

District No. 1 will then consist of that part of the Wyoming coal field included in the counties of Wayne, Susquehanna and Lackawanna, except that portion of Old Forge township and Lackawanna before referred to.

District No. 2 will then consist of the counties of Sullivan and that portion of the Wyoming coal field situated in Luzerne county, east of and including Plains and Kingston township, and also that portion of Old Forge and Lackawanna townships in the county of Lackawanna, lying south of the boundary line, hereinbefore referred to.

PATRICK BLEWITT, *Inspector, 1st Dist.*

H. McDONALD, *Inspector, 2d Dist.*

Now to-wit: We, the undersigned board of examiners for mine inspectors, in pursuance of the authority vested in us by article 2, section 8, of the act of 30th of June, 1885, have re-adjusted districts Nos. 1 and 2, by the creation of a new boundary line, which said line is set forth in the foregoing petition, signed by the Inspectors of said districts, and the same is now adopted and declared by us to be the boundary line between said districts, subject, however, to the approval of the court.

JOHN F. SNYDER,

H. S. REETS,

JAMES ROWE,

JOHN J. DOUGHERTY,

THOMAS G. THOMAS,

Examining Board.

Approved by the court, May 9, 1890.

CHARLES E. RICE, *P. J.*

THE NO. 14 SHAFT MINE FIRE.

The following report of the mine fire in No. 14 shaft, Pennsylvania Coal Company, was kindly furnished the inspector by Superintendent John B. Law:

On Monday morning, May 5, 1890, when Fire-boss William Tennant was making his usual examination of the workings of No. 14 shaft, Pennsylvania Coal Company, he met a body of black-damp mixed with wood smoke on the gangway going east from the head of No. 2 plane. It was at a point on the gangway where the air from No. 2 plane gangway made its return to No. 1 plane gangway, and the damp backing up No. 1 plane level, indicated a fire located in the neighborhood of No. 1 plane level.

Tennant at once notified Mine Foreman Henry Jopling, who in turn notified Superintendent John B. Law, and upon examination finding it impossible to go down the pitch toward No. 1 plane level, ordered boards and timber sent to No. 2 plane level, and work was at once commenced to erect brattice to break up the damp now lying between No. 2 and No. 1 plane levels. This work was accomplished by 10 o'clock in the morning, and on reaching No. 1 plane level it was found that the

smoke and damp were coming from the caved workings to the dip of No. 1 plane level. Superintendent Law being satisfied on this point, instructed Mine Foreman Jopling to continue the brattice along the airway to No. 1 plane level to the intersection of this airway, with two narrow places that had been driven from No. 1 plane level in No. 14 shaft to No. 6 shaft level gangway, and known as "Black's Cuttings." Mr. Law felt satisfied that this would be a good point to get water down through a pipe from No. 6 level, which would give a head of one hundred and twenty-five feet; and as there was a considerable quantity of water flowed along No. 6 level, by building a dam across this gangway he felt satisfied that in twenty-four hours he could get a pipe laid through "Black's Cuttings" from No. 6 level, and be able to commence to fight the fire and have a good supply of water to work with.

With this end in view, Law, Thomas Cook and John Reynolds, foreman, and James Kane, fire-boss, entered No. 6 shaft, and on going in to the intersection of "Black's Cuttings" with No. 6 level gangway, commenced the descent toward No. 1 plane level. After going down about 200 feet they noticed their lights grow dim, but being anxious to push their way through, they continued until about half way down, to No. 1 plane level when their lights were extinguished and they were forced to abandon their work in that direction and retrace their steps as hurriedly as possible in the dark. They feeling satisfied that as soon as the brattice (which was being constructed in airway to No. 1 plane level) was completed it would make the "Cuttings" so that pipe laying could be commenced. Reynolds had men commence to build a dam across gangway, and Mr. Law went out to arrange about pipe.

