



Reports

Elkhorn Division

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
DISTRICT C

REPORT OF MULTIPLE FATAL COAL MINE ROOF-FALL ACCIDENT
NO. 22 MINE
BETH-ELKHORN CORPORATION
ELKHORN DIVISION
DEANE, LETCHER COUNTY, KENTUCKY

May 23, 1967

by

Jack E. Tisdale
Technical Assistant

Originating Office - Bureau of Mines
Norton, Virginia 24273
J. S. Malesky, District Manager
Health and Safety District C

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INTRODUCTION

This report is based on an investigation made in accordance with the provisions of the Federal Coal Mine Safety Act (66 Stat. 692; 30 U.S.C. Secs. 451-483) as amended.

Three men, two workmen and a foreman, were fatally injured by a fall of roof at the face of No. 3 entry, 3 left off 1 right, off 9 right, off 2 east in the No. 22 mine about 5:20 a.m., Tuesday, May 23, 1967. The names of the victims, their ages, occupations, and number of dependents are listed in Appendix A of this report.

The Norton office of the Bureau of Mines was notified of the accident by a company official about 6:30 a.m., May 23, 1967. An investigation was started that day and concluded on the following day.

Information for this report was obtained from an examination at the scene of the accident, which had not been disturbed, and from statements of Earl Hughes, roof bolter and eyewitness, Jack Barker, repairman, Homer Lee Mullins and Keith Polly, shuttle car operators.

GENERAL INFORMATION

The No. 22 mine is opened by drifts into the Elkhorn No. 3 coalbed, which averages 45 inches in thickness locally. An average of 3,600 tons of coal a day was produced by the 235 underground and 40 surface employees. Coal is loaded by ripper-type continuous miners.

The mine is worked on a room-and-pillar system, and pillars are recovered. The 3 left entries off 1 right off 9 right were being advanced. These three entries were 20 feet wide on 40-foot centers. Crosscuts were on 90-foot centers. Rooms were turned on the right side as the entries

advanced, and they were 20 feet wide on 30-foot centers. The rooms were mined to a depth of 240 feet, and pillars were not recovered. The last row of open crosscuts was opposite No. 15 room. The last room mined was No. 12.

The coal is hauled from the faces in cable-reel shuttle cars which discharge into belt feeders thence onto conveyor belts.

The immediate roof in this mine has been recognized by most observers to be exceptional in strength. It usually is a firm dark gray shale or sandstone; much of the shale and most of the sandstone has been considered to be self-supporting. The main roof is sandstone. The adopted roof support plan requires at least three safety jacks set alongside the continuous miner. Roof bolters are required to set three jacks. The plan requires that all doubtful roof areas be bolted, and bolting is also required in areas where the shale is less than 36 inches thick and in all long life entries. Where bolts are installed they are at least 36 inches long on 4 to 4½-foot centers, except in areas where the company has used what is termed "safety bolts", which are bolts installed to replace the required safety jacks. Roof testing has been a part of the company's roof support plan in that permanent supports were not installed in many areas unless doubtful roof was detected. The accepted tool for use is a 2-pound ball peen hammer, and all employees have been instructed in its use. The face workmen were responsible for setting safety jacks, and the section foreman was responsible for deciding which areas would be bolted.

The investigating committee consisted of:

