



Reports

#2 Cherokee Mine

ABSTRACT OF CORONER'S INQUEST
 MINE NO. 2, CHEROKEE & PITTSBURGH C & M CO.
 FRONTENAC, KANSAS
 NOVEMBER 9, 1888.

No. killed: 40.

Date of inquest: Nov. 11-15, 1888. Coroner G.A. Fisher, Crawford Co

Coroner's verdict: The above named came to their death by an explosion; powder and gas being the main factors. We also believe the extremely dry and dusty condition of the mine contributed to the violence of said explosion.

It is the belief of the jury that the said explosion originated in the fourth north entry off the east side of shaft No. 2 of the Cherokee and Pittsburg Coal & Mining Co. at Frontenac, Kansas, and was caused by the igniting of powder, the same coming in contact with other explosive properties.

It is still further the belief of the jury that if the company had kept the entries well sprinkled, and paid more attention to the gas, the said explosion would not have been so great, therefore, we the jury consider the company censureable.

DARIA SENOTT, practical miner, 25 years experience stated that he was acquainted with the mine. At bottom of shaft found damaged timbers, 2 or 3 dead mules and fallen slate. Further on found 2 or 3 dead men. Shaft is broken east and west, then runs north and south McKinlay asked me to take charge, told him I would. Proceeded to examine northward, fixing up as we went to room No. 2, found dead men, continued on till we came to rooms 3 and 4, found 2 dead men. In 4th north found 8 dead men. Came back then and where it broke off to north 3rd, and conducted air, where we found 8 dead men. Came out and asked McKinlay where to investigate next. We took ventilation to 1st north where we expected to find two men, did not find any. Were then relieved and came out.

At 3 pm took charge of 4 men. Found men who relieved me. Went into No. 1 on right, found no men. Went next to west side, found cars off track, drivers buckets, etc. and door broke down. Proceeded found one door down, took our ventilation up to north entry with gang of eight men, then came to face of 1st north, everything clear, visited every room, came back to bottom of shaft. Next work was west. Explored face and side entry. Next was 2nd south, found it in good condition. There was good ventilation. Air was a little hot where we went in. After this was driven out ventilation was good. Found 15 dead besides 3 we passed. Think the explosion originated in the third north on the east side. The explosion was about 400 feet from main shaft. It showed its mark across the main shaft going from 1st north to 4th north, escaping to the fan shaft.

My idea is that the cause was a powder explosion for the following

reasons: This is acknowledged by the best authorities that powder smoke will flash or explode. If the hole is drilled too deep or on the solid, the powder will blow out in a flame, that is an explosion itself and when there are so many shots fired in that way the explosion may be so large as to extend to all powder that may be around or in a man's tool box. When a mine is dry and dusty it will aggravate the explosion and cause a terrible calamity. In my judgment that is this case. For the following reasons: That we examined for gas with a safety lamp and found none. My reasons for not finding any gas had that been the case. Had we a gas jet in this room we open it, close the windows and doors and leave it so for several and return, we find gas. If there had been gas giving out in this place after examining these rooms we would have found it on our return. I do not say that this was a gumming shot, although it will cause an explosion. Had the mine been giving gas we could have found about 5 per cent after the explosion. If an explosion should occur in a wet mine, it would not be so bad as in a dry mine where there was dust.

My theory is that there were too many shots fired at the same time and that the flashings coming in contact with others caused it. The State law says that they shall take 5 pounds of powder, but I do not know that they have obeyed the law. Blackdamp is where there is no pure air. No human can live in it. Then there is gas or explodable gas where if you carry a light it will explode. I saw some powder cans or kegs, they were blowed to pieces. That is the first time that I was ever in the mine.

Daria Senott

ALEX MITCHELL: I reside in Frontenac. Have worked in No. 2 shaft since January 24. Have been a miner for 20 years. I was in the mine when the explosion occurred, about 5 p.m. I was preparing my shot before coming home. Heard several shots fired. Heard one a little stronger than usual. A gentleman passed a remark to me about it. I answered yes. I work in 3rd north on west side, coming to entry found door blown off, also another door off. That is the first I knew of it. Going toward main entry found men returning. I made an attempt to get out, was drove back by afterdamp, tried it at another point and was drove back. Tried the main west entry and got out. Was followed by 8 or 10 men. Coming out found something was wrong. Found men down, some injured, overcast was blown to pieces. After a while crossed to other side, found more men disabled. Going in on main east found stoppings blown out on cross entries, about 150 feet from main shaft there was a heavy fall. We closed these breaks off temporarily as we went along to send air into main entry. I only ventured 50 to 75 ft. beyond heavy fall. Was tired and then came out. Came up air shaft and found them trying to arrange to bring up disabled men. The mine was well ventilated. A very dry

mine. O'Hara found a little gas going across horseback. Found no other indications of gas. It never did burn except on one occasion that was going across horseback. It was very trifling so do not think it would cause an explosion. Have no idea of what caused it. There was 2 or 3 shots fired until the large explosion came. I was considerable distance from the main shaft. I worked on the west side of the shaft. Shots will average from 1 to 3 feet. With one exception I never used over 3 feet of powder in a shot. About 3 pounds of powder to that size shot. We take powder down in kegs containing about 24 pounds of powder. Keep it in a box for that purpose at a reasonable distance.

Alex. S. Mitchell.

DOUGLAS JENKINS: Worked at coal mining 18 years, tracklayer. Was in mine on day of explosion. Was in the 3rd south on west side. Was all through the rooms where the explosion occurred on the 10th. Do not know in which room it occurred. Did not find and gumming shots.

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I think the explosion was caused by powder smoke and dust. Do not think the powder in the cans or kegs caused the explosion. Noticed some gas in 3rd north, 4th and 5th rooms. We did not desire to take any chances about the gas. Discovered gas once in passing through a horseback. There was gas reported in this room for 4 or 6 days before explosion took place. Was no room adjoining it. The employment of inexperienced men would likely cause such an accident, by not knowing how to use powder. I do not know whether inexperienced men have been employed or not as I have not paid any attention to the matter. The mine boss several times stopped men from firing shots when in his judgment they were not put in right.

Douglas Jenkins.

E. J. MATTESON. Miner for 30 years, began first in Indiana, but not steady. Was in mine at time of explosion.

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My opinion is it was caused by the settling of fine dust in the rooms where the shot was fired. A vast amount of dust is found and hardly ever gets out of the room. When a shot is fired it drives the fine dust back into the rooms. There has always been gas in the rooms when the faults are cut out. I understand in the morning a man goes in and examines. The company has men who examine the rooms in morning before men go to work. Never discovered enough gas to intimidate a man from working. Have known it to ignite and burn a while and then go out. When the room is run up 30 or 40 ft the air becomes dead. Men could not work safely if there was a large

amount of gas in the room. Men fire before noon and at evening. Previously worked in Clay County, Ind. There was not same amount of dust in rooms in Indiana, coal is not so hard. * * * * * About a month ago powder began being issued in kegs of 25 lbs. A meeting was held and it was voted to ask company to issue powder in kegs and the supt. consented on condition that the men sign a petition to that effect. I did not sign it until I felt forced to do so. All that went down in the mine took powder down in kegs. Have heard that the shot went through, so do not know of any men who knew of this fact.

RICHARD WILSON. My occupation is mining and farming, have been so for 31 years. Was not in the mine at the time. I quit the mine on account of daily explosions and said I would never go down again. It was between 2 and 3 weeks ago I quit. It was when the explosion occurred that burned 4 men. The explosion was caused by gunning shots, by men who did not understand mining. Have seen the fire shoot back from 100 to 200 feet, and have been singed by it. Was in No. 1, began Jan. 1st, 1887. Began work there at first was there when 2 men were burned. Saw the room after the shot was fired, Found no gas and never did. That was caused by an undercharge of powder. It was not strong enough to move the coal and shot back. We stepped in beside the pump and saved ourselves. The dust always ignites. Have never seen gas in these mines except when cutting horsebacks or slips. When you pass through horsebacks the gas comes. Began work in No. 2 about Sept. 8. The air is good as in any mine. I saw the hole where the 4 men were burned. The hole was drilled on the solid. The concussion of the shot ignited the dust. Examined it after the shot had been fired. I am satisfied it occurred in the 3rd south entry. My son was found by the keg of powder preparing a cartridge. Had the fire been there it would have exploded. It had gone into the main east entry where the dust had accumulated in vast quantities. Think his death was caused from after-damp or bruised from coal. My son was in the 10th room in the 3rd north. There were daily explosions and I talked with Row and told him I would not work. The men who worked there were not experienced. They worked without shoes, shirts or hats. I told the pit boss I would not work there any longer. He said it was not his fault, he wanted good miners. He said they had brought six and they took them to No. 3, and he said he had all he wanted of that kind and said they are not qualified to mine here. I attribute this accident to employment of inexperienced miners. I said two weeks ago last Sunday to Dr. Fischer: "get ready for an inquest on the most terrible explosion that ever occurred." It was caused by these men who were not experienced miners.

The miners always measure thickness of coal so that powder placed in will shake it. They have machines here for drilling holes. They used no judgment and put in powder not knowing how much to put in. When shots could not throw coal it blowed out at

the tamping and flew down the room and caused dust to ignite. Have always looked at these shots and always found it the same thing. If the mines are kept well wet these things would not occur. Last spring they used to water well after the Fleming explosion. Since the 4 men were burned the mines were watered,

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ROBERT CRAIG, General Supt of Pittsburg & Cherokee Coal Co. Have been a miner 40 years. The condition of mine was considered first class as to ventilation and everything else. Have driven double entries in each case. Drove entries on side of main entry so that we could split the air in four currents, so the men could have pure air.