On reaching the shops he was met by Mr. Alex. Craig, superintendent of machinery, who arranged to send pipe to No. 6 shaft at once, and who also sent men to lay them as soon as they arrived. Pipe reached the intersection of the "Cuttings" at three o'clock in the afternoon, and the work of laying pipe began. This work was found to be very difficult on account of the presence of damp, but after many delays and hardships it was completed at 3 o'clock on the following day. During the time occupied in doing this work, the air currents had been increased in this portion of the mine, and necessary preparations made to commence driving down through the cave to find the location of the fire.

The first shift of ten men started to work at 3 o'clock p. m., May 6 in charge of Alex. Thompson, followed by Thos. Cook in charge of the 11 o'clock shift, and Alex. Law in charge of 7 o'clock shift.

The plan of work was to cut down to the fire, then cut around it thereby keeping it from spreading in the caved ground, and lastly to fight it from all possible points in the circuit and put it out if possible. The work of driving through the cave was necessarily slow on account of the difficulty of getting rid of the excavated material, but after two weeks of difficult work a circuit was completed about the fire and a feeling that

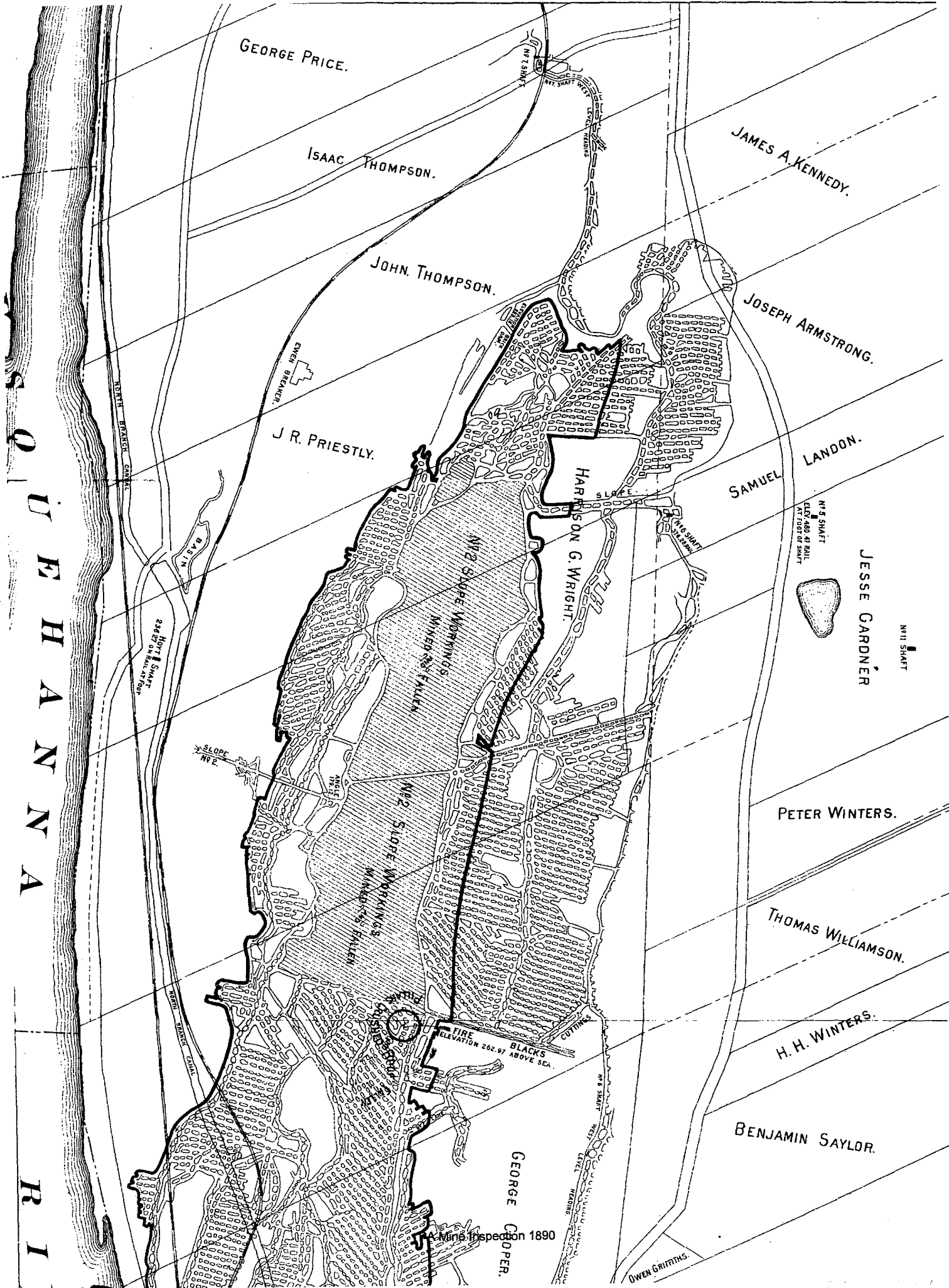
the principal part of the battle had been fought. During this time a second line of pipe had been laid from the pumps at the foot of No. 14 shaft which gave three more 2½ inch streams with about 60 pounds pressure. The work of advancing upon the fire was now commenced in earnest and progressed fairly well for a few days until they came upon a series of large blowers of gas which were coming from the floor of the mine and were covered by a large fall of rock, and when this point was reached, although they fought with water from both sides of the fall, it was found impossible to put it out, and after working about a week without any apparent advantage it was considered best to flood the mine. This conclusion was reached on the afternoon of May 26 and arrangements were made to take out cars, mules, etc. At 1 o'clock a. m., May 27 this was accomplished and Messrs. Law, Thompson and Reynolds went to No. 6 shaft and closed up the cuttings and arranged the ventilation so that during the progress of filling up the workings with water, the fire could not advance higher up the pitch.

