

D-1140

November 18, 1927. ims

Mr. D. Harrington,
U. S. Bureau of Mines,
Washington, D. C.

SUBJECT: Explosion of May 13, 1927,
Shannon Branch Mine, Central
Pocahontas Coal Co., Capels,
W. Va.

Dear Mr. Harrington:

An explosion occurred in the No. 3 or Shannon Branch mine of the Central Pocahontas Coal Company, Capels, W. Va., about 11:20 p.m., May 13, 1927, resulting in the death of eight men. There were 22 men in the mine at the time of the explosion, all of whom escaped uninjured and unassisted except the eight men who were killed. Recovery was made with oxygen breathing apparatus and gas masks. No Bureau of Mines men assisted in recovery operations.

Location:

The No. 3 mine is located at Capels, McDowell County, West Virginia, about 2-1/2 miles east of Welch, West Virginia. The mine is served by the Norfolk and Western railroad.

Ownership and operating officials:

No. 3 mine is owned and operated by the Central Pocahontas Coal Company with offices at Welch, W. Va. The principal officers are:

L. E. Woods, President, Welch, W. Va.
E. O. Toole, Jr. Vice-president, Welch, W. Va.
C. M. Gates, General Manager, Capels, W. Va.
D. C. Martin, Superintendent, Capels, W. Va.
L. T. Stover, Mine Foreman, Capels, W. Va.

Coal bed:

The mine is developed in the No. 3 Pocahontas bed, a low volatile, semi-bituminous coal. The bed averages about 5 feet in thickness and contains a 2 inch band of boney coal near the middle of the bed. There is an interval of about 60 feet between the No. 3 bed and the No. 4 bed which overlies it.

Roof:

The roof is gray shale about 18 inches thick, which usually comes down with the coal. The immediate roof is hard blue or gray shale 20 to 25 feet thick. The shale is overlain by sandstone.

Floor:

The floor is hard, smooth, dark shale.

Mining method:

The room and pillar, panel system is used. Room pillars are drawn as soon as the rooms have been driven to the limit in each panel.

Production:

The mine produces about 25,000 tons of coal a month.

Gas:

The mine is rated as gassy by the West Virginia Department of Mines. On January 27, 1927, the mine air was sampled by W. H. Forbes, Bureau of Mines. The air current contained from .02 per cent to 2.00 per cent methane, liberating from 43,000 to 203,000 cubic feet of methane in 24 hours on the various splits and liberating as much as 1,340,000 cubic feet in 24 hours in the entire mine. Immediately following the explosion, the mine liberated as much as 2,000,000 cubic feet of methane in 24 hours.

Ventilation:

The mine is ventilated by a 5 by 10 foot Jeffrey fan. In January 1927 this fan was delivering about 95,000 cubic feet of air a minute. At the time of the explosion on May 13, 1927, there was 158,000 cubic feet of air a minute flowing. This was accomplished by cleaning up air courses and making tight stoppings.

Other features of mine are covered in Mr. Forbes' report on the explosion of January 1927 and will not be discussed in this memorandum.

STORY OF THE EXPLOSION.

On the night of May 13, 1927, there were 22 company men in the mine, cutting coal, hauling supplies, sprinkling and cleaning track on the main diagonal entry. About 11:00 p.m., the sprinkling crew was at 6th right (8th east) and the supply

crew was at the 4th right pass parting, when (11:20 p.m.) they felt a concussion and a rush of air. The men on the sprinkling car felt some dust particles strike them on the face. The men on these two motors and the 10 men working on the haulage road, hurried outside and tried to get the mine foreman. Not being able to rouse him, they called D. C. Martin, superintendent, who then called C. M. Gates, general manager, notifying him that there had been an explosion. Martin then hurried to the mine and had all power shut off.

Upon reaching the mine, Martin and Stover entered the mine leaving Gates outside. When they were about 150 feet from 10 east on the diagonal entry, they found unmistakable signs of an explosion in dust that had been blown out of 10 east. About this time they were joined by 3 firebosses. The group went about 200 feet into 10 east finding debris and small slate falls. Martin went outside while the others went as far as 10 room. All the stoppings between the haulage entry and the air course on 10 east were blown into the air course. They did not encounter any afterdamp nor smoke, but fearful of going farther they retreated to mouth of 9 east.