Our fans are 14 ft in diameter, capacity of 100,000 cu ft. Did not run fan capacity. Generally 25000 or 35000 feet of air was sufficient. Believe the explosion was from an overcharge of powder and dust. As a general rule they drill their hole in solid or take too much of a grip, and the force of the charge comes back out in a flame that starts the dust and that starts the current and the force grows greater. These mines are as a general dry. Explosions are not so serious where there is a great deal of moisture. We expect in the future to allow no shots to be fired while the men are in the mines. It has been customary all over the field for men to do their own firing.

* * * * * I believe the dry dust adds to the force of the explosion. Have often asked if they have seen gas, and the answer has been "no". Have never found it in any quantity so that it could be detected by the safety lamp. I think the dust increased the force of this, caused by an overcharge of powder. * * * * * The men here refused to cut the coal with a pick and sent a committee to us to demand the use of soda powder or they would refuse to work.

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JOSEPH LAVERICH went down with the investigating party Commenced on main east, to 4th south, 3rd south, 4th north out east side. On 4th north between 4th and 6th rooms on the entry found 5 powder kegs that gave evidence that they had been exploded; went to 3rd north found everything all right to 7th room. At face there was indication of gas. All had safety lamps. My opinion is it began here on the 4th north between 4th and 6th room, as the side of the coal and timbers around there show the fire the most. But my opinion is that it was never exploded by a blast in the coal as I failed to find any place where an unreasonable shot had been fired. Further, I believe that the cause of the explosion really was that the mine is generating enough of explosive gas to load the air as much as it can carry and owing to the dryness of the mine there might have been some powder exploded by some of the men caused the start of the fire and

the stirring up of the dust agitated by the force of the explosion. The roads were very dry and dusty. In one crosscut thru one of the south entries there were 3 miners tool boxes all locked. The tool boxes are all outside of the rooms. To the best of my knowledge there was not more than 4 shots fired. To the best of my belief the blast traveled both ways. Have been in 3 different explosions in big veins. Here owing to the smallness of the vein the explosion travels both ways. I believe the most furious part of the ~~explosion~~ fire traveled south. Do not think it was caused by lighting of gas from a miners lamp. I believe that it is today generating enough gas that if powder is exploded it would fire the gas and cause another explosion. In Westmoreland County, Pa. in Mt. Pleasant slope, Fayette Co. Pa. soft coal in Connellsville coke region there were explosions of firedamp. In each case the flame traveled against the air. There was no indication of a shot having been fired in Dan Limb's room.

WM. ELLWOOD. Mine boss. Was in mine about 15 or 20 minutes before the explosion. Was afterwards assisting to give circulation of air and assist wounded men, etc. Every morning we have two men go thru mine and examine for gas. Gas has been reported in room 11 on west side. None reported on east side in quantity. There was an explosion in a certain sense caused by a tight shot. Do not think it came out of the room where it was fired. I considered it perfectly safe, and am puzzled to think where the force could have generated to cause such a terrific explosion. Think it was caused by a tight shot igniting the dust in the mine. * * * * *

I think that where a shot blows out back it generates a gas that ignites instantaneously. I am certain that gas had nothing to do with the explosion. Have two men who examine the mine at about 4 a.m. each morning and report at 6:30 to 7 o'clock, and one man who attends to the circulation. * * * * *

We have not watered the mine all summer as the hot air comes down the shaft and condensed in the mine. At the time I speak of we had to put men to place sahes along the track in the entries. The old rooms are dry. - - - - Was instructed to sprinkle as often as it was needed. Either one or two days before the explosion the mine was sprinkled. - - - -

It being a dry strata the hot air we have here in the summer descending into the mine striking the cold air condensed and made a moisture that settled on the roof making it bad, and settled all through the shaft as far as the hot air reached. I sent down as many as 20 cars of ashes, dampening them and spreading them along the road. In these dry mines we are subject to this dust all the time.

JAMES BRUSES Miner for 45 years. Made examination after explosion. * * * * * As we came near the end of 3rd south entry found cars had been blown. We then went to 3rd north, found indications of gas in 7th room. Found shots tamped but not fired. From 4th to 6th room the coal on the side was charred and props burned. I am of the firm conviction that the explosion originated from the 4th to 6th room where it is evident the powder kegs exploded. We found no blown out shots. All shots fired on that side were good shots such as a competent miner would put in. Do not think powder alone would cause such an explosion. Think it was powder and gas in these rooms.

GEORGE W. FINDLAY I am inspector of mines in this state. I received telegram relative to explosion and took first train to Pittsburg, drove to Frontenac. I waited for Mr. Craig and he and I at once repaired to the shaft. Satisfied myself that everything possible was being done for those in the mine by men of experience and ability. * * * * * Returned to 4th south examining shots. There was 4 or 5 shots fired neither one of which is what would be

called a tight shot or an overcharge or an undercharged shot. We came out in the main east, passed over into the 3rd north and found considerable evidence of explosion; especially in cross entry from 3rd to 4th north. Walls were all charred. Found one shot that had been fired but it was a good shot. Am satisfied that there were no tight shots fired either in 3rd or 4th north entries where I believe the explosion commenced. Force of explosion came out from north blowing stoppings into main entry, passing around to head of main east, coming down around on the south, spreading thru rooms in 3rd and 4th south entry. Also there was discovered in 3rd south what appeared to be the remnants of an exploded keg. The explosion seemed to gather force, forcing itself thru the stoppings to the main entrance, coming down thru there with considerable force until it came to bottom of shaft and going up the shaft.

To the best of my belief the explosion originated either in the crosscut between 3rd and 4th north entry by the explosion of a quantity of powder, or in the 4th north entry, a distance of 23 feet from this crosscut to where the general disturbances occurred. At this point I more fully believe the explosion started. My reasons for it are: That at no other point in the mine can I find any evidence that would lead one to believe an explosion could have originated. How this occurred or by whom it could be started, I am unable at this time to say. I do not think there was sufficient powder there to cause such a terrible disaster. I believe there was other elements connected with it.

A little more than a year ago, soon after I was appointed State Mine Inspector of this state, as you are aware, we were having rumors of little explosions in different places in our district. I at once returned, if it was possible to get to the bottom of it and find out the causes. I visited this field every 30 to 60 days for months, talking not only with pit bosses, supts, but with the miners when I went through. About a year ago or better, being convinced from all evidence that I could obtain that there was not enough gas in these mines to cause an explosion, yet they occurred, I made up my mind, whether right or wrong, that the coal dust had more to do with these explosions than any other agency. Believing that, I at that time recommended to the supts of the dry mines that a system of sprinkling be established by which the dust would be laid in the main and cross entries. Believing that should this system be adopted that while a slight explosion could take place in a room yet when it reached the main or cross entries its fire would vanish by reason of it having nothing to carry it on. After the Fleming explosion last December I was thoroughly convinced of this fact and again recommended to those in charge that a system of sprinkling the main and cross entries should be established. * * * * *

I also in my report recommended very strongly that a law be passed compelling the sprinkling of all dry mines.

ROBERT CRAIG (additional testimony)

I want to make a correction in my testimony as to the cause of the explosion. It was not a tight or blown out shot. Visited the mine last night and examined the place where the explosion is supposed to have originated, and think it was caused by a keg of powder exploding and firing others. We went to the face of the main east entry and found two shots at the face ready to fire. Went into the 4th south and found the post on the west side of the entry to the old door broken in the middle, but still standing and blackened. * * * *

In room 10, Wilson's son's room hole here 3 ft 9 in. and one foot in the solid, hole not charged. At face of 3rd north no shots fired. In second room from face found young Wilson's box blown up and a powder keg exploded. * * * * *

INQUEST

Held at Frontenac, Kansas, in Crawford County,
on the 11th-12th-13th-14th and 15th days
of November, A. D., 1888, before C. A.
Fisher, Coronor of Crawford County
on the bodies of the forty men
killed on the 9th day of
November, 1888.



Mine No. 2 of the Cherokee & Pittsburg Coal & Mng. Co.
located near Frontenac, Kansas.

TO THE HONORABLE BOARD OF COMMISSIONERS.

Gentlemen:

The inquest upon the dead bodies of the 40 miners killed in the explosion at shaft No. 2 Frontenac, was an extraordinary one. I take the liberty of addressing you in regard to the same. The statute or rather the law concerning Coroners Inquests, surely does not contemplate or anticipate any such remarkable affairs. I have studiously and honestly endeavored to conduct the said inquest fairly and legitimately. In looking over the fees that I have allowed, you will observe some that the statute does not permit me to allow. I will just say in extenuation, that all that was done, had to of necessity to be done, and was unavoidable. The expert witnesses were appointed by me to make a thorough examination of the mine and report the same to the jury. The constables were employed by me, to keep the thousands of people in check and order, so that the workmen could proceed with the recovery and identification of the dead bodies. The guards were employed by me, to carefully watch and guard the bodies of the dead men, from robbery and theft, and to see none were removed without my authority. The board of the jury, I allowed, simply as an act of justice. These men were necessarily called away from their usual avocations, where the majority, were making from 3 to 4 dollars per day in the mines and elsewhere. I thought it no more than right to grant to them their dinners each day, as all were several miles from home, and the usual allowance of \$1.00 per day for their services, was but a mere pittance. Hoping that all that I have done in this matter will meet with your approval,

I am Yours Respectfully,

C. A. Fisher, Coroner.

STATE OF KANSAS, CRAWFORD CO., SS.