Superintendent Law also had Foreman Thomas Cook arrange the foot of No. 14 shaft (by lengthening out the guides down into the sump) so that the buckets to be used in taking out water could be lowered sufficiently to fill when water was below the rails at foot of shaft. These repairs were completed at 10 o'clock a. m. on the 28th day of May when the water from the various pumps located along the bank of the Susquehanna river, which had been placed there under the direct supervision of John B. Smith, general superintendent, and Alexander Craig, superintendent of machinery, and the process of filling up commenced.

The pumps used were four Worthington duplex, 1 single Worthington, and one centrifugal the capacity of the latter alone being ten thousand gallons of water per minute.

On July 1 water had reached a height of 114 feet when all the pumps were stopped as the water was known to be sufficiently high to drown all the fire district, but as an extra precaution it was thought advisable to allow the water to remain for a few days, and on July 13, the water having risen to a height of 119 feet and everything being in readiness, the buckets and pole pump at No. 14, shaft and the steam pump in slope at No. 6 shaft were started and the work of lowering water begun. By calculation it was estimated that there was about 200 acres of a seam of coal of average thickness of 10 feet submerged and as the natural feed of mine was known to be about 1,100 gallons of water per minute it can be easily understood that it was a work of considerable magnitude.

The accompanying sketch shows a plan of the workings, the location of the fire and a colored line in workings shows the position of the water when 119 feet in shaft. On the 20th day of January, 1891 the water was lowered sufficiently to start the large pumps at foot of shaft which are two in number and of the dimensions as follows: 26-inch steam cylinder 30-inch stroke, with 12-inch plungers double acting, capacity of each being about 1,000 gallons per minute.



