

Avondale Mine Fire

by Jim Van Fleet

The Avondale Colliery was started in 1867 in the Wyoming Valley of the Pennsylvania anthracite region by the Steuben Coal Company. The common practice of the time was to sink a single shaft through which workers entered the mine and coal was sent out, and to locate the breaker building which processed the coal as close to the mouth of the shaft as possible. In fact the breaker at Avondale covered half an acre of ground directly over the entrance to the mine, and rose “60 feet above the mouth of the shaft. Four hundred and fifty thousand feet of lumber were required for the buildings and the brattice work of the shaft” (Chase, 1869).

The shaft was 237 feet deep, 10 by 22 feet wide, with a 7 foot wide airway and flue built of wooden brattice. As with most of the mines in the anthracite region, ventilation was achieved using a coal burning furnace within the mine, causing a current of hot air to rise up the flue. The furnace at Avondale was about 130 feet from the base of the shaft.

On Monday morning, September 6th 1869, the Avondale miners were lowered down the shaft, and the furnace was started with a wood fire as 107 men went to their working faces. They were followed by Palmer Steele, the stable boss, with a carload of hay for the mine’s mules. Mules were the primary means of haulage underground, and were housed in a stable near the bottom of the shaft.

Fifteen or twenty minutes later, flames were seen rising from the flue in the shaft. The surface engineer, Alexander Weir, managed to “blow the [breaker] whistle and arrange matters to prevent a boiler explosion, being obliged finally to make his exit without securing his hat” (Chase, 1869). The shaft, breaker, and clustered mine buildings burned furiously, being put out finally in the late afternoon. As soon as possible, the wreckage was cleared from the mouth of the shaft, and a derrick and hoist erected, worked by horse power. To test the air down the shaft, a small dog and a closed lantern were lowered. The result of the primitive test when the box was raised - “the dog was living, but the light in the lantern was out” (Chase, 1869). At this news, which seemed to offer some hope for the lives of the trapped miners, the spectators gathered around the wreckage of the mine became uncontrollable, and the police on the scene had to turn the water hoses on the crowd to drive them back.

While pandemonium reigned on the surface, the men below fought a losing battle with the smoke and gas generated by the fire. Many of the miners bratticed themselves in the east gangway, as far as possible from the fire in the shaft, and waited for rescue. Immediate attempts to reach the trapped men were dangerous, as the mine was full of the gases generated by the burning wood and coal, including deadly levels of hydrogen sulfide, nitrogen dioxide, and carbon dioxide, called carbonic

acid gas or black damp by the miners (Lewis, 1964). Two volunteer rescuers who descended the shaft on Monday evening were overcome by the gas and died before they could be brought to the surface.

On Tuesday September 7th fresh air was pumped into the mine, hoses were lowered and the fire underground finally put out. It was Wednesday before the air in the mine had been cleared so that rescue could be attempted. Behind the makeshift barrier in the east gangway, 67 men and boys were found dead. Compounding the tragedy, fathers were found close by their sons, some of the miners being only twelve years old. All of the 108 workers underground had been suffocated, probably within the first hours of the fire.

The Coroner's Inquiry into the Avondale fire took evidence from miners and mining engineers, doctors and mine owners. The possibility of the carload of hay taking fire was examined, but the conclusion was that the flue in the shaft had caught fire from the strong draft originating from the furnace. The witnesses were almost unanimous in stating that the miners could have saved themselves if a second shaft or means of exit had existed. The Avondale disaster led to reforms in Pennsylvania mining law, which prohibited building the breaker directly over shaft openings, and required all anthracite mines to have at least two openings (Roberts, 1984).

REFERENCES:

"Avondale!" Scranton Weekly Republican. Avondale Special Edition. Saturday, September 11, 1869.

Special thanks to Neal Ressler for loaning me an *original copy* of this rare newspaper edition. The Plymouth Historical Society has reprinted this newspaper edition in its entirety. Special thanks to John Sarris for loaning me a copy of the reproduction.

Chase, H.W. "An Account of the Unparalleled Disaster at the Avondale Colliery, Luzerne County, PA, September 6th, 1869, by which One Hundred and Ten Lives Were Lost." Scranton, PA: J.B. Furman, 1869.

Lewis, Robert S. and George B. Clark. Elements of Mining. Third Edition. New York: John Wiley and Sons, 1964.

Roberts, Ellis W. The Breaker Whistle Blows: Mining Disasters and Labor Leaders in the Anthracite Region. Scranton, PA: Anthracite Museum Press, 1984.