An inquest holden at Frontenac, Kansas, in Crawford County, on the 11th-12th-13th-14th and 15th days of November, A. D., 1888, before me C. A. Fisher, Coroner of said county, on the bodies of: John Lobeck, Wm. A. Foster, Robt. Pritchard, David Tweed, James Wilson, Wm. Ellwood, John Weisenberg, Joe Kellar, George Weisenberg, Frank Marshaling, Joe Jolita, Basa Bara, Antonio Bianki, Alex. Siple, Alex. Sacoll, Herman Smith, James O'Hare, Leon Malle, Harry Housen, Edward Edrick, George Croxton, Frank Roche, Wm. Timbers, Chas. Tasca, Louis Bertolini, George Koever, Wm. Miller, Joseph Bertinette, Gustave Dufrene, Robt. Thompson, Dan Randall, Dan Limb, Edward Malle, August Bartier, John Courcours, Louis Duer, Chas. Rhausberger, John Jones, Frank Price, and Emil Barbier, dead; by the jurors whose names are hereto subscribed. The said jurors upon their oaths do say, that the above named came to their death by an explosion; powder and gas being the main factors. We, also, believe the extremely dry and dusty condition of the mine contributed to the violence of said explosion.

It is the belief of the jury that said explosion originated in the fourth north entry off the east side of shaft No. 2 of the Cherokee and Pittsburg Coal and Mining Company at Frontenac, Kansas, and was caused by the igniting of powder; the same coming in contact with other explosive properties.

It is still further the belief of the jury that if the company had kept the entries well sprinkled, and paid more attention to the gas, the said explosion would not have been so great, therefore, we the jury consider the company censureable.

In testimony whereof, the said jurors have hereunto set their hands,
he day and year aforesaid

Jeff Billington

John W. Magie

Thomas Large

Richard Smith

William Dennison

Dave Wadalow

Attest C. A. Fisher, Coroner.

Daria Senott, after being duly sworn testifies as follows: I am a practical miner of 25 years experience. A acquainted with No. 2 shaft of Cherokee & Pittsburg Coal & Mining Company. Visited the mine Friday night. Went down in shaft about 9 o'clock Saturday A.M., was there till 3 P. M. At bottom of shaft found damaged timbers, two or three dead mules and fallen slate. Going further on, found two or three dead men. The shaft is broke east and west, then runs north and south. McKinlay asked me to take charge, told him I would. Proceeded to examine northward, fixing up as we went to room No. 2, found dead men, continued on till we reached rooms 3 and 4, found two dead men. In 4th north found 8 dead men. Came back then and where it broke off to north 3rd, and conducted the air, where we found 8 men dead. Came out and asked McKinlay where to investigate next. We took ventilation to 1st north, where we expected to find two men, did not find any. Were then relieved and came out.

At 3 P. M. took charge of 4 men, found men who had relieved me. Went into No. 1 on right, found no men. Went next to west side, found cars off track, drivers buckets, etc., and door broke down. Proceeding found one door down, took our ventilation up to north entry with gang of eight men.

Then came to face of 1st north, everything clear, visited every room, came back to bottom of shaft. Next work was west. Explored its face and side entry. Next was 2nd south, found it in good condition. Next was 1st south on west side, it was in good condition. There was good ventilation. Air was a little hot where we went in. After this was driven out, ventilation was good. Found fifteen dead besides three we passed. Think the explosion originated in the third north on the east side. The explosion was about 400 feet from main shaft. It showed its mark across the main shaft going from 1st north to 4th north, escaping to the fan shaft.

My idea is that the cause was a powder explosion for the following reasons: This is acknowledged by the best authorities that powder smoke will flash or explode. If the hole is drilled too deep or on the solid, the powder will blow out in a flame, that is an explosion itself and when there are so many shots fired in that way the explosion may be so large as to extend to all powder that may be around or in a man's tool box. (When a mine is dry and dusty it will aggravate the explosion and cause a terrible calamity. In my judgment that is this case.) For the following reasons. That we examined for gas with a safety lamp and found none. My reasons for not finding any gas had that been the case. Had we a gas jet in this room, we open it, close the windows and doors and leave it so for several hours, and return, we find gas. If there had been gas giving out in this place, after examining these rooms, we would have found it on our return. I do not say that this was a gunning shot, although that will cause an explosion. Had the mine been giving gas, we could have found about 5 per cent of gas after the explosion. I think the dust would aggravate but in my judgment would not cause an explosion. If an explosion should occur in a wet mine, it would not be so bad as in a dry mine where there was dust.

My theory is that there were too many shots fired at the same time and the flashings coming in contact with others caused it. The State law says that they shall take 5 pounds of powder, but I do not know that they have obeyed the law. Black damp is where there is no pure air. No human can live in it. Then there is gas or explodable gas where if you carry a light it will explode. I saw some powder cans and kegs, they were blowed to pieces. That is the first time that I was ever in the mine.

Daria Senott.

Alex. Mitchell, being duly sworn said: I reside in Frontenac. Have worked in No. 2 shaft since 24th of January. I have been a miner 20 years. I was in this mine on the evening of the 9th when the explosion occurred, about 5 P. M. I was preparing my shot before coming home. Heard several shots fired. Heard one a little stronger than usual. A gentleman passed a remark about it to me. I answered yes. I work in 3rd north on west side, coming to entry found door blown off, also another door off. That is the first I knew of it. Going towards main entry found men returning. I made attempt to get out, was drove back by afterdamp, tried it at another point and was drove back. Tried the main west entry and got out, was followed by eight or ten men. Coming out found something was wrong. Found men down, some injured, overcast was blown to pieces. After while crossed over to other side, found more men disabled. Going in on main east, found stoppings blown out on cross entries, about 150 feet from main shaft there was a heavy fall. We closed these breaks off temporarily as we went along to send air into main entry. I only ventured 50 to 75 feet beyond heavy fall. Was tired and then came out. Came up air shaft and found them trying to arrange to bring up disabled men. The mine was well ventilated. A very dry mine. O'Hara found a little gas, going across horseback. Found no other indications of gas. It never did burn except on one occasion, that was going across horseback. It was very trifling so do not think it would cause an explosion. Have no idea of what caused it. There was two or three or four shots fired till the large explosion came. I was considerable distance from the main shaft. I worked on the west side of the shaft. Shots will average from 1 to 3 feet. With one exception, I never used over 3 feet of powder in a shot. About 3 pounds of powder to that size shot. We take powder down in kegs, containing about 24 lbs. of powder. Keep it in a box for that purpose at a reasonable distance.

Alex. S. Mitchell.

Douglas Jenkins, being duly sworn said: I am track layer at No. 2. Have worked at coal mining for 18 years. Was in the mine on the day of explosion. Was in the 3rd south on west side. Was through all the rooms where the explosion occurred on the 10th. Do not know who worked there. Do not know in which room it occurred in. Did not find any gunning shots. We started out from west side and found doors down, fixed doors up. Found men who came back, said they could not get out. Met John Jenkins, told me it was no use to try, we could not get out. We waited to see if the air was coming, but the damp came back to us. We got through the damp and fixed up the overcase, so the rest of the men could come out. Crossed to east, told the men then to help me close up and send the air to the east. Went in main east to the fall, went to straight north and brought out Wm. Shafter. He was living, took him to the shaft and left him. We next found three bodies. We took the air with us to the main east face. Found Dan Limb and Dan Randall laying there. Then I came ~~1~~ on top and then again went down. Tried to get air to 3rd north and 3rd south on east to the men there. Went in 4th north to face, found seven men in the entry there. Crossed from 4th back to 3rd north, found one man in 4th north, found in his box nearly a full keg of powder with a piece of paper in the hole. We looked about there to see where the explosion occurred, but could not determine where it occurred. We found five more men in the 3rd north as we came out. Then came to top, stayed one and one-half or two hours and returned. They told me they had taken the air clear through up to the lead-off the west through the north and south face. Took safety lamps, found the boy Thompson in 1st crosscut running from 1st north to 2nd north. We carried him out, and went to 2nd north. Found a man alive in going across from 1st to 2nd north in crosscut. Frank Marschlinger, since dead. Then went into main east again far as 2nd and 3rd north, then I came out. Sunday morning I took two

men and went along the entire west, found everything all right, found no gas in the west. Came to top and went back to see if there were two men in the 3rd north. Found in the mule stable, Chas. Rauscheburger, he was dead. Then we ~~wae~~ went into 4th room, 3rd north, found there was gas in there, but did not go in and came back and reported. I think the explosion was caused by powder smoke and dust. Do not think the powder in the cans or kegs caused the explosion. Noticed some gas in 3rd north, 4th and 5th rooms. We did not desire to take any chances about the gas. Discovered gas once in passing through a horseback. I was not working there. Joe, a German, called me in to see the gas. There was gas reported in this room for 4 5 or 6 days before the explosion took place. Had we went in the room contained a large quantity. Was in no room adjoining it. The employment of ~~in~~experienced men in the mine would likely cause such an accident, by not knowing how to use powder. I do not know whether inexperienced men have been employed or not, as I have not paid any attention to the matter. The mine boss has several times stopped men from firing shots when in his judgment they were not put in right.

Douglas Jenkins.

E. J. Matteson, being duly sworn said: Have been a miner for 30 years, began first in Indiana, though not steady. Was in the mine at time of explosion. On west side, 1st north, room 18 north back entry. Was $\frac{1}{2}$ to $\frac{1}{4}$ back from the bottom. We came out as soon as possible. Was not allowed to return again. Was told they had all help wanted. Was not in that part of the mine since last winter, when I was looking for a room. My opinion is, it was caused by the settling of fine dust in the rooms where the shot was fired. a vast amount of dust is found and hardly every gets out of the room. When a shot is fired it drives the fine dust back into rooms. There has always been gas in the rooms, when the faults are cut out. I understand in the morning a man goes in and examines. The company has men who examine the rooms in morning before men go to work. Never discovered enough gas to intimidate a man from working. Have known it to ignite and burn a while and then go out. When the room is run up 30 or 40 feet the air becomes dead. The explosion took place a few minutes after 5 P. M. Men could not work safely if there was a large amount of gas in the room. Men fire before noon and at evening. Worked in Clay County, Indiana for D.W.Black. There was not same amount of dust in rooms in Indiana, coal is not so hard. Have been here since March 1877. Have never of dust enough and gas to cause an explosion in this mine. Explosion occurred in 2nd north on east side. Time of shooting is 14 minutes past 5 o'clock. About a month ago the powder began being issued in kegs of 25 lbs. A meeting was held and it was voted to ask the company to issue the powder in kegs, and the superintendent consented on condition that the men sign a petition to that effect. I did not sign it until I felt forced to do so. All that went down in the mine took powder down in kegs. Have heard the shot went through, so do not know of any men who knew of this fact.

