A

COAL FATAL

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Health and Safety District A

REPORT OF FATAL COAL MINE RIB-FALL ACCIDENT
BANNING NO. 4 MINE
REPUBLIC STEEL CORPORATION
NORTHERN COAL MINES DISTRICT
WEST NEWTON, WESTMORELAND COUNTY, PENNSYLVANIA

September 12, 1967

by

Everett Turner
Federal Coal Mine Inspection Supervisor

S. L. Stiles
Federal Coal Mine Inspector

Originating Office - Bureau of Mines
4800 Forbes Avenue, Pittsburgh, Pa. 15213
W. Dan Walker, Jr., District Manager
Health and Safety District A

REPORT OF FATAL COAL MINE RIB-FALL ACCIDENT
BANNING NO. 4 MINE
REPUBLIC STEEL CORPORATION
NORTHERN COAL MINES DISTRICT
WEST NEWTON, WESTMORELAND COUNTY, PENNSYLVANIA

September 12, 1967

by

Everett Turner
Federal Coal Mine Inspection Supervisor

S. L. Stiles
Federal Coal Mine Inspector

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.

George D. Mitchner, regularly employed as a roof bolter, was killed instantly at approximately 10:45 p.m., Tuesday, September 12, 1967, by a rib fall near the face in a pillar pocket in the chain pillar between Nos. 1 and 2 face entries right off 12 butt, Banning No. 4 mine. Mitchner, age 48, had 27 years mining experience, 12 years as a roof bolter in this mine. He is survived by his widow and four dependent children.

Everett Turner of the Pittsburgh office of the Bureau of Mines was notified of the accident by L. S. Horne, superintendent, by telephone at approximately 12:05 a.m., September 13, 1967. An investigation was started about 1 a.m. on the day of notification.

GENERAL INFORMATION

The Banning No. 4 mine is opened by three shafts and a slope. Mining operations are in the Pittsburgh coalbed, which in this area averages 96 inches in thickness. Total employment was 308 men, of whom 245 worked underground and 63 were employed on the surface. The mine was operated 3 shifts a day, and the average daily production was 5,090 tons of coal, all mined with continuous-mining machines. Coal was transported in the face areas by shuttle cars.

A block system of mining was followed and pillars were extracted by a pocket-and-wing method. The mining system permitted entries, crosscuts, and pillar splits to be 16 feet wide. Entries were developed on 90-foot centers and crosscuts between entries were on 100-foot centers.

Generally, the immediate roof was roof coal, overlain by draw rock up to 24 inches in thickness and laminated coal and shale. In some areas of the mine where roof coal and draw rock could not be held in place, the immediate roof was shale and sandstone. The minimum standards for roof support required roof bolts to be installed on 4-foot centers lengthwise and on 8- and 10-foot centers crosswise in the working places. The bolts were required to be installed through 10- and 11-foot wooden crossbars spaced 4 feet apart lengthwise in the working places. In pillar-recovery work, posts and cribs were used in conjunction with roof bolts. The roof-support plan was being complied with. Violations of the roof-support plan were not observed during the recently completed regular mine inspection.

The 12 butt right entries and the 1, 2, and 3 face entries off 12 butt right where the accident occurred had been driven to completion, and the second block of the chain pillar between Nos. 1 and 2 face entries was being mined. The block being mined was one of four blocks between two gob areas and the inby portion of the block extended into gob area. (See sketches.) The coalbed in this area was about 92 inches thick and the draw rock immediately over the coalbed was 22 inches thick. The draw rock could not be held in place in this area and was being taken down as the working face was advanced. Coal was being mined with a Joy continuous-mining machine (1JCM). The coal was piled on the mine floor from where it was loaded into shuttle cars with a Joy 14 BU loading machine. Drilling of the roof for installing roof bolts was done with rotary drills which were mounted on each side of the continuous-mining machine at points on the machine about 4 feet inby the machine controls. Holes for bolts were drilled and bolts were installed and tightened while the mining machine was operating. During the mining and bolting operations, a temporary safety crossbar was held in place against the roof by two hydraulic jacks which were mounted on the continuous-mining machine about 1 foot ahead of the roof-bolting drills. Workmen were not permitted to travel inby the safety crossbar unless additional temporary roof supports were installed.

