further, from the evidence submitted to the Jury, we are unable to place any responsibility.

W. R. REITZ,	(Seal)
GEO. B. HENNEIGH	(Seal)
J. L. LONG	(Seal)
A. W. SYKES	(Seal)
BERT LONG,	(Seal)
J. L. SHAFFER	(Seal)

J. C. SAYERS (Coroner)."

EXPLOSION AT THE ADRIAN MINE

On the morning of November 9 an accident occurred at the Adrian mine of the Rochester and Pittsburgh Coal and Iron Company resulting in the death of eight men.

I instructed four of the other inspectors to accompany the Inspector of the district, Thomas A. Furniss, to make a thorough examination into the cause of the explosion. Several years ago this mine was worked exclusively with locked safety lamps, but as no gas had been found recently in any portion of the mine, the Inspectors who examined it from time to time recommended the use of naked lights. The mine was worked as a non-gaseous mine for several years, although the Company employed several fire bosses as a precautionary measure.

The records of the Department show that Inspector Furniss spent four days in the month of September in inspecting this mine and reported it free from gas. From the information obtained on a visit to Punxsutawney, I am of the opinion that this explosion was not a gas explosion, but probably one of coal dust. The question is, What was the cause of the explosion? I express no opinion on this point, preferring to take the judgment of the Inspectors who made a thorough examination after the explosion.

From the report of the Inspectors printed herewith and the evidence given at the inquest, the reader may draw his own conclusions.

REPORT OF THE INSPECTORS

To the Honorable James E. Roderick, Chief of Department of Mines, Harrisburg, Pa.

Dear Sir: On November 9, 1911, about 6.05 A. M., an explosion occurred in the Adrian No. 1 mine, resulting in the death of eight persons. The mine is located at DeLancey. Jefferson county, and is owned and operated by the Rochester and Pittsburgh Coal and Iron Company. The mine is a slope opening from which the "D" or lower Freeport seam of coal is being mined. There are about three hundred and fifty persons employed, but owing to the early hour at which the explosion occurred only a few persons had entered the mine, which accounts for the few lives lost.

Upon learning of the accident some of the inspectors were on the ground early and assisted in the rescue work, the last of the bodies having been recovered on Saturday evening, two of which were difficult to locate.

On Monday morning, November 13, the undersigned inspectors, by your instructions, commenced an examination of the mine to ascertain, if possible, the cause of the explosion and its location. We entered the slope mouth traveling to the side track to which point the rope haulage is used and to which electric motors are used to haul the coal from the different sections of the mine. From here we traveled into the 9th left entry to the 2nd east, to the 2nd north and the Rhoads entry. Although this part of the mine did not show any indication that an explosion had occurred, yet on these entries six persons lost their lives from the deadly after-damp which had found its way to this part of the mine, some 2000 feet from the seat of the explosion, and through which they endeavored to escape. Those persons had reached their working places on the 2nd north on or about the time the explosion occurred and their bodies were found at the locations as indicated on the map accompanying this report. They had been warned by one of the party who had gone down the 2nd north entry and had discovered the odor of after-damp when they started to go out. Two persons, a cutter and a scraper who had cut three boards in a room, started out later and were fortunate enough to get out without succumbing to the effects of the deadly atmosphere, passing the victims on the roadway, some of whom were still alive.

We then traveled in the direction whence the after-damp had come, passing through a portion of the Grube heading to the 10th east entry, where the other two bodies had been found. On this entry we found much evidence of the force of the explosion which had killed the two persons found on the entry some six hundred feet apart. There had been much heat in this entry and the rooms therefrom. the dust on the side of the pillars, loose coal, timbers and cars being charred considerably, yet the bodies of the victims either in this entry or on the 2nd north had not been burned in the least. As we proceeded in the direction of 1st and 2nd left off 5th and 6th east down through No. 3 room to the 13th left entry, we found much more evidence of force and heat. On the 13th left entry and parallel we found evidence of much destructive force: Loaded and empty cars had been thrown off the track and badly broken; falls of roof had occurred on the entry and rooms; the electric trolley wire was torn down for a considerable distance on both entries, the cars having been forced over the wire, and the stoppings blown out in the direction of the parallel entry for a distance of 1000 feet. At a point near No. 18 room on the 13th left entry a fall had occurred and at a point near No. 20 room another fall of roof. On this entry stood eight loaded cars that had been blown outwards which passed over the wire. The heat developed by the explosion on both the latter named entries had burned the dust adhering to the exposed surfaces considerably and the force could be traced plainly, traveling in all directions from a point near No. 18 room, but only extended for a distance of about 1200 feet, traveling in the direction from which the most fuel or available dry dust was provided to support the flame; but upon reaching the moist or wet parts, the burning ceased.