In the meantime, Martin had reached the outside, where supplies were secured. About 2:30 or 3:00 a.m. May 14, Martin, Gates, W. D. Lee, district state mine inspector, Gilley, state rescue man, and about 8 other men entered the mine, the first 4 hastening into 9 east, while the laborers brought in

the supplies. Upon reaching 9 east, Lee decided to place a canvas ^{curtain} across the diagonal entry to force air up 9 east. While waiting for the supplies to arrive, the party with no gas masks or self-rescuers (except Gilley. Martin had taken one with him on the first trip but had then left it outside) proceeded to room 16. This room is used for empty car storage. A trip of empty had been blown out of the room and had wrecked at the switch. The men climbed over them. A tile stopping with a manhole in it was blown completely out and into the air course. This was the first stopping blown out in 9 east. The men went as far as room 18 and encountered afterdamp, which was recognized principally by throbbing of the temples (according to Martin). Then the party returned to room 16, crawled over the wrecked cars and sat down outby room 16 to wait until the curtain was placed across the main diagonal to force air up 9 east.

Almost immediately they felt a rush of air coming up 9 east and Lee remarked that the curtain ^{must be wrecked} was up. Simultaneously there was a rush of air and smoke or dust out of the entry. This was followed by a second and a third in rapid succession. The entry was filled with a dense cloud of dust making it difficult to see. Martin, who supposed himself the last man going out, called to know if all were out. The answer was in the affirmative but just then Stover, who was in back of Martin called for help. Martin found him in his hands and knees, pre-

sumably affected by the afterdamp. With assistance he was able to walk. Upon reaching the door in 9 east at the main diagonal they found it held open by a car when the mule had stopped. This short-circuited the air in 9 east and probably saved the lives of some or all the rescuers in this entry at the time of the explosion or falls.

Opinion is divided as to whether these were explosions or concussions from falls. The proponents of the fall theory argue that there was no heat felt and hence there was no explosion. Those favoring the explosion theory contend that the force was too great to be caused by a fall.

It is my opinion that there was a slow burning in 10 east, which was followed by a contraction causing the first inward rush of air. When the fresh air reached the gas and smouldering fire, 3 successive explosions occurred. The curtain had not been hung on the diagonal entry.

Everyone returned outside following this incident, reaching the surface about 5:00 a.m. About 6:00 p.m. a rescue party, consisting of a mine rescue crew from The Consolidation Coal Company, Coalwood, W. Va. and the Exeter (W.Va.) team of the Kingston Pocahontas Coal Company, mine inspectors and company representatives, entered the mine again. Later a rescue crew from Gary, W.Va. arrived and assisted in the recovery.

A curtain was hung across the diagonal entry just in by 9 east and air was carried up 9 east, through room 20 (and

later room 21 also) to 10 east. In room 18 was found a mining machine ready to start cutting, about 20 feet from the face. After the explosion the machine man had run into 10 east air course and was overcome by afterdamp about 100 feet from his machine. The helper was found in room 18 about 60 feet outby the machine. He was not burned but overcome by afterdamp. 2

Another machine was found in room 21, 9 east with controller on as if tramming out of room. The helper was found under a fall of slate beside the machine and the machine runner was on the other side of the machine. Neither man was burned. 2

A third machine was in room 16, 10 east, off the truck as if in the act of cutting. The runner was beside the machine and the helper 10 feet back of machine. Neither body was burned. 2

In room 10, 10 east, about two thirds up the room was another machine, the controller on, traveling into the room. The helper was on the job, ahead of the machine; the machine man was about 15 feet outby the mining machine. Both men were badly burned. 2

It is believed, and evidence clearly points to this machine as the origin of the explosion. It is clearly recognized that when the sandstone, about 20 or 25 feet above the coal bed breaks, gas, in large amounts, is liberated. The mine foreman knew that the sandstone in room 9 was cracking the afternoon of the explosion and had had a fireboss watching closely for gas. After the explosion a fall was found in room 9 and considerable

gas was found. In fact on the afternoon of May 15th the rescue crews were working in fresh air and went in room 10 as far as the cross-cut outby the machine. Here explosive gas was encountered. Approaching through room 11 and coming toward the machine from the face of room 10, gas was met at the 1st cross-cut from room 9, inby the machine. The bodies were recovered by men wearing oxygen breathing apparatus.

Machine wire was carried into rooms, and indications are that the machine man was sliding the bare ends (nips) of his cable along the machine wire when the gas was encountered and ignited by the arc from the wire.

It is customary for the machine man to stop the mining machine before reaching the last break-through and test for gas before the machine is taken to the face. A fireboss now goes with the machine and tests for gas just before the machine is taken into a place. Wires have been removed from all rooms and brattice cloth stoppings are placed in all cross-cuts except the last one in rooms.

A trip was made into the mine, but conditions had changed considerably and nothing could be seen to indicate directions of force nor extent of explosion. On 9 and 10 east entries the dust was dry in many places, although the main diagonal was wet, with standing water in many places. A sprinkling car was being used. No rock dusting has been done.

As a report has been so recently written and as conditions have not changed materially, no report has been prepared for the operator.

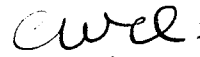
Practically none of the recommendations made by W. H. Forbes have been carried out except as required by the state inspector, W. D. Lee.