Information for this report was obtained by a visit to the scene of the accident and from Victor Iulius, section foreman; Elmer Harshman, continuous-mining-machine operator; Joseph Plocinik, loading-machine operator; and John Kuhar, roof bolter. There were no eyewitnesses to the accident.

The investigating committee consisted of the following:

Republic Steel Corporation, Northern Coal Mines District

A. M. Shaffer	Superintendent of Industrial Relations
L. S. Horne	Superintendent
A. B. Martinelli	Mine Foreman
W. K. Catney	Safety Supervisor

G. E. DeRusha, general superintendent, attended the conference that was held after the visit to the scene of the accident.

Pennsylvania Department of Mines and Mineral Industries

John J. Hunter	Inspector, 12th Bituminous District
W. M. McCluskey	Inspector, 7th Bituminous District

United Mine Workers of America

Joseph Daniels	President, Local Union No. 9873
W. Rygelski	Vice President, Local Union No. 9873
Harry Sprowls	Safety Committeeman, Local Union No. 9873

United States Bureau of Mines

Everett Turner	Federal Coal Mine Inspection Supervisor
S. L. Stiles	Federal Coal Mine Inspector

The last Federal inspection was completed September 7, 1967.

DESCRIPTION OF ACCIDENT

On September 12, 1967, at 4 p.m. the 12 butt right crew, including Mitchner, entered the mine at the No. 4 shaft portal. A portable enclosed trolley bus was used to transport the men from the shaft bottom to 12 butt right. They arrived on the section about 4:30 p.m. and began mining coal after examining the place and considering it safe.

Mining in the 12 butt right section during the shift on which the accident occurred consisted of the extraction of pillars between two gobs in the right face entries off 12 butt. The crew began mining coal in a pillar place (split) between Nos. 1 and 2 face entries, which had been started on the previous shift.

The crew consisted of a continuous-mining-machine operator, two roof-bolter operators, a loading-machine operator, two shuttle-car operators, a mechanic, and an assistant foreman. The face equipment included a 1JCM Joy continuous-mining machine with two roof bolters mounted on the machine, a 14 BU Joy loading machine, and two Jeffrey shuttle cars.

The roof in the 12 butt section was supported according to a Bureau-approved roof-bolting plan. Roof bolts, 6-1/2 feet long and 5/8 inch in diameter, were installed through 4-inch by 5-inch by 10-foot wooden crossbars. The bolts were anchored with expansion shells and 4- by 4- by 1/4-inch steel bearing plates were used between the boltheads and crossbars. Bolts were installed on 4-foot centers lengthwise and 8 feet apart crosswise through the crossbars. The hydraulically operated jacks that supported the crossbars through which bolts were installed were operated by the roof-bolter operators. One foot inby these jacks, there were similar safety jacks that supported the safety crossbar 14 feet outby the face which were controlled by the continuous-mining-machine operator.

Mining operations progressed in a normal manner until the time of the accident. The pillar split, 16 feet wide, was mined through to a fall or gob in No. 2 entry, a distance of approximately 60 feet. The equipment was pulled back in preparation for starting a pocket to the left off the pillar split. Five posts were installed under crossbars just inby where the pocket was to be started (see sketch A). The mining of the pocket was started. About 10:35 p.m. Iulius examined the working place, which included testing the roof and ribs in the area where Mitchner was working. He told Mitchner to be careful and left the place.

About 5 minutes after Iulius left the place, Harshman and Kuhar observed Mitchner testing the roof and ribs. Mitchner then started drilling a hole through a crossbar and into the roof. He had drilled the hole to a depth of 55-1/2 inches and was in the act of changing the drill steel when the rib toppled over and caught him against the machine. He had changed the drill steel but had not inserted the cotter key.

No one saw the accident, which occurred at 10:45 p.m., but Harshman and Kuhar both on the opposite side of the machine from the victim heard him groan. The power to the cutting motors had just been shut off and the cutter chains were still coasting. Harshman, Kuhar, and Plocinik all went to Mitchner's aid. He was slumped down by the machine, and the material that had hit him had fallen free of him. Iulius, who was at the ramp, was notified of the accident. He arrived at the scene and assisted with the removal and examination of the victim. No sign of life could be detected. The victim was placed on a stretcher and transported to the surface at 11:15 p.m., where he was pronounced dead by Dr. A. H. King, Jr.

