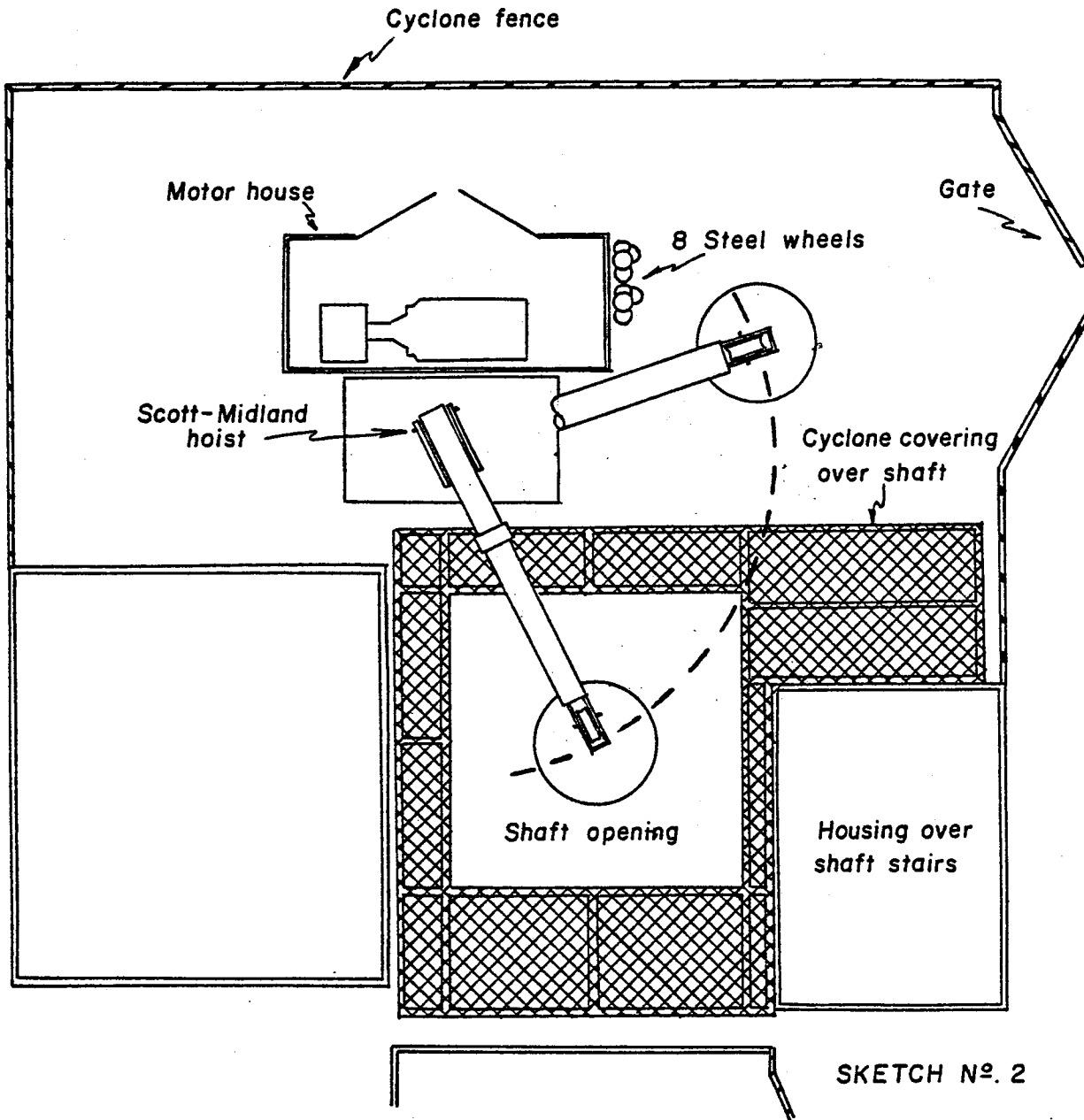
Coal Mine Inspector (Eyewitness)

Joseph S. Tortorea

Mining Engineer

Gerald F. Moody, Jr.

Coal Mine Inspector



SKETCH N<sup>o</sup>. 2

SKETCH OF FATAL HOISTING ACCIDENT  
 MATHIES (ID NO. 36 00963)  
 MATHIES COAL COMPANY  
 COURTNEY, WASHINGTON COUNTY, PENNSYLVANIA

September 19, 1979



**SECTION A—VICTIM DATA**

1. Name: John Edward Marn 2. Sex  M  F 3. SSN: 5243

4. Age: 33 5. Job classification: Safety Supervisor

6. Experience at this classification: 2 years 2 months 7. Total mining experience: 4 years 7 months

8. What activity was being performed at time of accident? Participating with MSHA personnel in the investigation of the hoisting facilities at Kerr shaft

9. Victim's experience at this activity: 2 years as safety supervisor

10. Was victim trained in this task? DNA

11. Health and Safety courses/Training received (related to accident) Dust & Noise 11/5/76 Date received

Required training for certified underground 9/28/78

CH<sub>4</sub> detection 9/28/78

Paramedic EMT Certificate good 8/79 to 8/82

Certified MSHA co-op instructor (mine rescue) 5/3/79

**SECTION B—SUPERVISOR DATA (supervisor of victim)**

12. Name: Robert A. McGregor 13. Certified: Yes  No

14. Experience as supervisor: 10 years 15. Total mining experience: 14 years

16. Health and Safety courses/Training received (related to accident) DNA Date received

17. When was the supervisor last present at accident scene prior to the accident? 5/10/79

18. What did he do when he was there? Rode capsule out of mine (for examination)

19. When was he last in contact with the victim? 9/18/79

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

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





**SECTION A—INFORMATION REQUIRED IN ELECTRICAL ACCIDENT REPORTS**

- 1. Voltage of circuit involved: \_\_\_\_\_
- 2. Voltage to which victim was exposed: \_\_\_\_\_
- 3. Type of supply circuitry (trolley wire, portable rectifier, wye connected secondary, delta connected secondary) \_\_\_\_\_
- 4. Type, size, and insulation rating of conductor involved: \_\_\_\_\_
- 5. Electrical protection for circuit: \_\_\_\_\_
- 6. Ground fault trip value (3 phase only): \_\_\_\_\_
- 7. Wiring diagram of circuit involved (attach separate drawing): \_\_\_\_\_
- 8. Condition of mine floor: \_\_\_\_\_
- 9. Was victim wearing rubber boots? Yes  No  Condition of boots: \_\_\_\_\_
- 10. Was victim wearing gloves? Yes  No  Type: \_\_\_\_\_ Condition: \_\_\_\_\_
- 11. Type of frame grounding for equipment: \_\_\_\_\_

**SECTION B—INFORMATION REQUIRED IN ACCIDENTS INVOLVING EQUIPMENT**

- 12. Name of manufacturer of machine involved: Scott-Midland
- 13. Model, approval number, and type of machine: Model No. 15 ST,, Serial No. 74352  
Scott Rotodraulic
- 14. Machine voltage: Gasoline Ford motor
- 15. Did design of machine contribute to accident? Yes  No
- 16. Did maintenance deficiencies contribute to accident? Yes  No  Improper hook up
- 17. Name of official responsible for maintenance of equipment: Clint Walters
- 18. Experience of operator: 3 years
- 19. Was machine being operated within safe limits of its capability? Yes  No

**SECTION C—REMARKS**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_