BETH-ELKHORN CORPORATION

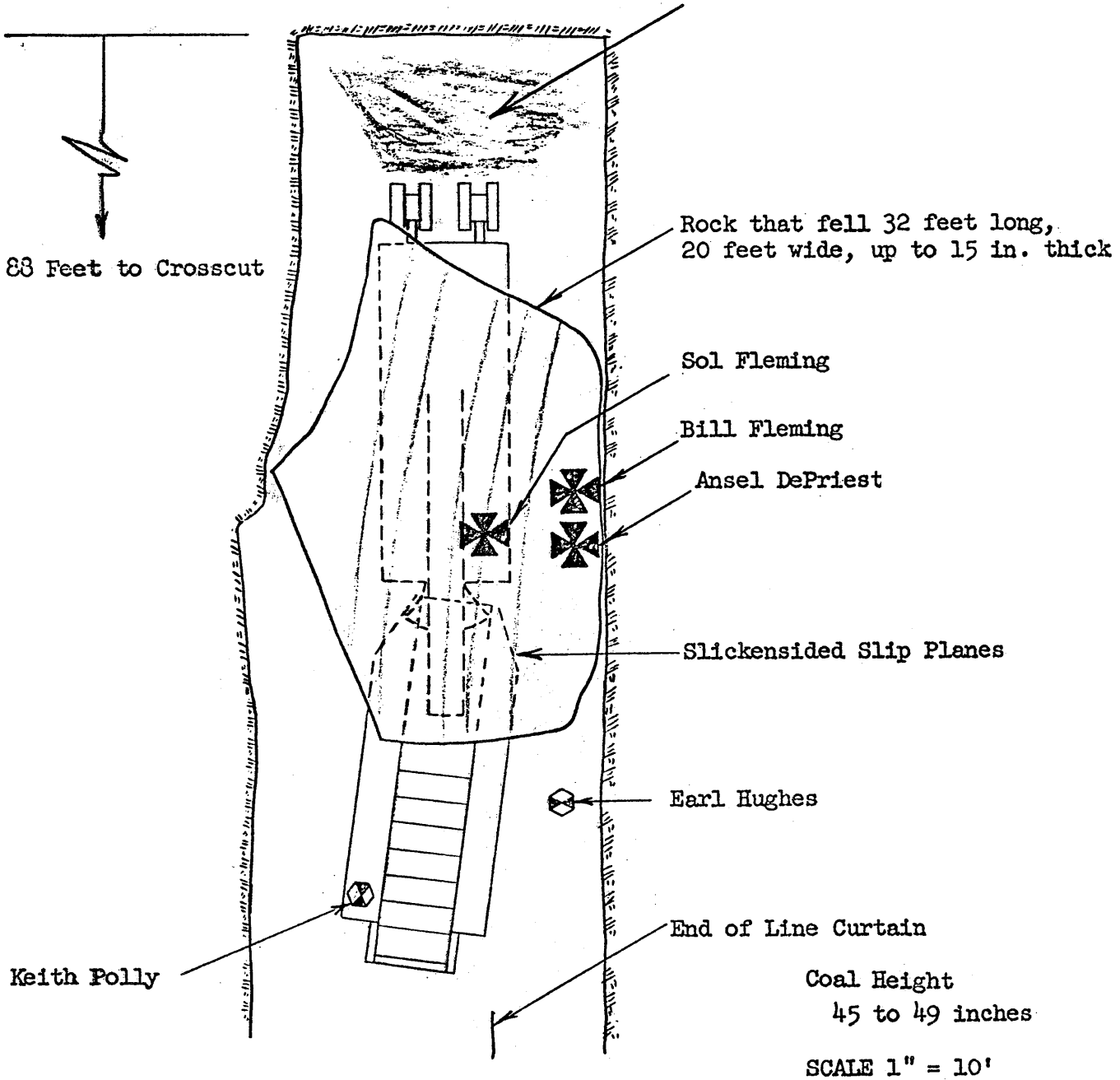
H. E. Childers	Superintendent
H. C. Mercer	Division Inspector
J. R. Whited	Mine Foreman
F. L. Nelson	Assistant Mine Foreman
Warnie Flint, Jr.	Mine Inspector
H. H. Smith	Section Foreman

KENTUCKY DEPARTMENT OF MINES AND MINERALS

W. B. Wright	Principal Mine Inspector
Everett Bartlett	District Supervisor
B. E. Banks	Senior Inspector

No. 3 Entry

Loose Coal 4 to 10 inches Thick



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UNITED MINE WORKERS OF AMERICA, LOCAL NO. 9639

Farley O. Gilley
Buddy Anderson
Allen F. Smallwood
Curtis G. Carter

President
Safety Committee Member
Safety Committee Member
Safety Committee Member

UNITED STATES BUREAU OF MINES

G. L. Mears
M. L. West
Jack E. Tisdale

Technical Assistant
Federal Coal Mine Inspector
Technical Assistant

The last Federal inspection was completed April 17, 1967.

DESCRIPTION OF ACCIDENT

The E crew arrived on their working section about 12:30 a.m. and began work. Mining was confined to advancing the face of No. 3 entry from near the last open crosscut. It was necessary to move the Lee Norse continuous miner from this entry twice in order to make repairs. The total distance mined was 88 feet.

From 1:15 to 2:05 a.m. the continuous miner had been trammed out of No. 3 entry to a place where the coal height was great enough to temporarily replace a dislocated head hinge pin. A welding machine was ordered, brought to the section, and at 3:50 a.m., the miner was moved back to the high place so the pin could be welded in place. All crew members except Bill Fleming, continuous miner operator (victim), and Jack Barker, repairman, were instructed to eat lunch during the delay.