During the investigation, about 3 hours after the accident, it was evident that extraordinary stresses were present on the ribs of the accident area and surrounding area. Considerable crushing and spalling of the ribs were observed. The abandoned gob areas were in proximity to the block being mined (see sketch B). It was also evident that abnormal height existed in the accident area due partially to the unusual thickness of the draw slate.

At the scene of the accident the thickness of the coalbed being mined, including the draw slate, was 9-1/2 feet. The draw slate was 22 inches thick. The slate that toppled over and was involved in the accident was 42 by 22 by 24 inches; however, it was broken in two and it could not be ascertained whether all or only a portion of the slate struck the victim.

CAUSE OF ACCIDENT

Since the foreman and workmen stated that examinations and tests of the roof and ribs were made by Iulius and Mitchner 10 and 5 minutes, respectively, prior to the accident and reportedly no unsafe conditions were detected, it is believed that the accident was caused by the

extraordinary stresses on the ribs crushing the coal and causing the slate to topple over. Contributing factors could have been improper or inadequate examination and tests and failure to detect and evaluate properly a dangerous condition. Another contributing factor could have been a condition created by two inaccessible pillars (see sketches) that had been left during previous mining.

RECOMMENDATIONS

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

1. A more thorough examination of areas where abnormal conditions exist should be made by officials and employees so that a better evaluation of hazardous conditions can be made and necessary safety precautions taken. If an unsafe condition is detected and cannot be corrected, the place should be vacated.

2. When unusual or abnormal conditions are encountered, such as excessive pressure causing spalling of the ribs and where the thickness of the coalbed including the draw slate is abnormal adding height to the ribs as in the accident area, special safety precautions should be taken to protect employees from falls of such ribs.

ACKNOWLEDGMENT

The cooperation of officials and employees during this investigation is gratefully acknowledged.

