

FIFTH BITUMINOUS DISTRICT.

(FAYETTE AND SOMERSET COUNTIES.)

HON. THOMAS J. STEWART, *Secretary of Internal Affairs*:

SIR: AS ex-mine Inspector of the Fifth Bituminous district, I herewith have the honor of presenting to you a report of the condition of the mines in the Fifth Bituminous district, for the ten months of 1890, whilst I was in office. I also submit an account of the Hill Farm mine disaster.

The usual tables and other information will be supplied by Mr. Wm. Duncan, the present mine Inspector of the Fifth Bituminous district.

In presenting this report, or rather my portion of it, I had intended pointing out a few of the many defects in the "mining law," but as the attention of our legislators has already been drawn to its deficiencies and a commission appointed specially for the purpose of ascertaining what the deficiencies are and how they may be best rectified, any further comment by me will be unnecessary.

Yours very respectfully,

FRED. C. KEIGHLEY,

Ex-Mine Inspector, Fifth Bituminous District, Pa.

THE HILL FARM DISASTER.

Owing to the great loss of life resulting from the fire at the Hill Farm mine, I have concluded to give an account of that accident under a separate head.

The Hill Farm mine is owned by the Dunbar Furnace Company, of Dunbar, Fayette county, Pa., and the product of the mine is used in manufacturing coke for consumption in the two blast furnaces owned by said company, and located in Dunbar. The Hill Farm mine is also located in Dunbar township, and probably about one mile west of the furnace stacks, and transportation is effected by means of a narrow-gauge railroad, the property of the company.

The mine is a slope opening, on the dip of the coal driven down almost squarely on the butts: a short distance south of the slope a manway is driven down, in a measure parallel to the slope, and it was intended as an exit for the miners employed therein. About 3,100 feet from the mouth of the slope there is a flat heading known as No. 9 flat or Ferguson flat. This heading is turned off from the Hill Farm slope to the left or south and runs 2,000 feet to what is known as the Ferguson or Parish slope, and affords another means of exit or escape for the miners. The Ferguson mine is opened up much in the same manner as the Hill Farm mine, in fact, for many years, or since the Dunbar Furnace Company purchased the Ferguson mine, these openings have been considered as but one mine, with two hoisting ways and were operated under one management. The Ferguson manway is the main intake for both openings, and after the Ferguson workings were ventilated, part of the air current was allowed to return up the Ferguson slope, and the remainder was taken down the Ferguson or No. 9 flat to the Hill Farm workings, and taken over the Hill Farm slope by means of an overcast (see plan) to the right of the slope, and that part of the workings was ventilated with a continuous current, and then the air passed out on the Hill Farm slope as the return.

At the overcast a small split (1,000 feet per minute) was taken out and led down behind a brattice on slope (see plan), and then allowed to pass off up the slope to join the main return, as per plan.

A short distance above No. 11 flat, Hill Farm, a bore-hole was put down from the surface for the purpose of handling the water in the dip workings to better advantage. This hole was 520 feet in depth, and was completed or bored through the coal on the Friday preceding the accident, and the hole came down within eleven feet of the slope. On the Monday morning following, June 16, there remained but two feet of coal between the bore-hole and the slope (it appears that the hole was opposite an offset in slope, thus reducing the original distance), and Mr. Lang, the superintendent of the mines, gave orders for the hole to be opened. The work was performed by John Kernin, and he suddenly struck into the bore hole with his pick, liberating at that instant a large quantity of water which was standing in the hole (it was almost full of water), and a few minutes later, Willie Hays, learning of the sudden inflow of water, rushed down the slope to warn some miners (six) who were working in the dip, of the possible danger from water, and in doing so as he passed the drill hole, ignited the gas with his open light, which it seems was mingled with the water issuing from the drill hole. This flame reached across the slope and set fire to the brattice cloth, and in a few minutes the slope became a seething body of flames.

The overcast at No. 9 flat was built of wood (as overcasts generally are), and, according to testimony before the coroner's jury, this overcast was one of the first things to succumb to the flames that shot up the

slope, this, of course, would at once cut off all air to the men in the dip and on the right of the slope, twenty-nine in all, including Willie Hayes. How long those men lived and what route they took to escape, if they attempted to do so (there are evidences that at least some did attempt to rush up the slope) is yet a matter of uncertainty and will remain so until the burning mine, which is now sealed up, is re-opened.

It is stated by the men who were on the left hand of the slope (all of whom escaped), that the drill hole was opened up about eleven o'clock, and as I did not reach the mine until about three o'clock p. m. I know nothing personally as to how the accident occurred and what I have related relative to it so far is what was developed at the inquest.