E. J. Matteson.

Richard Wilson, being duly sworn: My occupation is mining and farming, have been so for 31 years. Was not in the mine at the time. I quit the mine on account of daily explosions and said I would never go down again. It was between two and three weeks ago I quit. It was when the explosion occurred that burned four men. The explosion was caused by gunning shots, by men who did not understand mining. Have seen the fire shoot back from 100 to 200 feet, and have been singed by it. Was in No. 1, begun Jan 1st or thereabouts, 1887. Began work there at the first. Was there when Durham and Brady were burned. Saw the room after the shot was fired. Found no gas and never did. That was caused by an undercharge of powder. It was not strong enough to move the coal and shot back. We stepped in beside the pump and saved ourselves. The dust always ignites. Have never seen gas in these mines, except when cutting through horse-backs or slips. When you pass through horse-backs the gas comes. Began working in No. 2 about the 8th of Sept. The air is good as in any mine, I was never in. Had a conversation with Elwood, pit boss. I saw the hole where the 4 men were burned. The hole was drilled in the solid. The concussion of the shot ignited the dust. Examined it after the shot had been fired. I am satisfied that it occurred in the third south entry. My son was found by the keg of powder preparing a cartridge. Had the fire been there it would have exploded. It had flown into the main east entry where the dust had accumulated in vast quantities. Think his death was caused from after damp or bruised from coal. My son was in 10th room in the 3rd north. There were daily explosions and I talked with Row and told him I would not work. The men who worked there were not experienced. They worked without shoes, shirts, or hats. I told the pit boss I would not work there any longer. He said it was not his fault, he wanted good miners. He said they brought six and they took

them to No. 3, and he said he had all he wanted of that kind, and said Dick they are not qualified to mine here. I attribute this accident to unemployment of inexperienced miners. I said two weeks ago last Sunday to Dr. Fischer, "get ready for an inquest on the most terrible explosion that ever occurred." It was caused by these men who were not experienced miners. The miners always measure thickness of coal so that powder placed in will shake it. They have machines here for drilling holes, they used no judgment and put in powder, not knowing how much to use. When shots could not throw coal it blowed out at the tamping, and flew down the room and caused dust to ignite. Have always looked at these shots and always found it the same thing. I think the company in the future should employ only practical miners. If the mines are kept well wet these things would not occur. Last spring they used to water well after the Fleming explosion. Since the 4 men were burned the mines were watered, but not since. The mine must not be permitted to become dry. Have worked in old country, and Bradford Plunds was Supt. of mines 3 years in Randolph County, had an explosion, but no one was badly hurt. It was caused by a tight shot in a horseback igniting the dust. Do not know how many men the company there has employed who are not practical miners. Do not know whether No. 1 is as dry as No. 2. My boy had been burned three times before by shots fired by inexperienced men. On one occasion his eyelashes were burned off. Myself and 4 others quit No. 2 on account of inexperienced miners. When I heard of the explosion I came to the mine all relatives were forbidden to go down. When they opened the air shaft I forced my way in and went down without a lamp. I knew where to go. A young man gave me a lantern. I went forward and found Young Elwood, found him laying in car, passed on in to the 1st north entry, where I met the men, they forbade me going any further. Met men with safety lamps, passed

on to where the men said wait till they returned. Another man was with me. I said to him, let us break , we did so and found a man over a large fall in main east entry, living. Met Jim Rae, they said it was safe up to 3rd north entry. Carried a man back, he said died. Returned to 3rd north entry, they took hold of me and would not let me go further. I knew just where my boy lay. Mr. Rae gave me the assurance that he would go there at earliest opportunity, and the other man the same, and we came back. Found 5 men there. Timbers all blown out in main east entry, bottom the same way. Overcase on west side all blown out. I think that saved the lives of the men on the west side. It passed a little beyond. We found the little Connor boy. He was burned about the face and was dead. I told Dr. Fisher two weeks ago and the same to the pit boss that should an explosion occur in the mine that I would hold the company responsible for the loss of my son and the lives of all the men, should an explosion occur. I saw the shot that Alex. Nevius, a Frenchman, fired in No. 1 over a year ago, he was discharged by the pit boss and taken by the Supt. Williams and put to work in No. 2.

Richard Wilson.

H. S. Keius, being duly sworn said: I was standing on the east side greasing cars when the explosion happened. When the explosion went off I thought it was the first shot. It did not make a big report. I felt the wind and ducked down. Some fellow came along and called out: "Boys come up the shaft, you will all die here." We went up the shaft. That is all that I know. Do not know that there was any other shot fired. Had it been 20 minutes later, it would have caused an explosion on both sides. As we came to the shaft I saw men laying there badly hurt. I think there was ten or 15 men, maybe 20 on the bottom. I lost everything. The wind was overhead. Heard the wind take the mules and cars along. Was on the right side close up among the ~~t~~ entries. One man came up ahead of me, he encouraged me to come up the shaft. I knew nothing till I came to my senses. Knew of a good many inexperienced men on the east side before I went away. That was about two or three weeks ago. Then I returned to the mine again. The Italians were not good miners and did not know how to put in a shot properly and had to get men to put them in for them. They were not there the day of the explosion. There was an Italian there who gave me \$2.00 to leave my room. Told the boys it was dangerous to be among them. Have worked at No. 2 six months. I think that the having of inexperienced men in the mine was the cause of the accident.

W. S. Keius.
Per C. W. Moore,

Witness. Jeff Billington.

Robert Craig, being duly sworn said: My occupation is that of Gen. Supt. of Pittsburg & Cherokee Coal Co. Have been a miner 40 years. Have been to bottom of shaft since explosion. The condition of the mine considered first class as to ventilation and everything else. Have driven double entries in each case. Have drove entry on side of main entry so that we could split the air in four currents, so that the men could have pure air. The men who lay toward the last of each current do not get the smoke and bad air as if they worked in one or two currents. Our fans are 14 feet in diameter, capacity of 100,000 cu. ft. Did not run fan capacity generally 25000 or 35000 feet of air which was sufficient. Believe the explosion to be from an overcharge of powder and dust. As a general rule they drill their hole in solid or take too much of a grip, and the force of the charge comes back out in a flame that starts the dust and that starts the current and the force grows greater. These miners are as a general dry. Explosions are not so serious where there is a great deal of moisture. We expect in the future to allow no shots to be fired while the men are in the mines. It has been customary all over the field for men to do their own firing. If the shot had not too much to do the flame would not come back out. Am not certain that we have employed inexperienced men, lately we have employed many men. If the shots are properly put in and prepared the result would not be bad. Some times men overdo their shots, but they know more about these things than a man who does not. Men accustomed to mining can tell experienced or inexperienced men. If a man could use all the fuse used in mines they might deceive a man. It has been decided not to hire an inexperienced man, and if they will to place them with good men. Think it would be best not to give a man a room if he is green, but place him with a man who understands his business. I believe the dry dust adds to the force of the explosion. Have often asked if they have seen gas, and the answer has been, "No." Never have found it

in any quantity, so that it could be detected by a safety lamp. I think the dust increased the force of this, caused by an overcharge of powder. I think sprinkling would keep decrease the danger from these shots. If an entry is traveled much, there is more dust than in a room where there is only one man. Rooms abandoned are generally closed up and the track taken out. Was in the mine week before last before the explosion, and was not aware there was large quantity. They have been sprinkling, but do not know that it was done regularly. I knew nothing of the employment of inexperienced men. Some time ago we thought it would be advisable to employ a man to go around and examine the faces and advise the men to use their picks more, because men come from other fields who have not a knowledge of blasting. I do not know whether there was men employed who are not experienced. I understand when I was here before that there was certain men in No. 2 who were to be moved to No. 3. I do not know the cause of the explosion. I heard of the four men being burned sometime ago. I never knew of the company sending inexperienced men here. I do not remember of the pit boss telling me why he was going to send these men to No. 3. He said he did not want so many men who could not speak English. The men here refused to cut the coal with their picks and sent a committee to us to demand the use of soda powder or they would refuse to work. At a mass meeting of the miners of Frontenac a few weeks since and passed a resolution condemning the use of handling this powder in 5 lb. cans and requesting us to abandon that system of handling the powder, and they considered dangerous, more so than taking it down in kegs. I said to Mr. Lawton, if you get all the men to sign this series of resolutions and petition requesting us to abolish this system we would abolish that system and permit them to take it down in kegs. I did not know if all the men were present, so I wanted this petition signed by the men so that we would

know if all the men desired us to issue powder in kegs. We admit this was an evasion or violation of the State Law. A meeting of the companies was held to see if means could not be devised to lessen such accidents, ~~tee-~~ as that of Fleming and Rich Hill. We have endeavored to have the men use their picks and not depend on powder to do their cutting. The men objected to taking the powder in small quantities. One objection was that it was not enough to last all day, and they deemed it more dangerous than taking it in bulk. I do not know what proportion of the miners signed this petition, I believe where the men take the precaution of keeping this powder in boxes, and by taking proper care, it is just as safe as in any other way, although we admit it is not according to law. I believe the mine inspector thinks of having the law changed permitting the taking down of kegs. We have a man who keeps account of the men who go down on the cage in the morning, and some may go down the air shaft. There was 164 men who went down on the cage that morning. We take no register of the men who come out. There was a notice put up requesting all men who came out and register so that we could ~~de~~ determine the number of men entombed and living. The two men found yesterday completes the list of missing.

Robert Craig.