After repairs were finished, 4:35 a.m., Sol Fleming, continuous miner helper (victim), took over the Lee Norse controls and Earl Hughes, roof bolter, acted as miner helper. They trammed the machine back to the face of No. 3 entry. The face was offset, the left side being about 14 feet ahead. The left side was advanced to about 22 feet ahead of the right, then the machine was trammed to mine the right half. The miner cuts about 10½ feet wide. Hughes relocated the safety jacks to the left side. As best as could be determined the safety jacks were installed across the machine from the controls, and these jacks were not "leap frogged" to keep them abreast of the miner controls as the machine moved ahead. Hughes stated that he did not make a roof test, but he did observe Sol Fleming make a thorough test when the right side was advanced part way. Fleming, using the sound and vibration method, had turned in his seat on the miner and checked all around as far as he could reach; however, he made no comment to Hughes.

Ansel DePriest, section foreman, (victim) and Bill Fleming finished their lunch and were observed near the miner by Homer Mullins, shuttle car operator, during his last trip in the place. The face was even after Mullins' car was loaded, and it was decided that the face was advanced far enough for the next crosscut. Hughes, who was starting to leave the place, having been relieved by Bill Fleming, gave the following account. Bill Fleming removed the safety jacks and while so doing stated, "We are in slate roof." He placed the jacks on the machine and walked around the boom to the right side. The machine was repositioned to load loose coal from the floor so that the roof bolting machine could be trammed in. A shuttle car, driven by Keith Polly, was under the boom being loaded with this loose material when the roof fell. Hughes was a few feet from the fall and facing toward the machine. He stated that Bill Fleming had pointed to the roof and Ansel DePriest had just started to sound the roof when it fell. Hughes said the first and only comment he heard concerning the roof was the description by Bill Fleming.

Aid was summoned from others on the section and the victims were removed from the mine about 7:30 a.m. Death came almost instantly to the three men.

The roof in No. 3 entry had been sandstone, but where the accident occurred a shale lens was present under an upward roll of the sandstone. The line of separation where the roof changed was not easily seen, and the roof remained even and flat across the shale lens. The shale lens was 32 feet long, 20 feet wide, and varied from 7 to 15 inches thick across the entry from right to left. The entire lens fell, except for some overhand on the left rib, and it broke into several long pieces conforming to the slip planes present.

Apparently, the men were not aware of the roof change until Bill Fleming observed the shale roof while taking down the safety jacks. The only roof test made after Hughes entered the place was the one made by Sol Fleming. It is assumed that had this roof change been detected earlier the machine would have been pulled back and the area bolted.

Before production was resumed after the accident the roof support plan was revised to prohibit the continuous miner operators from advancing beyond bolted roof.

CAUSE OF ACCIDENT

A system of roof control requiring that men recognize a prescribed roof condition before bolts are installed was at fault in this accident. The roof support plan that required the machine to be withdrawn and the area

bolted would have prevented the accident had it been determined the roof to be shale, which was difficult to recognize. Roof testing and evaluation failed to reveal the true nature of the roof.

RECOMMENDATIONS

Compliance with the following recommendations may prevent accidents of a similar nature:

1. The minimum roof-support standards should be revised to require means of permanent roof protection for the continuous miner operators. A suggested method is roof bolts, installed on a pattern determined by a study of the roof conditions, so that the continuous miner operator remains under bolted roof.
2. The roof-testing requirements should be enforced while men are working under unsupported roof and especially while installing or removing temporary roof supports.

ACKNOWLEDGMENT

The cooperation of company officials, employees, and representatives of the United Mine Workers of America and the Kentucky Department of Mines and Minerals during this investigation is gratefully acknowledged.

Respectfully submitted,

/s/ Jack E. Tisdale

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Technical Assistant

APPENDIX A

VICTIMS OF FATAL COAL MINE ROOF-FALL ACCIDENT

NO. 22 MINE

BETH-ELKHORN CORPORATION

DEANE, LETCHER COUNTY, KENTUCKY

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<u>Names of Persons Killed</u>	<u>Age</u>	<u>Number of Dependents</u>	<u>Occupation</u>	<u>Experience this Occupation</u>	<u>Total Experience in Mines</u>
Ansel Be Priest	45	1	Foreman	7 Months	25 Years
Bill Fleming	42	6	Continuous Miner Operator	5 Years	20 Years
Sol Fleming	36	3	Continuous Miner Helper	2 Months	12 Years