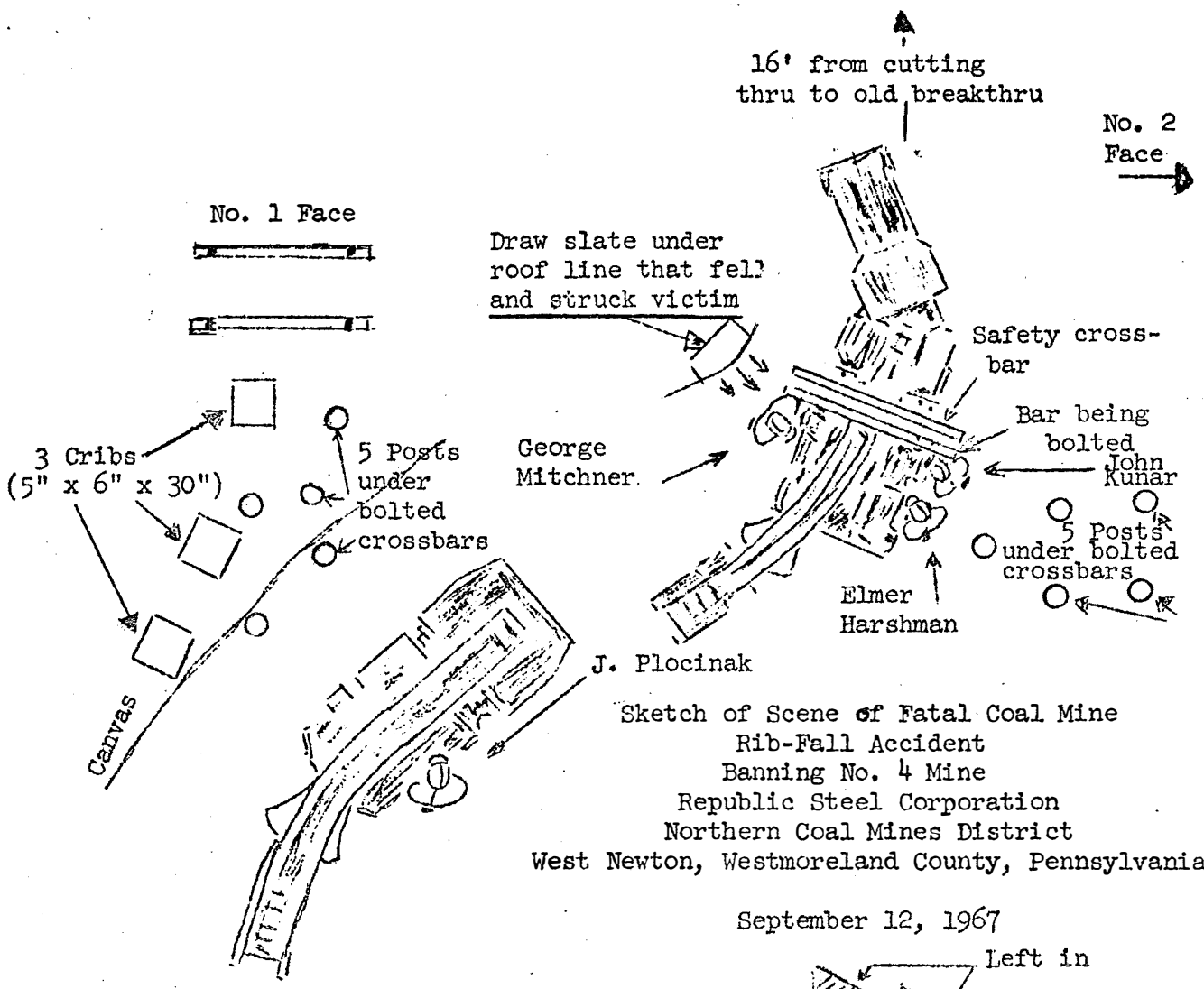
Respectfully submitted,

/s/ Everett Turner

Everett Turner

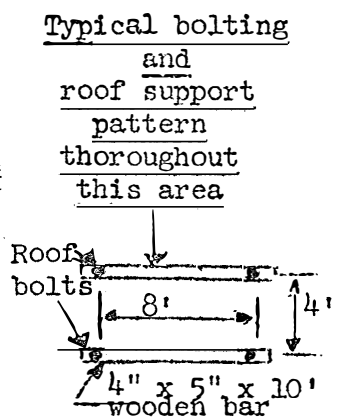
/s/ S. L. Stiles

S. L. Stiles



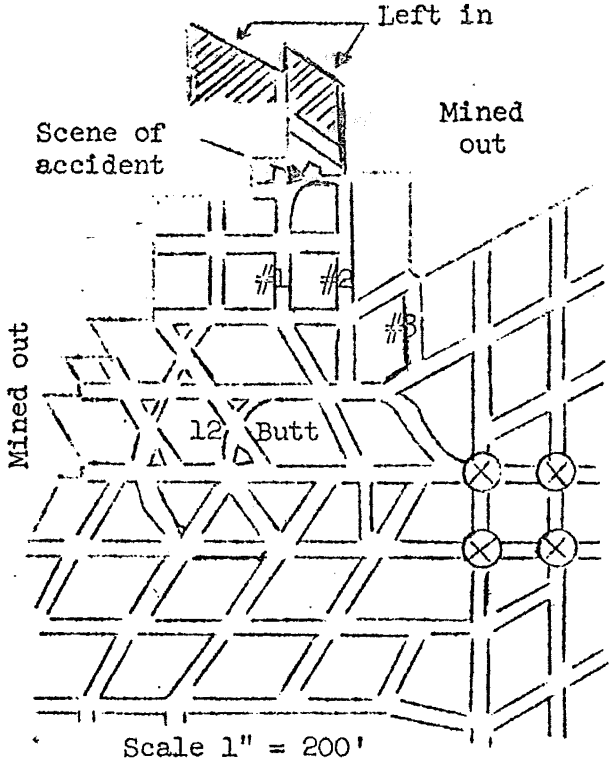
Sketch of Scene of Fatal Coal Mine
Rib-Fall Accident
Banning No. 4 Mine
Republic Steel Corporation
Northern Coal Mines District
West Newton, Westmoreland County, Pennsylvania