Partick Higgins, being duly sworn says: I am a coal miner. Have worked 31 years as a miner, began in West Virginia. Was in 1st south on west side, back entry. Was not in east side since explosion. Caused by an accumulation of gas, dust and powder. Do not think gas caused it, but think gas powder and dust was the cause. There was gas, but not sufficient to endanger lives. There was some inexperienced men there. Have only been in shaft 6 weeks. It was the opinion of the men that many of those on the east side were that class of men, inexperienced. Have had men complaining of the class of men, but there were few, if any, on the west side. Heard the men speak of future explosions at times the four men were burned. Two men from our side went in there and said they did not know how to dig that kind of coal. Have had them come and ask information of me, had to place their shots. Pete Smilley told me he quit on account of these men.

Patrick Higgins.

Robert Bennie, being duly sworn says: I am a miner of 32 years experience. Never was in No. 2 until the morning after the explosion. I never was in the lengths of the rooms on the east side. I was stationed at 3rd north on east side---to prevent men going too far forward.

Robert Bennie.

Robert Boyd, being duly sworn said: Was in No. 2 after the explosion, went in about 7 o'clock after the explosion. Was in 3rd north entry. Am employed in No. 1 shaft. Did not look for cause of explosion, was looking for bodies. There was two entries we noticed, 4th north and 4th south. Think it was caused by a gunning shot. It was a hole drilled in the solid, which raised the dust and caused it to ignite. I believe that accumulations of dust and some loose powder about the tracks caused the igniting of the dust. Have not discovered much gas. I do not know that the concussion of a shot will quicken the gas up. The air carries the gas away. There was gas, but not enough to cause the damage. Have noticed the old rooms are closed up so that had there been gas there it would have blown the stoppage out. These old rooms are on the side where the explosion occurred.

Robert Boyd.

William young, being duly sworn says: I am a miner and work in No. 1 Wear. Never Was in No. 2 till night of the explosion, was then from 8 P.M. to 3 A.M. Was there to look after the wounded and dead. Have not examined the rooms and can not give an opinion as to the cause of the explosion. I will give no opinion unless I could examine the rooms.

William Young.

Wm; Elwood, being duly sworn said: I am mine boss at No. 2 shaft. Was in mine about 15 or 20 minutes before the explosion. Was in afterwards assisting to give circulation of air, and assist wounded men. Also assisting to get the hoistings ready so that we could bring up the wounded. Every morning we have two men who go through the mine and examine for gas. Gas has been reported in room 11 on west side. None has been reported on the east side, but not in quantity. There was an explosion in a certain sense caused by a tight shot. Do not think it came out of the room where it was fired. I considered it perfectly safe, and am puzzled to think where the force could have generated to cause such a terrific explosion. Think it was caused by a tight shot igniting the dust in the mine. Some time ago a young man named Ray was burned by a tight shot on the hand. Most of the miners who came along, I asked them where they had worked to see if they knew anything about blasting coal, and if the man did not seem to know, I had a man explain to him how to put in his shot. I made this a practice. Have good practical miners who fire tight shots, and I have a man who goes the rounds every day and explains to them how to properly place their shots. I think that where a shot blows out back it generates a gas that ignites instantaneously. I am certain that gas had nothing to do with the explosion. Have two men who examine the mine at about 4 A.M. each morning, and report at 6:30 to 7 o'clock, and one man who attends to the circulation. Six men, Italians, came there and placed them all together. Saw they were not all good men and sent all of them over to No. 3. One of them came back and I placed him on the east side. The French are good miners. I was on top at time of explosion. Think they began firing that night before time. Mr. Craig said to me, to never mind the cost, but prevent such accidents as that of Fleming. The company has done all in its power to prevent such occurrences. Charles Tasca was the man I had

hired to instruct these Italians and look after these men and see if they knew how to dig coal. I use a small stick for sounding the roof about three feet long, and I used it in measuring that hole put in what I thought was 14 inches, where the shot had been fired that burned the men. I think it best to water the mines, as that contributes to lessen the danger. We have not watered the mines all summer as the hot air comes down the shaft and condensed in the mine. At the time I speak of we had to put men to place ashes along the track in the entries. The old rooms are dry. There was an Italian, one of the six I removed who came back, in the mine that day. Do not know if there was any inexperienced men. Was instructed to sprinkle as often as it was needed. Either one or two days before the explosion the mine was sprinkled. About six weeks ago there were three men in that entry, 3rd north, who came out and left their tools in. That is a common occurrence.

William Ellwood.

James Braithwaite, being duly sworn said: Am not a miner. Am engineer at No. 2 shaft. I ~~am~~ made an examination of the slides and buntions in the shaft and found them broken. At 5 o'clock I heard a report and saw the smoke coming out the shaft. Went to the fan house to see if the fan was injured, but it was safe and had it started faster to clear out the smoke. George Ray was the first man to come up the main shaft. We use T rails. Saw the flame come out at least 60 feet high up to the top of the pulley wheels of the shaft. I run straight across to the shaft. There was a smell of powder all over the place. Found the fan running when I came to examine it.

James Braithwaite.,

C: F. Lawton, being duly sworn said: Have been in the mines frequently examining them. Went east on the 31st of last month and just returned last night. It has been my custom to question men applying for work, and if they did not satisfy me, I refused them. There was 6 Italians came here from Michigan and I talked to them through another Italian. Think I gave them a note to Mr. Ellwood to give them work. If they are not miners instructions are given not to retain them. Those six men all claimed they were coal miners. There were seven Sweedes came from Pennsylvania the same day, with the exception of two, they were miners. They asked to be given work together so they could be looked after by those who knew how to mine. In case of green hands, if they are acquainted with practical men, I have offered to place them with their friends. Have been very careful in employing men. Do not give orders for tools to pit boss unless they are practical men. Mr. Ellwood informed me he had employed a man to instruct these Italians and I approved of it. I employed for this purpose Wm. McElrath No. 1 and Thos Row No. 2. Tasca was the only man expecially employed to instruct the Italians. The pit boss was instructed to sprinkle the mines whenever ncesssary. It was not necessary to sprinkle during the summer. Do not think the dust had accumulated more than usual. Was not there for 10 days previous to the explosion. Cannot state exactly how many kegs of powder goes down daily, probably 40 kegs. If we had 160 men at work there would probably be 80 kegs of powder in the mine during the day. I understand the other companies issue kegs of powder to their men. We require every man to have a closed box in which to keep his powder. A man had to take powder by the keg from the company after they had made this request for it.

C. F. Lawton.

Robert Boyd recalled.

I found powder in all the boxes I examined after the explosion. Some of the kegs in the boxes ~~ha~~ were nearly full. Saw boxes that were broken to pieces, the powder beside them unexploded. There was lots of empty kegs. Mostly all the boxes you will find powder in them unexploded. Was not on the west side. Was on the east side and north entry. It seemed to me although I could not say where it took place, but thought it was in the 4th north on the 4th south. Saw ~~Ti~~ rails that were twisted up.
Robert Boyd.

Alexander Young, being duly sworn. Have been a coal miner 28 years. am fire boss at No. 1. Went down with Dr. Hillis in No. 2 about 6 o'clock. Went as far as it was safe with a lanter. We could not go farther until the stoppings were fixed. There probably might have been explosive gas. We would find after damp in the mine after the explosion. The greatest explosive point is 97-10 to 1 of fire damp. Fire damp is composed ~~te~~ of two parts hydrogen and carbon. In five feet of fire damp 4 parts hydrogen and 1 part carbon. I believe the amount of powder in that hole along with the dust caused that explosion. The first thing I saw was a boy in a car naked, he was dead. The next we saw was Wm. Elwood, the doctor examined his wound and showed us his brain. Saw the stoppings were all down. Had it been a gas explosion it would have been more severe. I claim it was the result of a tight shot, coming out with great force. There ~~hate~~ been tight shots fired but not with such serious results. The mine had not the appearance of having been sprinkled lately. There is a necessity for water-
ing the roads all the time. J.M. Craig gave orders to Mr. Jenkins to sprinkle the roads, but it has not been done sufficiently.

Alex. Young.

Wm. Ellwood recalled. It was something new in my experience. It being a dry strata the hot air we have here in the summer descending into the mine striking the cold air condensed and made a moisture that settled on the roof making it bad, and settled all through the shaft as far as the hot air reached. I sent down as many as 20 cars of ashes, dampening them and spreading them along the road. In these dry mines we are subject to this dust all the time. I am not aware that the dust accumulated in a very short time. As the temperature changes in proportion below it will on top. We termed moisture "sweating." In damp mines the powder smoke is not of so dangerous a character. Powder smoke will cause a sweat. Can call from ~~em~~ memory how many rooms we have in that mine. All rooms in the entry are numbered. Can furnish from the engineers report the number of rooms, those vacant and occupied. Our system is to make the day of the month on every man's room. But we had trouble on account of moisture. We had the men mark it on ties, shovels etc, So it would be more clear. Before we let any men down in the mine we wait for the report of the fire boss that he has been in every room in the mine. Where the air does not reach the powder smoke it becomes more dry and dead and condenses. Jenkins had some sprinkling done in the main entry as far as 1st north. Do not remember that he had done it on the east side. Within the last month I can not say how many heavy shots we had, but think we had three on the east side. Cannot tell exactly the time of the Matthews shot. This is the first time that I have heard of Jas. Wieson being burned. I heard that he lost the end of a finger. I heard of Frank Leigh being buried, but he never made any complaints to me. I do not remember of the doors being blown open on any particular occasion. If we heard of a tight shot we went down to examine as to its cause and the number of men, if any, who were burned. Have two fire bosses, am satisfied they were competent. Their names are

ohn Frisk and Thomas Potts. We have a place fixed purposely for watering the mines. I cannot state whether the east side was watered this month. I think it was 9 or 10 days ago. I think it was about the 20th of Oct. I had not used it before that and some times the roads are damp. We watered the roads wherever it is needed, its the 3rd south and 3rd north. It was not that we call dry and dusty. The mine was continually making working from that time to the explosion. Do not think we have used the water tank since the 26 men were burned, but run the water in barrels.