Upon our examination of the mine we did not discover any indication of explosive gas being present or being generated, and we

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could not call the mine a dusty one, except in the vicinity of the explosion and even there not excessively so.

The mine workings are very extensive; the mine is ventilated by a Capell fan, double inlet, on the force principle, size 16 feet in diameter and 8 feet wide. It is located on the shaft about 2100 feet from the mouth of slope, at a point near the 4th left entry. When running at a speed of 130 revolutions per minute, it produced a volume of 102,375 cubic feet of air per minute, this being the last measurement taken by the inspector of the district at his last examination of the mine on September 1, 5, 6 and 7. The water gauge developed by the fan at the above speed was 2.8 inches as shown by The air currents are conveyed the chart on the pressure gauge. throughout the mine in six separate splits, the return air from all the splits returning up the main slope haulage way, and as there are no means of ingress into the mine, except by passing through more or less of the return air, it caused some inconvenience and discomfort in the work of rescue.

The mine has been reported as a gaseous mine, fire bosses being employed to examine some portions, but it is worked exclusively with open lights. No explosive gas had been reported since the month of May, 1911. The blasting is done as a rule by the use of black powder, with the exception that some Monobel No. 3, a permissible explosive, is used in the entry work, and dynamite for blasting rock.

After fully examining the mine, noting all conditions set up by the explosion, and from evidence gained from persons who had been employed in the mine, and the officials of the company, all under oath, we have found it very difficult to determine the exact cause of the explosion. But after carefully reviewing the evidence of witnesses at the inquest, much of which was contradictory, and from the knowledge and data we have obtained from the report of the inspector of the district during his inspection of the mine, which lasted for four days in the month of September, and also the five days spent by us at this time, many probable reasons present themselves as to the cause of this catastrophe, viz: Some person or persons may have had dynamite and caps concealed in the gob where the fall of roof occurred; or possibly the electric current came in contact with it; or a fall of the rock roof may have taken place where the pillars were being removed, which may have liberated gas, and the grinding of the rocks may have created a spark or flame which may have ignited the gas; or the timbermen who left the 13th left early the morning of November 9 may have inadvertently left some burning substance which, during the hours, say, from 2 a. m. to 6 a. m., may have assumed such proportions as to come in contact with the gas, if any was liberated by the falls; or a fall may have occurred on the 13th left heading causing the grounding of the electric trolley wires thereby creating an arc, which in turn ignited the dust along said heading and vicinity.

Now in conclusion while it is possible that this explosion may have occurred from any of the above conditions, yet we are of the unanimous opinion that the most probable cause of the explosion is that the dust explosion was caused by an arc created by the grounding of the trolley wire.

Owing to the fact that the mine generates explosive gas at times and portions of it are dry and dusty, we recommend the following: First: That such portions be thoroughly moistened by water or efficient means as often as necessary, and that the dust be loaded and sent out of the mine. Second: That none but permissible explosives be used in blasting coal, and all shot holes be stemmed with clay or other incombustible material. Third: That rigid discipline be enforced in the handling of motors and electric switches of all branch trolley lines. Respectfully submitted,

ELIAS PHILLIPS, Inspector 4th Bituminous District. JOSEPH KNAPPER, Inspector 8th Bituminous District. THOMAS A. FURNISS, Inspector 12th Bituminous District. THOMAS A. MATHER, Inspector 18th Bituminous District.

THOMAS S. LOWTHER, Inspector 25th Bituminous District.