The mine foreman, Lacy T. Stover has been replaced by John Powell, an experienced mine foreman with considerable experience in gassy mines. He had charge of the Carolina mine of the Consolidation Coal Company at Fairmont, W. Va. Mr. Martin is now outside foreman having been replaced by a Mr. Crawford.

The extent of damage was all stoppings in 10 east and all but 2 stoppings inby room 16, 9 east, blown out.

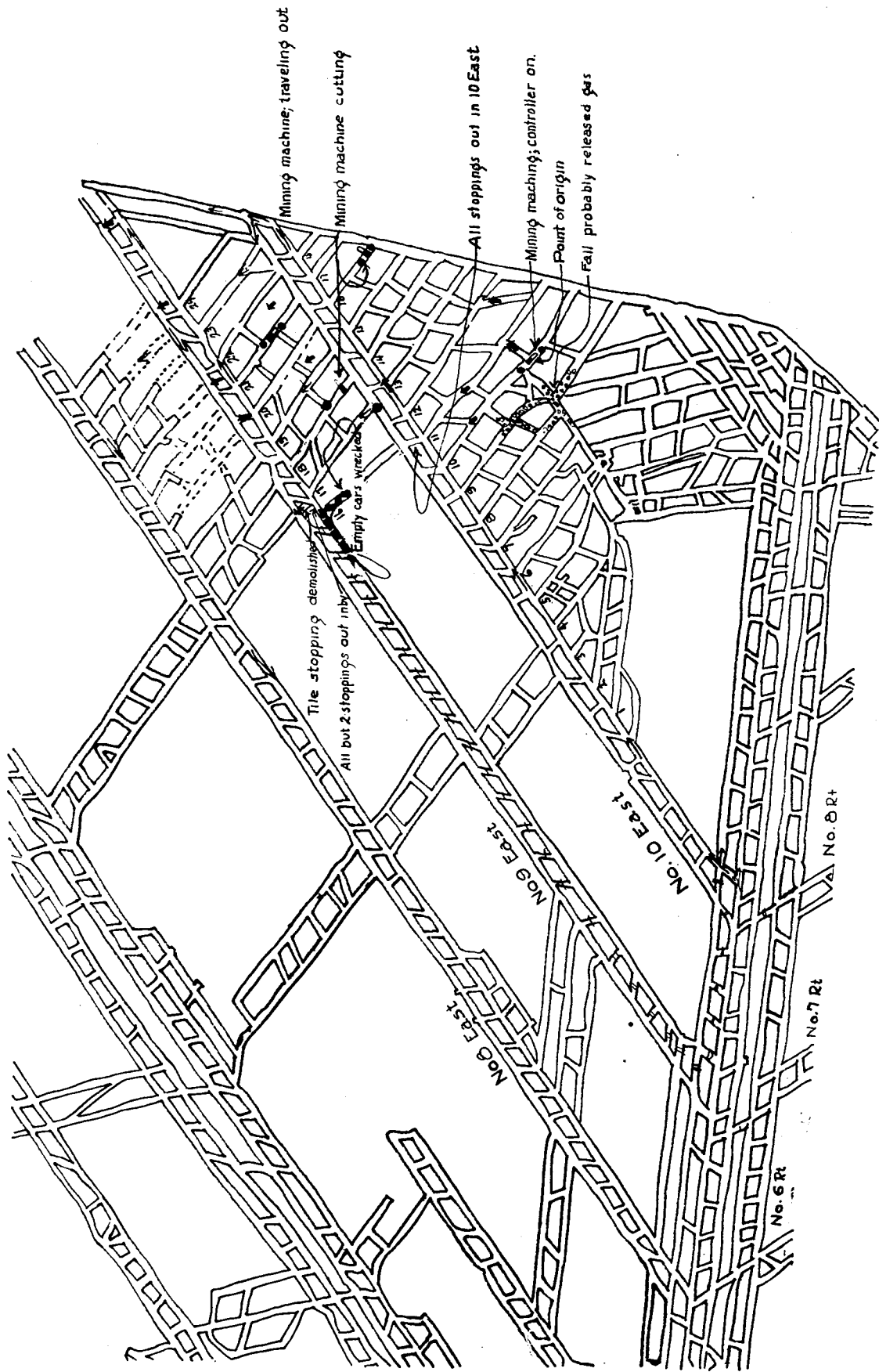
The attached photostat shows details of the explosion as related to me by C. M. Gates and D. C. Martin.

Respectfully submitted,



C. W. Owings,
Associate Mining Engineer.

Encl.



MAP SHOWING AREA
 OF EXPLOSION MAY 14, 1927.
 SHANNON BRANCH MINE
 CENTRAL POCAHONTAS COAL CO.
 CAPELS W.VA.

Scale: 0 100 200 300 400 500