Wm. Ellwood.

Joseph Laverich, being duly sworn said: Went down yesterday noon as a member of the examining party. Commenced on main east, examined face of main east entry. Found two shots there, both holes tamped ready for blasting. We found a keg of powder there all right, no fire had been there. Went from there to 4th south. Examined every hole in 4th south and found nothing there to lead us to think the explosion occurred there, except three empty cars, ^fbound two of them badly broken up. We found 2 kegs of powder in 4th north, one keg was about 16 or 12 feet from where the box had been, the powder all right. Found nothing in the 4th south except cans lying there. We then went to 3rd south, in the 3rd south far as we traveled through, 3 shots that had been fired. Some might think 2, but they were good shots, such as an experienced man would put in, as the coal blasted out gave evidence. We examined every working place in there and several that had been worked to see if we could find any indication of the cause of the explosion, but failed to find any. Then commenced in 4th north out the east side. Went to face of that entry and commenced to examine each working place. The first keg of powder we found was where they told us that Jas. Wilson was found. Everything there was in good order, as regards to numbers that have been on the rooms, but they were not visible. On the 4th north between 4th and 6th rooms on the entry, as the man who counted the rooms said we found 5 powder kegs, that gave evidence that they had been exploded, from the way they were bursted out. We left there, searched each and every place in 3rd north, and found every room in good order until we reached the 7th room. Went to face of that room and there was indications of gas. It showed on the lamps and I think that so many of us going in broke it as any practical miner knows it will break. All of us had safety lamps. My opinion is, that it began in this place, on the 4th north between the 4th and 6th room, as the side of the coal and the timbers around

there shows the fire the most. But my opinion is that it was never exploded by a blast in the coal, as I failed to find any place where an unreasonable shot had been fired. Further, I believe that the cause of the explosion really was that the mine is generating enough of explosive gas to load the air as much as it can carry and owing to the dryness of the mine there might have been some powder exploded by some one that caused the start of the fire and the stirring up of the dust agitated the force of the explosion. The roads were very dry and dusty. In one crosscut through one of the south entries there were three miner's tool boxes all locked. The tool boxes are all outside of the rooms. To the best of my knowledge there was not more than four shots fired. To the best of my belief the blast traveled both ways. Have been in 3 different explosions in big veins. Here owing to the smallness of the vein the explosion travels both ways. I believe the most furious part of the fire traveled south. Do not think it was caused by lighting of gas from a miners lamp. I believe that it is today generating sufficient gas that if powder is exploded it would fire the gas and cause another explosion. In West ^{Moreland} Numeland County, Pa, in Mount Pleasant slope, ^{Fayette} Lafayette County, Pa., soft coal, in ^{Connellsville} Connillisville coke region. There were explosions of fire damp. In each case the flame traveled against the air. There was no indication of a shot having been fired in Dan Limb's room.

Joseph Laverick.

James Breses, being duly sworn said: Have been a miner 45 years. In first start we took east side, went far in. Found two shots there not fired, both well tamped. We took the 3rd south and then proceeded in the 4th south. As we went along we found shot firered, no indication of any explosion there. We found miners tool boxes locked and all right. We also found kegs of powder loose, not in boxes. We came through the corsscuts into 3rd south, came down south, examined it, came along and found shots tamped but not fired. Found also there was boxes locked and all right. As we came near the end of that entry to the east we found cars that had been blown. We could not tell how many times over. That is all on that side. We were told that 1st and 2nd south were not working at all at time of explosion. We went north to the 3rd north first, examined as we went along 3rd north in No. 7 room, 3rd north we found indications of gas. Proceeded on we did not find any more gas as plain as we did in 7th room, as we went along in various we rooms we found shots tamped, not fired. One part tamped with drilling needle in hole. In another one we found the machine set in the act of drilling. On that entry no shots fired. Proceeded through crosscut into 4th north. We came to room 4, there we found a number of miners broken tool boxes and four of the kin kegs that had been opened out and a little from there one more box broken to pieder. The powder keg opened out. All the way from 4th room as far as 6th room the coal on the side was charred, the props burned. We searched all the remaining rooms to the face of the entry and found the shots tamped but none fired. The mine is dry. I am of the firm conviction that it first originated from the 4th to 6th room, wher it is evident the powder kegs were exploded. We found no blown out shots. All shots fired on that side were good shots such as a competent miner would put in. Do not think the powder alone would cause such an explosion, but think it was the powder and gas in those rooms.

It was powder gas and dust that caused this explosion. It appears as though the miners boxes from 4th to 6th room were placed all together. It would be difficult to determine which way the force of this explosion traveled. I think that the explosion started from where the powder kegs were exploded. It is my firm opinion that the first blast of powder that lifted the track up and broke open the box was the first of the explosion. I think that a man would be burned 30 feet from where the explosion took place. My conviction is that the mine is giving off gas. If a mine is giving out gas the air will carry it along. Have worked where mines gave out gas in quantities. We had safety lamps with us. When you first enter a room or entry we detect gas, we take our lamp and pull down the wick and raised our lamps and saw the gas draw on the lamps and it did not explode. Flame is of a blue brown blaze. There is a certain point at which gas and air mixed may explode, but cannot state positively, at what point it will explode. A gas explosion in that mine would have been of fearful force. Was satisfied we found gas in that room, about 5 inches of it and we went out.

James Brese.

Thomas Tones, being duly sworn says: Entered the mine about 1:30 P. M. Went away from bottom to main east entry. Found two shots that had not been fired. Went into back entry on east side. Went to 4th south first thing, called our attention was a box with powder in it. Went from there and found another box but it was broke up, some of the committee thought that the powder in it had exploded, but I thought not. We sat down to discuss it, I sat down and on putting out my hand on the keg of powder belonging to the box and it was about 3 parts full, so we decided there had been no explosion there. Next thing we saw was several pit cars turned over and badly broken. Left there and went into 4th entry and we thought there had been two shots fired there. Left there and went into 3rd south entry. Looked around there, saw nothing to attract our attention. I think we entered every room about there and found nothing wrong. Going out into main east, we started from there into 4th north. The first thing we saw there was a keg of powder standing there, belonging, I think to the boy Jas. Wilson, nothing wrong there. Going further up we found 3 or 4 boxes all broken and the powder kegs all broke lying about there. Examined the holes there but did not find that any shots had been fired there. When we got near the head of the entry found 3 or 4 boxes locked. Went to the face of the entry and looked around there. There was a shot in the entry ready to fire. Came down that entry till we came to the break-through as we came through the canvass door we found another broken box and a keg of powder flatened out. Went further to face of 3rd north, found one shot ready for firing and a shothole drilled but the shot not tamped. Left there and examined the room turning, found nothing until we reach No. 7 room. There was a little gas in this room, called the mine inspector and when he came the gas had broken and passed away, so that it ~~moved~~ would not show. The mine inspector was sitting at the entry to the room, he did not go with us. The gas showed on the lamp. The gas showed a blue light on top of the lamplight. To the best of my judgment the heavier part of the explosion was from the 4th to 6th room on 4th north entry. Tom. Tones.

Robert Bennine, recalled. Was in No. 2 mine yesterday. We proceeded from the bottom of shaft to main east entry. Found two shots, following shots, they had not been fired. From there we went to 3rd south, struck off to enter 4th south. Examined about there, but I did not examine all the places there because glass in my lamp was broke. From 4th south entered 3rd south, two shots had been fired there. They were two good shots. In the 3rd south there was cars, one of them was turned up on its end, the coal all out of it. In the rest of these rooms I did not go into. It was agreed that if anything was found the rest of us would be called up. Proceeded then to the 3rd north which struck off into the 4th north entry. Things appeared all right up to about the 4th and 6th rooms. There we found boxes broke up and powder kegs flattened straight out, and at the side of one of these Kegs there was a rail torn up, projecting up about 18 inches, projecting up on the solid side. Examined that thoroughly, examined the faces, found shots prepared to be fired. Found a miners lamp and cap in one of these rooms. After we came out of that we turned back into the third found a box with everything about smashed. After that we examined each room found things all right. Till we came to 7th room. Guess there was four men came in that room. One of the men put up his lamp and it drew a little gas. I said, hold. It did not form as pure gas, but as a mixture. We came out and retreated. We debated on the subject whether there was gas there or not. To make sure of it, two men went back and examined again. They gave their opinion there was no gas there, it did not show up on the lamp. Am not certain who the men went there. It was not more than 7 or 8 minutes before they went back the second time. Then we went to the next room, examined it and found no gas. I had a Davy Lamp then. We then came out to the bottom. I cannot say where the explosion originated. Where the powder kegs was busted it indicated the fire had been there. The fire was hotter there than at the shaft bottom. The mine is dry and dusty.

Robert Bennie.

Wm. McKinley, being duly sworn said: Am pit boss at No. 3. Was in No. 3 yesterday with the examining committee. Was in room No. 7 on 3rd north. I saw no gas. Wm. Briscoe and Robert Bennie and two other men, I know by sight but do not know their names. We were about 4 feet apart near the face of the room. Believe the lamp he had was broken. Brisco and Laverich had not made an examination before I came in. Held up my lamp but it did not show gas. Saw their lamps, did not see they showed gas. Called Mr. Finlay up and they failed to show the gas. Laverick, Brisco and myself went into the room together. When we went in the second time they claimed we had eaden up the gas. There was no gas to speak of. Have been with the company since they opened up here. There are powder kegs there all flattened and smashed and boxes blown to pieces. That is in the 4th north. Think the explosion occurred in the 4th north where the powder cans were flattened out and boxes broken. It is my opinion that the explosion was caused by carelessness of some man preparing his cartridge by a spark from his pipe or from his lamp igniting the powder. There had been no shots fired in that place. In the south, the men had evidently prepared to quit work, having fired their shots, and locked up their powder in their boxes. The explosion came from the north in my judgment. All the stoppings and doors in that entry are all blown toward the south. If my memory serves me right there was six or 7 persons working there in that entry and they were in different places. I cannot say that any bodies were found right there by those kegs. I do not believe there was more than four shots fired and they were in the 4th north entry. They were good shots.