EXCERPTS FROM TESTIMONY OF WITNESSES AT THE CORONER'S INQUEST

Robert Maloney, mine foreman at the Adrian mine for more than two years, testified in part as follows: That no explosion of gas or dust had occurred during that time, and that no explosive gas had been found in any part of the mine since May 24, 1911. The gas found at that time was in twelfth left off the Grube heading, 1200 or 1400 feet in a straight line from where the present explosion is supposed to have occurred in the thirteenth left. He said: "This explosion occurred between 6 and 6.30 a.m., November 9, 1911. As soon as notified I went inside where one of the other foremen came and told me that there was a short circuit; that the electric wires When I went to twelfth left I discovered there were were down. I went to see the wire and I found some brattices blown down. more brattices blown down and I knew there had been an explosion of some kind and I sent the assistant foreman to notify the Inspector and ordered every one else out of the mine. When the assistant foreman came back he told me he understood there were some men up in another section of the mine. We tried to get up there, but were driven back by the after-damp. When I came back from there I met the mine inspector and we went to the district from where we had There were eight of us altogether and then we all went down come. to the section in which we supposed the explosion had occurred, which was the thirteenth."

He said that he had not formed any opinion as to the cause of the explosion, but felt confident that it was not a gas explosion as they had never found any gas in that section of the mine.

Mr. Haddock, a fire boss at the Adrian mine for eight years, testified in part as follows: "The mine generated explosive gas freely many years ago and was worked for a time with locked safety lamps,

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but about six years ago the use of locked safety lamps was discontinued by the approval of a commission of mine inspectors.

The last time I saw any gas in the Adrian mine was October 16, 1910, at second south of eleventh right, about 4,000 feet from thirteenth left, where the explosion occurred November 9, 1911." He further said that he had never seen any gas near thirteenth left and therefore the explosion could not have been a gas explosion; the breaking of the electric wires might have caused the explosion, as he had known such a thing to occur.

Joseph Lesnick, a driver for sixteen years at the mine, testified that he was at present working in thirteenth left. Upon being asked if he had ever noticed whether the switch was in or out, he answered "I had to notice on account of the mule. The switch is in some mornings, but out most of the time. I have to look at the switch, as I do not dare to take the mule out with the power on, which is when the switch is in. Sometimes I found the switch in when I went in in the mornings, and I had to pull it out. The switch, I think, is located at No. 1 room. The motorman is supposed to pull out the switch."

Stanley Borish, motorman for more than four years at the mine, testified that at present he was hauling coal from thirteenth left; that there are four switches he attends to from tenth left side track to face of thirteenth; that while coming out from the thirteenth left he pulls out the switch which is located at No. 1 room. He said, "I always pull that switch out, as the driver with the mule is in the heading. I came out of thirteenth left about half past three or four the morning of the accident." To the statement, "The driver says that he has seen the switch in sometimes," Borish answered, "Sometimes they take timber in and put the power on. I always put the power out."

Answering the question, "Did you ever find the wire down?" he said "Sometimes."

"Where?" "Once down in thirteenth left back heading."

"Did you see it come down?" "Yes."

"Did you see a flame?" "Flash pretty bad when wire was down." "What causes the wire to be down?" "Sometimes the trip comes and pulls it down; other times they push pipe against the wire and pull it down."

"When you saw the wire down, did you ever see any smoke?" "Sure, lots of smoke."

"From the wire?" "Yes, sir."

"On the ground?" "On the rail or pipe."

"When the wire was down, did you ever see the coal catch fire?" "I saw coal on fire; not very much."

"Where did you see that?" "Many places."

Andrew Dehamis testified that he has lived at Adrian for twelve years and is at present employed at fourth east and sixteenth left, about two miles from thirteenth left; and that on the morning of the explosion the two men who lost their lives walked with him from the gate to eighth left where they separated, each going his own way. He said: "When I reached Room 38 on the fourth cast, I feit a concussion; my light was blown out and I felt air and dust in my eyes. I thought it was caused by a cave. After this I went to my place and cut one board, but later on I found a little smoke coming from Room 42."

