

the course of the destructive element, gave strong grounds to form such an hypothesis.

Sketch A

Represents that section of the York Farm working in the Black mine vein, that is advancing towards the old Guinea Hill slope that was abandoned about fifty years ago, and is supposed to be one of the first slopes sunk below water level in the anthracite coal field. The parallel lines marked bore holes, show the number, direction, and the actual distance the holes have been bored in advance of working faces. It will be observed that there are five holes, varying in length from twenty-five to three hundred feet. However, up to this writing, the old workings have not been reached.

LYTLE COLLIERY DISASTER BY WHICH TEN PERSONS WERE DROWNED.

This colliery is situated about one and one-half miles northwest of Minersville. About two years ago the property was purchased by J. Stickney & Co., and afterwards leased to the Lytle Coal Company.

This property in former years had been worked very extensively, both on the east and the west side of the colliery now being opened by the Lytle Company. However, the old maps showed that there was a boundry pillar standing between the old western and the eastern workings, or what is better locally known as the Wolf Creek and the Forestville workings. As this pillar was about the only available place in the territory to open the property by a slope, the company determined to open up their colliery at this point, and sink their slopes in the boundary pillar on the Primrose slope. On the east side of this new slope opening, the Primrose vein had been worked to a depth of fifteen hundred feet below water level, or about nineteen hundred feet below the mouth or top of the new opening being made by the Lytle Coal Company.

On the west side, the condition of things was much more favorable, because the workings on the Primrose vein on this property had not been operated very extensively. A slop was formerly worked on this seam, known as the Old McDonald colliery, but was only worked one lift below water level, or about three hundred feet, and the gangway driven eastward up to the boundary pillar, or, thereabouts.

The new openings consist of two slopes; the one on the eastern side was sunk through the old water level workings for a distance of about four hundred and fifty feet. At this point the old Wolf creek water level was reached. The west side, or the main hoisting slope, was sunk in the boundary pillar, and was continued down about two hundred feet below the water level. In order to guard against accidents by reason of the water on the east side, holes were bored a distance of forty feet, and five feet apart, as the slope was being sunk. At the time of the

accident the sinking of the slope had been discontinued for the time being, and two tunnels were being driven, one north and the other south. The latter was extended to reach the old workings on what is known as the old Red Ash, or Diamond vein workings, which would give them a lower level of about ninety feet vertical to deliver the water into from the old workings. During the progress of this work on the lower level, a gangway was being driven westward on the old water level above, with the intention of tapping and drawing off any water that might have lodged in the old McDonald workings above this level.

In driving this gangway, bore-holes had been bored from fifty to one hundred and twenty feet in advance. Finally the bore-hole reached the old workings, tapping the water, bringing considerable relief to all parties connected therewith. However, the relief was only of a short duration, for in two or three days after the tapping of the water, it burst into the mine, filling up the lower lift and drowning the ten persons employed in driving the tunnels, notwithstanding the care taken to ascertain to what distance the old workings had been extended eastward, both from old maps, and from old miners who had lived and worked in the vicinity of the colliery, and more particularly from those who had worked in the colliery when it was abandoned.

Some of the old miners had a fair recollection of the extent the gangway had been driven, but unfortunately no one appeared to know, or else it had been forgotten that there had been an old water level drift worked on this seam and abandoned some forty-four years before. Nevertheless a water level had been worked, and the gangway extended several hundred feet east beyond the slope gangway, where the water was tapped.

In driving this gangway in which the water was tapped, chutes and headings followed up the gangway in the rear for the purpose of ventilation. And to furnish some coal for steam purposes, two hundred feet back from the face of gangway G a breast was started, the officials of the colliery supposing that they had about four hundred feet of solid coal between gangway G and the surface. However, in this they were woefully mistaken, for the opening or breast had not been driven more than twelve feet above the heading, when the coal began to show indications of water by droppers falling from the roof and other places.

The inside foreman, William Adams, on learning of this, told the miners to stop working at the face, and that they should stand a row of props along the face. Before the men had time to secure the face by timbers, it burst out, liberating the impounded water in the old gangway, with the fearful result as before stated.

After the accident, several of the old miners recollected that a water level drift had been worked, and that the gangway from its mouth for a short distance was driven down on a dip, in order to gain a longer lift. In order to drain or carry off the water from this drift, by reason of its dip-

ping at its mouth, the operators had taken advantage of the surface surroundings, and had gone down the valley some distance and dug an open cut. Commencing to carry it level from the point from which they started, by the time they had reached the drift gangway they had gained about ten feet vertical height, or they had reached the lowest point of the gangway.

However, years before the Lytle people had commenced their new operation, all sight and evidence of the old drift mouth and open cut had been obliterated, by their being filled up with material washed down from the hillsides and valley above the opening, forming a barrier or dam, impounding the water in the old water level. As we have said before, Mr. A. Cochran, the company's engineer, had made every effort to ascertain and gather all the information relating to the old workings, both by consulting maps and the old miners, who he thought might be able to furnish useful information. From these sources he was enabled to gather considerable data, which were found to be nearly correct; but in all of his efforts he had never received any intimation from any source, that a water level drift had ever been opened. Unfortunately, however, when it was too late, some of the old men recollected the drift, but none of them appeared to have any idea or knowledge, as to the distance it had been driven.

The coroner's jury that investigated the cause of the disaster, after hearing the evidence of a large number of persons, in summing up their deliberation, said, "We find that the Lytle Coal Company has failed to comply with the requirements of the mine law, by reason of not having flank bore holes."

Comparative statement of fatal casualties which occurred during the years 1891 and 1892.

CAUSE OF ACCIDENTS.	1891.	1892.
Explosions of fire damp,	6	16
Falls of roof and coal,	5	9
Crushed by mine cars,	2	6
By machinery on the surface,		2
By machinery underground,		
Breaking of ropes and chains,	1	
Falling down shafts,		
Falling down slopes,		1
By blasting material,	1	3
By drowning,		10
Miscellaneous,	13	3
	28	50