On the day of the accident I was about to leave this part of my district for a week to go to Somerset county, and took the 2.20 p. m. train for Connellsville, and while on the train, heard rumors of an accident at the Hill Farm mines. I at once determined to ascertain what foundation there was for the report and accordingly got off at Ferguson mine where I was informed that there had been an explosion in the Hill Farm mine (this I afterwards found to be false as it was really a fire) so I at once went over to that mine and saw a dense volume of smoke pouring out of the slope. As the steam line to the pumps runs down the slope, I at once gave orders to crowd on all the steam they possibly could in order to make as much of a current as possible to aid in clearing out what I at that time supposed to be after-damp resulting from an explosion, and then walked to the manway, and made my way down in company with some person whom I cannot at this time place. We probably got down some 1,100 or 1,200 feet and there struck smoke again, and in this smoke I found Mr. Frank A. Hill, general superintendent, Thomas Evans, Hugh Doran, assistant mine-boss, and one or two miners engaged in putting up brattice-cloth. From Mr. Hill I learned that the party had succeeded in getting down as far as the Ferguson flat and had found two bodies, those of Sherin and Hays, but unable to either get any further or remove the bodies owing to the dense volumes of smoke, they retraced their course and went back up the Hill Farm manway to the point where I found them. For some time after I joined Mr. Hill and his party we kept up the work of bratticing, and in course of an hour or so we again reached the bodies of Sherin and Hays. Sherin's body was cold and stiff, but Hays' body was quite warm, however all attempts to resuscitate it were futile, and the bodies were carried out today light by men who came down to assist in the search. Our party then went on down the manway and we finally reached the working places on No. 9 flat, these were thoroughly examined by Doran and myself and no person found or any bodies; however we did find a live mule.

After having explored that side of the mine, we then attempted to reach the slope by opening the door on No. 9 flat, but owing to the dense smoke, failed to even reach the door after several desperate attempts.

While we were engaged in that manner, we suddenly found that the smoke and black-damp, or after-damp, was rapidly gaining on us and before we could realize what had happened our lights were all extinguished. We the (five of us) got down on the track and crept along with one hand on the T iron rail for some distance until we reached a point where we could hail a man whom we had stationed some distance back up the butt heading with a light for such an emergency, he brought his lamp and we then all retreated to No. 7, or Ferguson flat, here we held a consultation, and after several more attempts to go down to flat No. 9, and finding the smoke rapidly gaining on us, we decided to open a brattice in a cut hole from the sump to the slope, this we did, and I then went out to the side of the slope and there heard the fire rushing up the slope. I went back a few steps in the cut hole and there saw the flames going up the slope and called Inspector William Jenkins, who, by this time had joined our party with many others; he and several others saw the flames and it was at once decided to replace the stopping, which was done without loss of time. During the time this stopping was being replaced and some others being erected as a further barrier to the progress of the fire, we were suddenly informed that the manway above was blocked with dense clouds of smoke and that it was impossible to retreat that way, so the whole party, about thirty in number by this time, retreated by the way of No. 9 flat to Ferguson mine and then went out to the Hill Farm pit mouth. Another consultation was held as soon as we got out, (about 10 p. m. that evening) and it was decided to abandon all attempts at a rescue by way of either Ferguson or Hill Farm mines and all attention was now turned towards the Mahoning mine and men were sent over there to commence operations, which were carried on all night. Next day about noon another consultation was held which was attended by seven mine Inspectors, many mine officials and mine-bosses of experience and all agreed (with one exception) that the rescue could only be made from the Mahoning mine, so a fan was erected there, and work carried on unremittingly from the 16th of June until the evening of July 2, 1890. At first it was thought that the rescue party could reach the Hill Farm workings in a few days by driving alongside of ribs that were supposed to have been left in, but they soon discovered that there were no ribs or pillars and that the whole distance from the Mahoning manway to the Hill Farm mine line was nothing but fallen ground or gob. It was 390 feet in all before coal was struck that might be called solid, and the heading was run about 140 feet more in this coal before the Hill Farm mine workings were reached, making a total distance of 530 feet. The driving of that heading was a most tedious and dangerous operation and many a shift of six hours hard labor advanced it but a few feet, sometimes a sliding gob would be struck, that kept the men shoveling for hours without gaining a foot. On the evening of July 1 (8.30 p. m.) a bore hole was now into the Hill Farm mine and bags