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Original from NEW YORK PUBLIC LIBRARY Frank Pellegrue, a timberman at the Adrian mine for about one month, testified that he and his butty stood some timber in Room 5 on back heading on thirteenth left the morning of the explosion, and that they left with the motor twenty or twenty-five minutes after two from the door at Shoo Fly to the slope. He said: "My butty ran the motor that morning and he took the switch out. I do not know the number of room where switch is located." In answer to the question, "Did you find the switch in?" he said "It was out."

"And you put it in?" "Yes, sir."

"Did you leave it in?" "Took it out when we came out."

Mr. Warden, an employe of the Adrian mine for twenty-one years, the last six of which he has been serving as driver boss, in answer to the question, "What did you do after you notified Mr. Maloney?" said, "I thought it was a short circuit and no power, and pulled out all the switches that I thought of and threw the current off the heading. I could tell it was a short circuit, as I had seen the engineer try to put the switch in, but it would not stay; it jumped right out." In answer to the question, "When you were going down he tried to throw the switch in?" he said, "Yes, sir. When I got below I turned the switches out. I never saw any gas in that section of the mine. I have seen the electric wire down at different times before this and sometimes it would make a flash. I never saw the wire flash enough to set anything on fire, that is, to burn. I have seen the wire coming in contact with the rail and when the engineer put the breaker in it would make a flame. I have known of a short circuit when the breaker did not fly out." In answer to the question, "You have seen the wire down and it would produce a flame and the circuit breaker would not go out?" he said, "It was not a good short circuit, but it was grounded, and would make a flame."

Mr. Turko, who worked in second east off second north in ninth left, testified that he and eight others (including two of the men who were killed) went to work that morning together to the old ninth right. He said: "I walked as far as second east when the accident happened. It sounded as if a big steam pipe had burst. I thought it was a cave in, as they were drawing pillars. I opened the door to see if the air was good and found it was. Then I went to work and cut three boards before I knew what was the matter. Λ man came and told me and my butty that there was bad air: that I started out. My butty came out after me. there was a stink. passed one fellow who was lying about twenty yards from No. 2 switch and another fellow about three hundred feet from the first fellow by the door. I said, 'Come on and walk out.' They did not I could hardly walk. The men I passed were alive and hollercome. I saw four men lying on the road. The air smelled like gasoing. line from automobiles as I was passing through it. I put my handkerchief over my mouth and nose. The air got a little better after I got to the old ninth left straight. The men that I passed on the road had been to their places of work and were going out when caught by the afterdamp."

Thomas A. Furniss, Mine Inspector of the 12th District, testified that he had made a complete inspection of the Adrian mine September 1, 5, 6 and 7, at which time he found it in reasonably good condition. He said: "I found certain headings where the air was not properly conducted to the face of the workings. I found no explosive

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Generated on 2023-09-10 01:54 GMT Public Domain, Google-digitized / gas in any part of the mine. I found no fault with the electric wiring. They had it protected at all crossings and as far as I saw the wire was in accordance with the law.

I was notified of the accident about nine o'clock the morning it occurred and took an automobile and arrived at the mine shortly afterward. In company with others we made an effort to reach thirteenth left, as it was the consensus of opinion that the accident had occurred there, which afterwards proved to be correct. It took a long time before we could re-establish the ventilation and our party suffered greatly from the effects of the afterdamp.

Early in the evening Inspector Lowther arrived and took charge, relieving me. They found the six men dead. Between nine and ten o'clock at night the Rescue Car from Pittsburgh arrived. I think it was a dust explosion, but what ignited the dust I am unable at present to say. The electric wire could have ignited it if the power at that time in that heading was on. At first I thought it was caused by a blown-out shot, but afterwards found that no person had entered that part of the mine. In my opinion an electric wire would explode the dust, or any other heat that would generate flame sufficiently long enough and at a certain temperature would ignite dust.