Wm. McKinley.

John Funk, being duly sworn said: Am fire boss in No. 2. Have been so since Sept. 13th. It is my duty to go in the mine to examine it and come back and report. Remained about 2 hours. Was in the mine that morning on the east side. Examined all the faces in the rooms. Carried and Davy Lamp. Was in rooms from 1 to 7 in 3rd south. Have seen gas in those rooms. Have seen it in No. 3, south and No. 7 north. Saw but little, it would hardly show in lamp. I reported it to the boss. Always examine all the places each morning. There is a difference in the examination. If the room shows gas I stay longer that in rooms where it shows clear. We mark the rooms with chalk. If dry the mark will stay two days, if wet it can hardly be marked at all. Have four entries on each side of the main east entry and begin in the 3rd south, come through to the 4th south to the main east. Go from there to the 4th north. Then back to 3rd, from there to the 2nd north, from there to the 1st north. Have heard tight shots. Heard one last Wednesday. We examined to see if any men was killed. Two days before the explosion the mine was sprinkled with a water box that left the water run out. Think it has been sprinkled about four times since last September. I saw them water the mine once at room. It was about 4 weeks ago.

John Funke.

Thomas Potts, being duly sworn said: Am a miner, have worked about 30 years at it. Worked in No. 2 about 7 weeks. Was fire boss lately. Have been on east side. Went down about 20 minutes to 5. Stayed in till half past 6 o'clock in my side. Carried a safety lamp. Have found gas. Five mornings together I found gas sufficient in No. 11 on 4th south, west side, found enough to fill the lamp at onee time. The first thing I did was mark it on a shovel and place it in the room so that no man would enter till I came back from reporting. I would then clear the gas from the room and when satisfied the room was clear, let the man go to work. Never was on east side with a safety lamp. There is more or less gas in the mines here. The gas always lies at the top. That is where I find it. Do not think I found it in dangerous quantities. I tried the lamp there, it showed about 9 inches of gas. Found it in horsebacks. Never found gas where there was no horseback. I do not travel through rooms that are abandoned. Have no way to travel through them. They are closed up. I cannot get into those rooms without coming back into the main entry. My opinion is that the gas could accumulate in those abandoned rooms. Have worked in mines that threw off gas. Have had experience with safety lamps. Last Wednesday me and John Funke were coming out when a heavy shot was fired. John threw himself down and said Tom throw yourself down, he thought there would be an explosion. Thought it was in 4th south on the east side. Met men coming out, they were breathing like they had inhaled afterdamp instead of powder smoke. The mine is dry. They have been watered on inside. Don't know anything about other side. They were watered clear up to the 3rd north door in main entry. The boss so instructed me to clear out the gas in the room before anybody entered, the best I could. I cleared it out with my coat.

Thomas Potts.

James Rae, being duly sworn said: Was in No. 2 a week before the explosion. Worked in No. 2 about 5 weeks. Was in the 1st and 2nd north on Saturday morning. As far as the 4th north is concerned that is where the force of the explosion was. Was examining for gas. Saw several dead men. Found 7 dead men in 4th north. The second man we found, there was powder in the keg unexploded. Found a man laying near where he had prepared his shot. Found in the back entry, went through the crosscut to the main entry, found 5 dead men. Examined all the rooms in back entry, there had not been but two shots in those that had been fired. We found 9 men the first night, one was living but died soon. We tried to get up the north entry, but could not make it. We found one man in the crosscut and one in main east entry. Found a third of a keg of powder not exploded. In the 1st and 2nd north we found a man alive and a boy, the man died in the blacksmith shop. We found no gas there. The men seemed to be scared and left their buckets and powder boxes upon. As far as I can judge the explosion originated in the 4th north. I do not know that there was any powder exploded there.

James Rae.

Harry Franklin, being duly sworn said: I am a coal miner. Work in No. 2 of this company. On that day I was in 4th north east, came out between 3 and 4 o'clock. Have not been in since. Have been a miner for 7 years. Have not been in the mine since. Think it was a tight shot caused it. There were 4 in our entry. Wilson's boys box stood between the two entries, where we went into the 4th north, and the 3rd north. Think there was two kegs in three boxes. They were Miller's, Jones's and Smith's, they had boxes between them. That is two men had a box. There were three shots fired at noon in our entry. Saw one fired afternoon before I went out. Some will take the stopper off the keg and others opened them by leaving a hole in the top with their picks. Noticed the morning after one was burned, but had never noticed it before. When speaking to Wilson, he said that the roads would be sprinkled now that those men were burned, and the next morning I saw that the sprinkling had been done. There were probably six rooms between where Smith's box stood and where ours stood. I did not consider the mine any more dangerous than usual, but have not considered it very safe. When we cut through a horse-back we found a little gas one time, it ignited, but soon went out. Several times I heard the remarks that some time we would all be blowed up from the explosion of those shots. Joseph Keller was picked up in room No. 10 at the mouth of the entry, in about 16 yards from the boxes, on the 4th north east side. He was much disfigured. Do not think the explosion was caused by powder exploding. Limb worked in the main east entry. Was driving entry in the 4th north. I had no holes drilled for shots when I left. No shots had been drilled on the back side before I came out. I do not know that there were any shots fired that afternoon. I considered it unsafe on account of firing heavy tight shots. For all the boys, except Keller, I know they were practical men. Have heard heavy shots go off in 3rd north. The last break-

through not quite completed, was about 13 feet wide and coal 3 feet high.

Frank Leigh was knocked down by a shot, but do not know where it took place. Never saw any gas, except in passing through a horse-back, and then very little.

Harry Franklin.

George W. Findlay, being duly sworn said: I am inspector of mines in this State. Last Saturday morning I received a telegram about the explosion. Immediately took the first train, came to Pittsburg, and drove over to Frontenac. Consulted with the man in charge, believed they were doing all they could do for relief of victims below. Understanding that Mr. Craig, Gen. Supt. would be here in a short time on the train. I waited and he and I at once repaired to the shaft. Again consulted with those in charge, satisfied myself that everything was being done by them and those who had volunteered many of whom, I knew to be men of experience and ability. I know that all was being done that was possible for human beings to do for the relief of those below. Mr. Craig and I then went down, remained there until the relief committee had been through west side, completing a tour of the mine. We then came up. On Tuesday, in connection with the committee appointed by the Coroner and several other gentlemen, again last evening myself and a number of other gentlemen, we again went down in the shaft. As I said before on arriving at the bottom discovered both cases, we went east on the main east entry to the face carrying safety lamps on first visit, on second visit we sent a guide ahead with one safety lamp. We following with naked lamps. We came back to the 3rd south entry on east, then passing up to the face and then examining each room. Passing on up the 3rd south and returning on the 4th south examining each as regards to shots. There was either 4 or 5 shots fired in the rooms on that side, neither one of which is what is called a tight shot or an overcharge, or an uncharged shot. Finding, however, considerable evidence of an explosion. We came out in main east, passed over into the 3rd north. We passed on into the 3rd north and found evidence of considerable disturbance. Passed on out. The first evidence I saw was what appeared to me to be the remnants of an exploded can of powder, with a box with side blown out. We passed on up about 20 or 25 feet, I suppose to a cross entry from 3rd to 4th north. There we discovered a lot of debris

a part of the track torn up, the roof seemingly blackened more than it had been before and evidences of considerable disturbance. There we passed and investigated and went ahead some distance and discovered the remnants of several powder boxes. At the same time finding several, what appeared to be several powder kegs bursted by what appeared to be an explosion. At same time observed more particulars in this locality. The walls and any projections of coal sticking out were all charred. Went up to the end following it up 100 to 150 feet, this evidence of charred disappeared, seemingly as it got to the end it rebounded and came back and we could again find the ribs charred. Upon a thorough investigation of those different corners in 3rd and 4th north, we could not find where, but one shot had been fired. Am not positive that it was fired that evening, as it was a good shot. Satisfying men that there were no tight shots fired either in 3rd or 4th north entries where I believe the explosion to have commenced. It seems that the force of the explosion came from north, blowing out the stoppings into main entry, passing around to the head of the main east, coming down around on the south, spreading through more or less all the rooms in 3rd and 4th south entry. Also there was discovered in 3rd south what appeared to be the remnants of an exploded keg. The explosion seemed to gather force, forcing itself through the stoppings to the main entrance, coming down through there with considerable force until it came to bottom of shaft and going up the shaft. It bounded once and bursted in the 1st north as well as 1st south extending in the 1st north about 100 feet. My opinion is as it entered the 1st north it turned ~~into~~ west into the return, forcing itself to the overcast busting that, spreading itself, perhaps in spreading on to the air shaft. It was a very fortunate thing for those on the west that it did. The force of the explosion in 1st south was not as great as ~~th~~ it was on the north, yet there being no men at work in there, we did not give it as thorough an examination as we did the 1st north.