The only bodies recovered were those of Hays and Daniel Sherin, and while the efforts of the rescue party were in one sense a failure, yet it proved that there were no living persons in the mine, and until such proof was obtained, it would have been inhuman to give up the search and work. It is now evident that all the miners attempted to reach the slope, and in so doing were overcome with smoke and perished. Even if the miners had made their way up to the extremity of No. 8 flat as it was hoped they had done, it is very doubtful if they would have been saved, for every corner and crevice seems to have been filled with smoke and carbonic acid gas. The company spared no expense in the efforts at rescue, and the official force of the mine stood right up to the ordeal, and no man can say that Mr. Hill, the general superintendent, Mr. Long, superintendent, Thomas Evans, mine-boss, Hugh Doran, assistant mine-boss, Thomas and Daniel Sherin, fire-bosses (the latter lost his life with Hays, Sr., in an attempt at rescue), showed the white feather, they all risked their lives and worked almost incessantly night and day. This can be said of many others, both officials and miners, from other mines. The H. C. Frick Coke Company, through its general manager, Thomas Lynch, rendered valuable aid by furnishing fans and sending their best foremen and miners, other firms of the coke region sent representatives and loaned appliances and material, particularly the Cambria Iron Company.

The following mine Inspectors were on the ground, and worked with the rescue party:

Henry P. Louttit, First Bituminous district; William Jenkins, Second Bituminous district; Thomas K. Adams, Third Bituminous district; Fred C. Keighly, Fifth Bituminous district; Josiah Evans, Sixth Bituminous district; James Blick, Seventh Bituminous district; Austin King, Eighth Bituminous district; J. J. Davis, ex-mine Inspector, Fifth Bituminous district; Robert Watchorn, secretary, and Peter Wise, officials of the Knights of Labor, rendered valuable aid. There were many others who deserve mention but space can hardly be found for all.

By this sad disaster 31 men lost their lives, and for years to come it will cast a gloom over the coke region, while the families of those who perished will probably never forget the horror and grief it brought to them.

The above account of the accident was written by me soon after it occurred, and I thought it best to allow it to remain (unchanged) as it was. A few days after the abandoning of the attempt to reach the imprisoned miners or their bodies, an inquest was held, which lasted several days.

The verdict was a charge of criminal negligence against Mr. Robert Lang, superintendent, and information was shortly afterwards made against him by one of the widows, and a bill filed before the grand jury,

which ignored it, thus ending the prosecution. It is a difficult matter to understand why Mr. Lang was accused of criminal negligence, and it would seem to fair-minded persons that the worst that could be charged against him would have been error of judgement, something which any of us is liable to. During the month of August the man-way of the Hill Farm mine was opened and another attempt made to enter the workings, but after several days' labor it was found that the fire was still raging, and the mine was closed up again. Several weeks afterwards the mine was again opened, this time with better success and considerable headway was made, for fully 1,000 feet of the slope was sectioned off; however, after going about 300 feet more the fire broke out again, and for several weeks the work was abandoned temporarily, since then, the work has been carried on again with vigor and good headway made considering the difficulties encountered, but a great deal of work still remains to be done before the point where the bodies are supposed to be can be reached.

The company and their officials deserve great credit for the perseverance with which they have carried on this work, and it cannot be said they are simply carrying on the work of reopening from mercenary motives, as they could easily have worked the Hill Farm coal from the Ferguson mine and left the bodies for some future generation to recover or discover.

I am informed that the Dunbar Furnace Company has recently given the widows sums of money in proportion to the number of victims in each family, and that the same has been accepted as a settlement of the respective claims. In review of the evidence at the coroner's inquest, it seems that there was no large quantity of fire-damp at the bore-hole, but that there was sufficient to set the brattice-cloth on fire and the flames from that probably set on fire the trip of empty cars and these in turn set fire to the coal.

The probability is that if Willie Hays had come down a few minutes sooner, the fire-damp would not have ignited, as it would not have diffused sufficiently, this is in a measure proved by the fact that Kerwin did not ignite the gas when he first struck into the hole; again if Hays had come down a little later the probability is that the fire-damp would have become so diluted that it would not have fired, so it seems that the accident was the result of a combination of circumstances.

It is an unfortunate thing that the bore-hole was tapped or opened up during working hours, but we can all see how accidents can be avoided after they have happened, and the question is, how many would have proceeded in a different manner from Mr. Lang?