September 12, 1967

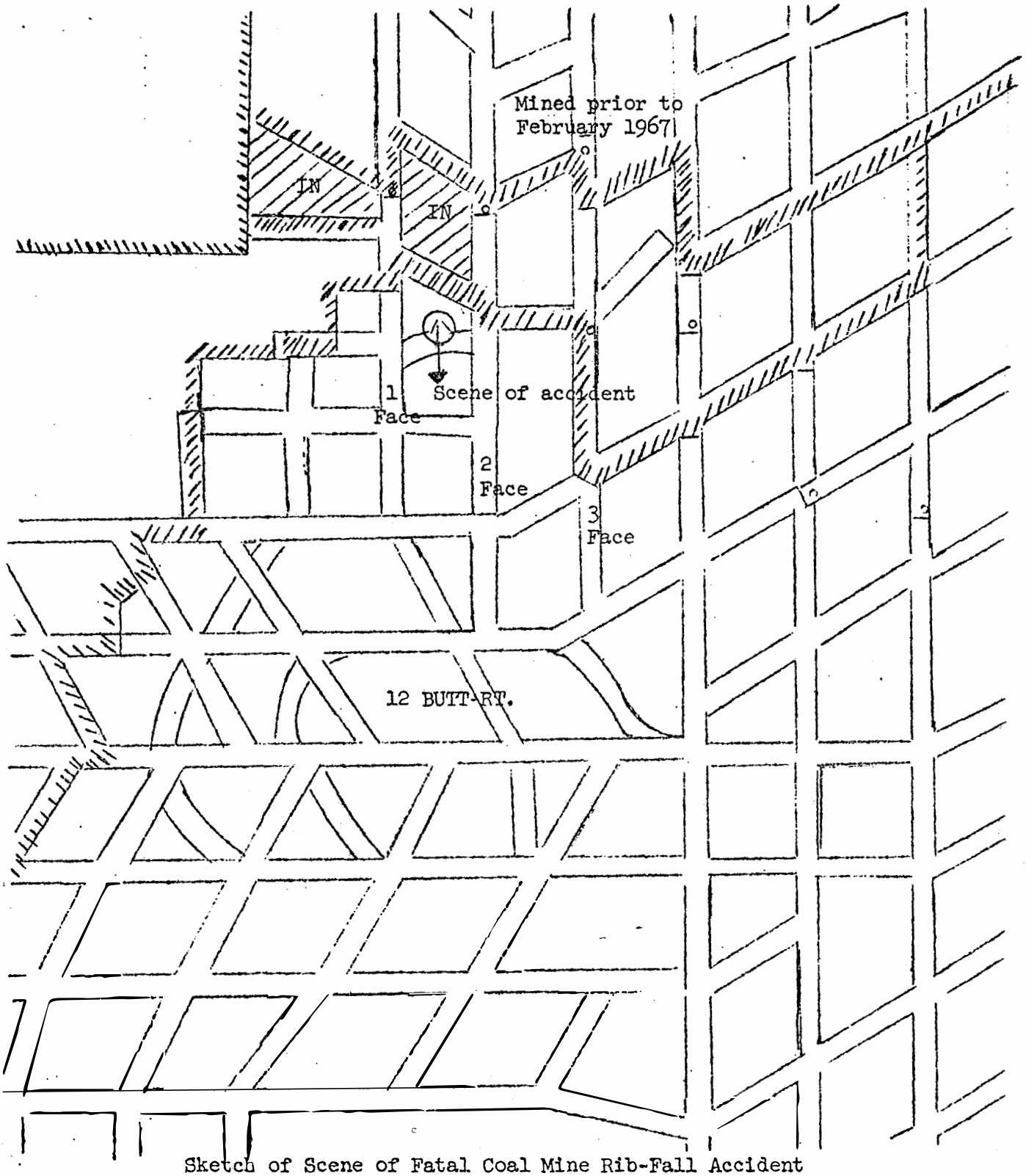


Scale 1" = 10'

Sketch "A"



Scale 1" = 200'



Sketch of Scene of Fatal Coal Mine Rib-Fall Accident
Banning No. 4 Mine
Republic Steel Corporation
Northern Coal Mines District
West Newton, Westmoreland County, Pennsylvania

September 12, 1967

Sketch B

Scale 1" = 100'