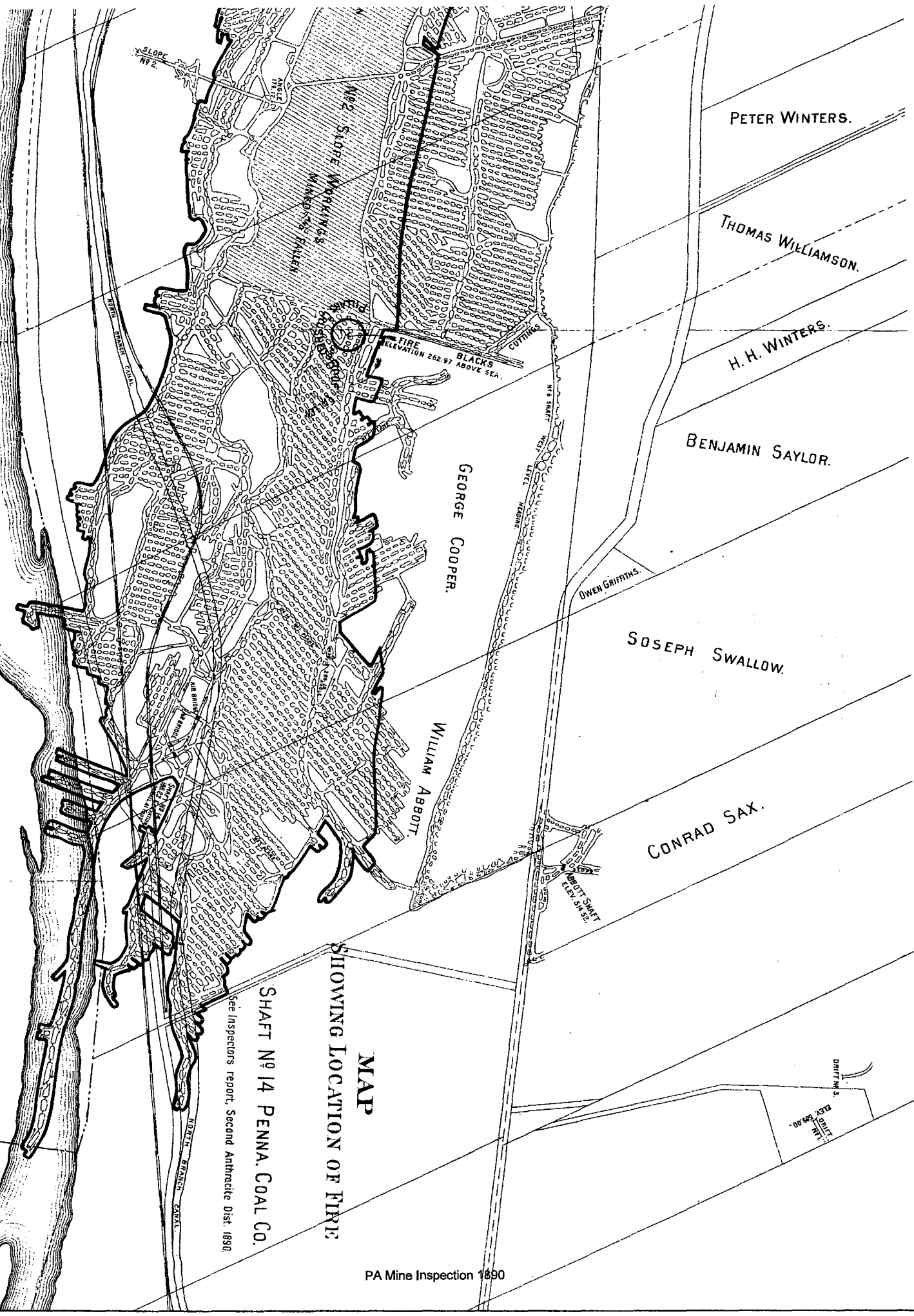
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SHAFT No 14 PENNA. COAL CO.
 See Inspectors report, Second Anthracite Dist. 1890.

MAP
 SHOWING LOCATION OF FIRE

The water hoisted by buckets and pump at No. 14 shaft, from No. 2 slope in tank car and by No. 6, shaft slope pump was as follows:

	<i>Gallons.</i>
Hoisted at No. 14 shaft from July 13 to January 20, buckets, 490,738; gallons per bucket, 880,	431, 849, 440
Pumped at shaft No. 14, from July 13 to January 1, 168 days, 504,000 gallons per day,	84, 672, 000
Hoisted at No. 2 Slope, from August 1 to October 1, tank cars, 12,000 @ 880 gallons per car,	10, 560, 000
Pumped at No. 6 shaft slope, from July 13 to October 1, 77 days @ 1,166,400 gallons per day,	89, 812, 800
	616, 894, 240
	616, 894, 240

616,894,240 gallons=5,140,785,333 pounds or 2,570,392 net tons, or an average of 13,670 net tons hoisted per day.