At the coroner's inquest many testified that they would have tapped the hole only when the miners were out. Others again would have tapped it at any time, but would have used safety lamps during the tapping. Still others would have done the work with any kind of a light

but would have kept a bore-hole ahead; however, these parties all had the advantage of seeing the disastrous effects of tapping the hole at Hill Farm before being asked for an opinion, and a man would be a fool to state, after an accident, that he would have proceeded in the very manner that caused that accident.

After leaving the causes that led to the Dunbar disaster, it is evident to the writer that the only safe way of approaching a bore-hole by an underground entry or heading, is to stop work on the heading when it is within twelve to fifteen feet of the hole to be tapped and take out all the men excepting those sufficient to do the tapping and give those men safety lamps and let them keep loose holes as far in advance as possible. In this way, with careful men, there could be no great danger.

There are many things to be learned from the Dunbar accident, a few of which I will give below :

First. That long slopes are a source of great danger.

Second. That steam lines laid in such slopes greatly increase the danger by keeping everything in and about them so heated that the timber, etc., is often but a few degrees below the point of ignition and once a fire is kindled it is impossible to control or extinguish it until great loss of life or property has occurred.

Third. That wooden over-casts are highly dangerous in any mine, and especially so when thrown across slopes as in the Hill Farm mine.

Fourth. That continuous air-currents in mines should be abolished as they are another source of great danger.

Fifth. That fan ventilation is as yet the only mode of ventilation that ought to be tolerated.

Sixth. That no matter what change is contemplated in a mine or its adjuncts, the results should be thoroughly considered, and in a measure anticipated, before the change is made, for often what is apparently a trifling matter develops a train or combination of circumstances fraught with disaster.

To illustrate this last suggestion take the Hill Farm mine for instance.

A new management is installed, and that management decides that the steam line on the slope should be abolished or abandoned; to effect that change, a bore-hole is started. The management further decides that the air-current should be kept close to the face of the dip. To do that, a line of brattice is run down the slope and improvement is noted. Now both of these changes are for the better, and while to all appearances neither carry with them any danger, and in fact bear no relation whatever to each other, yet another move brings disaster—the tapping of that hole. For in that hole, gas is penned up, and just at that moment when it reaches the proper mixture with the atmosphere, a boy with a naked light appears—he being bound on an errand of mercy—to warn his fellow miners of danger from water, rushes into that atmosphere and brings about the death of those he heroically attempted

to save. All this is hard to understand and still harder to bear. I know personally that the management of the Hill Farm mine had, in the person of its new manager, Mr. Frank A. Hill, a man of ability, who, if fortune had permitted, would have made the Hill Farm mine a safe mine and a profitable one as well, and no one will contradict it either, who knows the man.

Great injustice has been done to many connected with Hill Farm mine, and injury done by a few unreasoning, ill-thinking, ignorant and spiteful men that can never be forgiven or forgotten.

Accidents have happened in the past and will happen in the future, and none feel as deeply as those who have been so unfortunate as to be connected with them and see the horrible sights and grief of the afflicted ones. It is enough to have to bear that, without being slandered and abused for what they were not responsible for.

My successor in office, Mr. Wm. Duncan has appended a list of names of the victims of Hill Farm mine disaster, and also furnishes a map of the mine workings, as referred to heretofore in this article.

FRED. C. KEIGHLEY,
Ex-Mine Inspector.

Adelaide mine.—Shaft opening located on the P., McK. & Y. R. R., opposite Broadford, Fayette county, Pa. Operated and owned by the H. C. Frick Coke Company. During the year 1890, a pair of headings were driven through into the Trotter mine workings, making another outlet for both of these mines. This mine is well ventilated and in good condition.

Atlas mine.—Located near Dunbar, Fayette county, now owned by the Cambria Iron Company. This mine is in rather poor condition and not improving very fast owing to the great difficulty experienced in keeping the water out of the dip workings. Ventilation fair.

Anchor mine.—Near Dunbar Pa., is owned by the Pennsylvania Mining and Manufacturing Company. Condition of mine is fair. Posting of rooms in this mine was not quite satisfactory, but it seemed to be more the fault of the miners than any one else, as plenty of posts were furnished.

Berlin mine.—Located on the Berlin branch, B. & O. R. R., near the village of Berlin, Somerset county, Pa. A small mine owned by D. B. Morgan & Co. This mine is well ventilated in a condition creditable to its owners and many a larger mine is in far worse shape.

B. & O. mine.—A new mine opened near the Connellsville depot of the B. & O. R. R. Owners, the B. & O. R. R. Co. The product of this mine is all used in coaling the locomotives of its owners. As yet this mine is not fully developed and the ventilating arrangements are not as good as I would like to see; however, this will be remedied as the work advances, so I am told.