If a fall had taken place taking the electric wire down, with the wire grounded and the current on and thrown in such a way that the ground was fanned all the time, it might have distilled sufficient gas to finally burst out into an explosion. Then according to some of the tests that have been made a flame that would generate 1,200 degrees Fahrenheit would ignite the dust in ten seconds, but a flame that would generate 1,800 degrees would explode the dust in one second. The mine was sprinkled, but the fall of roof raised enough dust to cause the explosion. I am of the opinion that the switch was in, which was against the rule of the mine, and that was the cause of the explosion."

Thomas S. Lowther, Mine Inspector of the 25th District, testified as follows: "I arrived at the Adrian mine about 7.15 P. M. the day of the accident and at once entered the mine in company with Inspector Furniss, Mine Foreman Malonev and several other men. We proceeded directly to the portion of the mine where we supposed the dead men could be found. We went beyond where the six dead bodies were found and clear up to the face of those headings to make sure no men were there. Then we came back to where the six bodies had been located. All this work was done by the aid of safety lamps without the aid of oxygen helmets. Between 9 and 10 P. M. the Rescue Car arrived from Pittsburgh with a corps of helmet We organized practically a new crew, with the exception of men. myself, including the helmet men. We proceeded down the slope to the thirteenth left heading, and there we worked all night putting up more canvas and exploring all that section to make sure of finding the other two bodies if there. We failed to find them. I returned to the surface about eight o'clock in the morning. At this time there were still two men missing. We had expected to find them at the seat of the trouble on thirteenth left, thinking that they had caused the explosion, but we failed to find them in thirteenth left. The condition of the mine was similar to the condition of other mines after an explosion—wires blown down, cars off the tracks, brattices blown down, and falls at reveral places. I think this was a dust explosion, but how it was ignited I am not prepared to say. From the position of the bodies of the two men found nearest to thirteenth left, where the explosion occurred, they were evidently going toward the outside. The force of the explosion could not have blown these men from where they were working to the place where they were found."

Elias Phillips, Mine Inspector of the Fourth District, testified that he entered the Adrian mine, Friday morning, the tenth, at 9.30.

He said: "From the condition of the mine I would say that there was an explosion and in my opinion it undoubtedly was a coal dust explosion, caused by a short circuit of the electric wire. So far as I can see no neglect of duty on the part of any employe led to the cause of the explosion."

VERDICT OF CORONER'S JURY

"Inquisition taken this 15th day of November, 1911, before J. C. Sayers, Coroner of Jefferson County, and upon the solemn oaths and affirmations of C. R. Stephenson, Hector Campbell, Sr., John Kiumerburg, Andrew Beveridge, J. H. Davis and Hector Campbell, Jr., six good and lawful men of the County aforesaid charged to inquire when, where and by what means Marco Scorpino, Lewis Sacco, Peter Cascio, Alfonza Bellaevia, Salvator Bonfarti and Tobori Scaletto (persons now lying dead) came to their death; who having viewed the bodies of the aforesaid and having heard the evidence produced before them, do find and say that the aforesaid came to their death in the County aforesaid in the Township of Henderson in the Adrian mine on the 9th day of November, 1911, between six and seven o'clock A. M. and that death was caused by Carbon Monoxide poisoning due to an explosion in the Adrian mine; and by the evidence submitted to the jury we are unable to state the cause of said explosion."*

"Inquisition taken this 15th day of November, 1911, before J. C. Sayers, Coroner of Jefferson County, and upon the solemn oaths and affirmations of C. R. Stephenson, Hector Campbell, Sr., John Kiumerburg, Andrew Beveridge, J. H. Davis and Hector Campbell, Jr., six good and lawful men of aforesaid County charged to inquire when, where and by what means Mike Dehanis and Paul Susnoski (persons now lying dead) came to their death; who having viewed the bodies of the aforesaid and having heard the evidence produced before them, do find and say that the aforesaid came to their death in the County aforesaid in the Township of Henderson in the Adrian mine on the 9th day of November, 1911, between six and seven o'clock A. M. and that death was caused by shock and injuries sustained by the force of an explosion in the Adrian mine, (date and probable hour of explosion given as time of death) and by the evidence submitted to the jury we are unable to state the cause of said explosion."

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^{*}Explosion was on date and hour given as time of death.