To the best of my belief at this time the explosion originated either in the crosscut between the 3rd and 4th north entry, by the explosion of a quantity of powder or in the 4th north entry, a distance of 23 feet from this crosscut, to where the general disturbances, I referred to before had occurred. At this point I more fully believe the explosion started. My reasons for it are: That at no other point in the mine can I find any evidences that would lead one to believe an explosion could have originated. How this or by whom it could be started, I am unable at this time to say. I do not think there was sufficient powder there to cause such a terrible disaster. I believe there was other elements connected with it. A little more than a year ago, soon after I was appointed State Mine Inspector of this State, as you are aware, we were having rumors of little explosions in different places in our district. I at once returned, if it was possible to get to the bottom of it or find out the causes. I visited this field every 30 or 60 days for months, talking not only with pit bosses, superintendents, but with the miners when I went through. About a year ago or better, being convinced from all evidence I could obtain that there was not enough gas in these mines to cause an explosion, yet they occurred. I made up my mind, whether right or wrong, that the coal dust had more to do with these explosions than any other agency. Believing that, I at that time recommended to the superintendents of the dry mines that a system of sprinkling be established by which the dust would be laid in the main and cross entries. Believing that should this system be adopted that while a slight explosion might take place in a room when it reached the main or cross entries its fire would vanish, by reason of it having nothing to carry it on. After the Fleming explosion last December, I was thoroughly convinced of this fact and again recommended to those in charge, a system of sprinkling the main and cross entries should be established.

In September of last year while down in this field, I came over to see Mr. Williamson, this mine No. 2 not having been in operation for a few months. I did not think at that time fully developed enough to require an inspection. I came again in December or January to have a talk with Mr. Williamson with regard to the sprinkling of his mine. At this time from the talk I had at the office here with some miners ~~makin~~ working in No. 2, and knowing the plan upon which this mine was opened, I was perfectly convinced that this mine was in perfect condition, so far as ventilation was concerned and the only fear I had in any way from my theory regarding coal dust explosions. I came here again while on a visit in this district during the spring for the purpose of going down the mine to see for myself. Either from a shortage of cars or some cause the mine was not in operation. I again talked with some miners who worked in No. 2 and from conversation with them, believed the mine to be in good condition. Not depending entirely upon this I got the names of some miners, not only in this but in other mines in this district and when I returned to Topeka, I wrote to these unions asking them to inform me if there was any cause whatever for complaint of any kind. If they heard any complaints not only in this one mine but any in the district. If so they would confer a great favor on me or to request any other miners or their friends to advise me of any complaint either by themselves or all their friends. In addition to that I told as many as many miners that I was not presumptuous enough or a big fool enough to believe that in this large district that I could personally examine all of these mines or find out their defects. That I expected to get my information from those who were in the mines every day and knew their general condition, when I was away as well as when I was in this field. The last of September I was again in this field learning that there had been a change in the superintendents of these mines. I came over to see and get acquainted with Mr. Lawton, to have a talk with him about the

same subject of dry dust, as I had had with Mr. Williamson. I at that time met several miners here who worked in No. 2 and asked them with regard to condition of the mine, and they unvariably pronounced it good. I have also had several talks with Mr. Craig, Gen. Supt. of these mines, with regard to the dust in these mines with a view of adopting some plan by which and through which these numerous explosions could be avoided. I also in my report recommended very strongly that a law be passed compelling the sprinkling of all dry mines.

G. W. Findlay.

Robert Craig, recalled. I want to make a correction in my testimony, as to the cause of the explosion. It was not a tight or blown out shot. Visited the mine last night and examined the place where the explosion is supposed to have originated, and think it was caused by a keg of powder exploding and firing others. We went to the face of the main east entry and found two shots at the face ready to fire. Went into the 4th south and found the post on the west side of the entry to the old door broken in the middle, but still standing and blackened. Found two cars in 1st switch to 4th south that appear to have been, one blown south against the rib and one north with great force. Everything alright at face of 4th south. Came back through the 4th 3rd north and find but one shot fired and no appearance of unusual disturbance. ~~Extended~~ Entered 3rd north passed onward until room No. 7 was reached. Here found a needel in hole, but not fired. This room was said to have gas, but examined and found none. In room 10, Wilson's son's room, hole here 3 feet 9 inches and one foot in the solid, hole not charged. At face of 3rd north, no shots fired. In second room from face, found young Wilson's box blown up and powder keg exploded. Reamins of a box of squibs and a roll of cotton wicking underneath. In the crosscut, were two cars, inside of one was a vest containing a watch in a copper case. In 4th north, inside this switch two shots in face of entry not fired. In last room in this entry are two shots not fired. The flame appears to have stopped about 20 feet outside of the face of 4th north, which is 60 feet inside last crosscut and 100 feet from 2nd switch above mentioned. Just outside this switch in 4th north and just at mouth of room 8, find 20 or 3 boxes all blown to pieces and powder cans blown open and track torn up, as if there had been a sharp explosion of powder here in the entry. In room 8, 4th north, shot not fired, and paper blown into gob opposite mouth of this room. Room 7 shot changed but nothing

Room 5 hole charged, but not fired. Room 4 has switch but was not working. Box allright. 2a kegs of powder in the same not exploded. Room 3 not working. At 1st switch, room 3, here are signs of paper and dirt blown violently outward. The principle force of the explosion was along the main entry and bottom of the shaft. It came from the north along the main entry. Saw no signs of fire on timbers of main entry, nor at the shaft, nor on the timbers up the shaft.

Robert Craig.

Frank H. Komer, being duly sworn said: Have worked in No. 2 about 14 months. Ventilation is pretty good about the entries, and when the men work sometimes good and then sometimes not so good. When the air is not good, speak to the pit boss. A man working near me quit because I could not get a break-through on account of horse-back. Got a crosscut soon as it could be driven. I worked in 2nd north, west side. Was in shaft day of explosion. I fired shots that night. Did not find the boy, knew he was dead, and I came out. My boy was burned, some of the clothing burned. I think I fired my shot after explosion. Did not hear the explosion. I felt the explosion. Have seen some gas in the mine, not enough, to cause danger.

Frank H. Kromer.

Peter McDonald, being duly sworn said: Am a miner. Worked in No. 2 was checkweighman. When I worked the ventilation was pretty fair. Have requested the boss several times when break-throughs or crosscuts were needed to make them. I never quit complaining till I got air. Have seen gas when going through horse-back. Have seen it in drill holes and it set fire to it and burned it out. That was on two or three occasions while cutting through horse-back in vein of coal. Never discovered it in dangerous quantities. Was at work the day of the explosion. Was at the scale. Could not see the shaft from the weigh house. Cannot really say that I was afraid in going down the shaft, but have been afraid when down from fear of explosions from firing of tight shots at firing time, by inexperienced miners. Have not been in the mine since the 5th of Oct. Always cut my coal to save powder. Think all practical miners always do.

Peter McDonald.

J. Gradee, being duly sworn says: I am a coal miner. Worked in No. 2 about 14 months. Ventilation is pretty good, except in some cases, on account of not having break-throughs. Have worked 50 feet from the air. Worked there 10 days once and got us air because we could not get a break-through. Found gas in east entry, find gas then, burned it out. When the gas burned out I had to go back and put squib in. I quit No. 2 because I got burned and was afraid. Did not tell the pit boss. I was afraid of gas and powder. Quit because I got burned.

J. Gradee.

Chris Schrodenberg, being duly sworn said: Am a coal miner. Worked about 26 years in coal mines. Worked in No. 2, 18 months. Worked on east side first south, 3 months. Air sometimes is bad. Spoke to the boss and he fixed it. In my place the air always right. Was burned about the face and arm by gas. Lit it with my lamp. Find the gas inside the horsebacks. Some places a little bit some places stronger.

His
Chris X Schrodenberg.
mark.

X. Herbin, being duly sworn said: Worked in No. 2 seven or eight months. The air is pretty good in the mine, sometime on the other side of the break-through there is bad air. Found gas in the mine. Lots of it close to the horseback. Never saw any in the room. The air in the room was bad outside of the break-through. Two days before the explosion I was burned and quit and took my tools out. Was burned when they fired the shot. In the 3rd south in the main entry on east side, told the boss why I quit and he laughed at me and said I was not a good soldier.

X. Herbin.

Robert Baird, being duly sworn said. Was in the mine yesterday. Went with the examining committee. As far as the 3rd north and 3rd and 4th south. Cannot tell whether there was any powder exploded there.

Robert Baird.



Correspondence

Dated

12/1916

#2 Cherokee Mine



DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

Mine Rescue Station, Pittsburg, Kansas.

December 12, 1916.

My dear Dr. Rutledge:

I am transmitting you herewith coroner's report on explosion at Frontenac, Kansas, year 1888. This report is given the Bureau through the courtesy of Mr. Pellegrino. After photostating, kindly return the original to me along with two copies, namely one for Mr. Pellegrino's personal file and one for the Station files.

Mr. Davies still lives in Frontenac, Kansas.

Very truly yours,

J. J. R.
12-15-16

Mr. Plank:- Please look this over and abstract it. Is it worth photostating?

12-15-16 J. J. R.

No but this is should be typewritten
J. J. R. 12-15-16

Dec 15/1916

Coroners Report
Frontenac Row, Explosion 1888

Memorandum

Mr. Rutledge -

This report is interesting from the fact that in the inquest it is brought out rather plainly by G. W. Findlay, State Mine Inspector and others that this explosion was propagated by coal dust. It was probably initiated by the explosion of a bag of black powder while a miner was repairing his shot or perhaps from opening a bag with a pick, which latter apparently was usual here.

Mr. Findlay's report is near back of report & is worth reading.

I do not think this report is of such value as to warrant photostating but would suggest that it be typewritten and a copy kept here in the files.

The details are not complete enough to make up an abstract.

Very truly
yours

J. B. Clark

December 29, 1916.

Dear Mr. Rice,

Mr. Forbes secured the Coroner's report on explosion at Frontenac, Kansas, in 1888, through Mr. Pellegrino. Have made abstracts of portions of the testimony of a number of the witnesses who, as you will note, were mostly old miners, ^{copy herewith} Their testimony is interesting in showing their knowledge of the effect of coal dust 30 years ago. We have not returned the original report as yet, and if you think you would care to look over more details of it will hold it until you are here next, or will send it to you in Washington.

Please advise.

Yours very truly,