The work at fire, the taking care of ventilation during the progress of filling and taking out of water, the immense amount of labor in connection with the hoisting and pumping of this large volume of water, and fact that all this was done without the slightest accident to any of the persons employed, is a proof of the great care exercised by the various officials of the company and I cannot but compliment them on having such an able and efficient corps.

DESCRIPTION OF FATAL ACCIDENTS.

At about 9.30 a. m., on the morning of September 14, 1890, a fatal accident occurred at the Babylon colliery, operated by the Babylon Coal Company, at Duryea, whereby John Glady, Charles Olmstead and a boy by the name of Adolph Pokorny were instantly killed, by the falling of an iron span of trestling sixty-two feet long, which connects the shaft tower with one hundred and fifty feet of wooden trestling to the breaker, over which the mine cars, as they are hoisted from the shaft, are taken to the breaker and dumped and returned empty to the shaft to be sent down and loaded.

The bent on which the iron trestle rested was bolted to the head frame over the shaft with iron bolts seven-eighths of an inch in diameter and two and a half feet in length, about twenty-five feet from the surface up. The post of the head frame, which was bolted (see sketch) to the bent that the iron trestle rested on, was drawn out of position by the bolts above referred to being screwed up too tight. Richard Manwearing, the outside boss, having noticed that the the post was bent, called the attention of Mr. Glady and Olmstead, who were the carpenters for the colliery, to come out to work in the morning, which was Sunday, and take the iron bolts out of the post and let the post, which was bent, go back to place. Mr. Manwearing and Mr. Glady had some conversation in regard to the way of putting the post back, Glady saying he should

use a jack-crew and force the post into position if it did not go back of its own accord. The boss told him he must not use a jack-screw by any means, that if he loosened the proper bolts the post would go back again. On Sunday morning, Glady and Olmstead went to work, taking out the bolts referred to. The post not going back as they desired, Glady went to the engineer at the shaft, asking him for a jack-screw, which was given him. He placed it between the upright posts (see sketch) and proceeded to force the posts apart. They had forced the posts eighteen inches apart when they blocked the posts to re-set the jack-screw again. While in the act of doing so, Mr. Vanvaltz, a carpenter, who was working in the breaker repairing some portion of it, had occasion to go to the blacksmith shop for sheet iron. Glady, seeing him, called him over where he, Glady, was working, telling Vanvaltz that he had shoved the post eighteen inches, but had not succeeded in getting it straight. Vanvaltz told him that he was not shoving the post that required straightening; that he was shoving the bent out from under the iron trestling. Glady did not think so, for he continued to force the posts apart. Glady sent Olmstead down for a few pieces of plank while he turned the screw-jack, Vanvaltz going to his work. In a few minutes after the conversation with Vanvaltz, the timber broke which the iron span rested upon, allowing the trestle to fall a distance of (84) eighty-four feet to the ground, instantly killing the three above mentioned. Glady was standing on the cap, marked A, of the first bent using the jack-screw at the time; Pokorny was sitting on the sill, marked B, and Olmstead, being on the ground, heard the crash, started to run and got as far as C, marked on the sketch, when a mine car, which was on the iron span, came down on him. The boy, Pokorny, was not at work at this colliery. While passing, seeing the men at work on the bent, he sat down to watch them.

In my opinion, had Mr. Glady came down on the ground where Vanvaltz was standing while conversing about the post, in all probability he would have seen that he was shoving the post out from under the iron span, as he was considered a careful and competent carpenter.

MINE IMPROVEMENTS DURING 1890.

The following are the most important improvements made in and around the mines of this district during the year 1890:

Pennsylvania Coal Company.

At No. 14 tunnel a new Guibal fan, 17½ feet in diameter was erected on the air shaft. It has two inlets 8' 9" diameter, and running at 42 revolutions per minute, exhausts 94,800 cubic feet of air. This has improved the ventilation of this colliery considerably, as these tunnels were formerly ventilated by a furnace.

At shafts Nos. 1 and 8 a new breaker was built, replacing the old one which was taken down some time previous to the new one being built.

6 MINES.