

Monongah Mines Disaster

by Jim Van Fleet

The year 1907 was the nadir of mining safety in the United States. In coal mining accidents throughout the country, 3,242 miners were killed. In December alone, major explosions claimed over 700 lives. One writer has called it "the dreadful month" (Jackson, 1982). The worst of these explosions, and the worst single disaster in U.S. mining history, was at the Monongah Mines No.6 and No.8 of the Fairmont Coal Company. On the morning of December 6, 1907, these two connected mines, located six miles south of Fairmont, West Virginia, exploded with great force, killing over 360 coal miners.

The cause of the Monongah explosion is uncertain, because several nearly simultaneous events seem to have played a part in the disaster. A report on the explosion published in the Fairmont Coal Co. Bulletin No.11 sets the scene:

In No.6 mine a 13 ton and a 20 ton electric haulage motor were

in use, the coal being gathered by horses. The workings were wired throughout for electricity and the seam was undercut by electric chain machines. The coal was dislodged by three shots, the holes for which were drilled by hand about six feet deep. Black powder was used exclusively, the tamping was composed largely of coal dust and no shot firers were employed, each man drilling his own holes and firing his own shots. No "shooting off the solid" was permitted in either mine, but there was a tendency among pick miners to violate this rule unless closely watched. Open lights were used by all workmen (Haas, 1908).

The practice of blasting down coal without first undercutting it was called "shooting off the solid," and was a common cause of blown out shots. In these instances, the force of the explosion is blown back out the drill holes, forcing out the tamping and raising a cloud of coal dust, and creating enough flame to ignite an explosion in gassy or dusty mines. The report by

Frank Haas noted that the percentage of gas regularly generated by the Monongah mines was between .024 and .067 % in the main return air current, well under explosive limits. But the report also notes that "both mines were more or less dusty, especially during the winter months," and that "haulways were systematically watered, although there was no attempt made to dampen the dust in the rooms." (Haas, 1908). Spraying the main haulways with water was an attempt to keep coal dust under control.

The entry to Monongah Mine No.6 was a rock slope 740 feet long, with an 8 to 9 % grade. This incline continued on the surface, for a total distance of over 1/2 mile. On the morning of December 6th, the electric motor hauling coal out of No.6 was headed for the top of the incline, each car carrying about two tons of coal. An iron coupling pin broke, sending the trip of 15 or more loaded ore cars racing back down the slope. The trip wrecked within the mine entrance, tearing down the over-

head electric wires, nearly blocking the entrance, and presumably raising a huge cloud of coal dust. Haas comments:

It can well be imagined how fifteen loaded cars running uncontrolled 1,200 feet down an 8 per cent grade into a mine opening which was the inlet of air, would . . . raise the dust in the air and dislodge the latent gases in the most remote parts of the old workings in all sections of the mine, and drive these elements of danger on the open lamps of the miners in their working places (Haas, 1908).

Whether the wreck itself and the electrical short circuit it caused were the initial point of explosion is debated. State Mine Inspectors found evidence of two blown out shots in Mine No.8, which must have occurred at nearly the same moment as the wreck. It was believed that these were a possible source of ignition, fueled perhaps by the dust cloud. Despite the presence of containers of black blasting powder used throughout the workings, only one location in Mine No.8 was found in which "two of the regulation 5 pound powder cans . . . were found exploded." Fairmont Coal Company engineers submitted in evidence to the coroners jury that "this point, of all places, in

the two mines showed the greatest temperature and most heat." (Haas, 1908). Whatever the cause, the unfortunate fact that the mines were connected led to the death of all but one of the underground workers in No.6 and No.8 mines.

The force of the blast destroyed the fan house at No.8, and collapsed the No.8 mine entry itself. Rescuers faced a search of over 170 acres of underground workings, over 8 miles of haulway tunnels and headings and over 550 working places and rooms. All that they found were the dead, men and horses, many killed in a matter of moments by the force of the explosion. There was evidence that some workers lived a short while after the blast, being overcome by the gases it generated. In 1907, there were few organized mine rescue units with trained personnel and special rescue equipment. "Self-rescue" rebreathing apparatus were not generally made available to individual miners. In that day and age, there were very few survivors of a major coal mine explosion.

The investigation of the Monongah explosion was inconclusive, and found no blame with the Fairmont Coal Company. On the national level,

coal dust was increasingly recognized as an important cause of mine explosions, and the connection of separate mines was criticized. One result of the Monongah disaster was a renewed call for a government agency to oversee mining safety, and the eventual creation of the U.S. Bureau of Mines in 1910, with research stations, rescue teams, and federal mine inspectors.

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