
The Cherry Mine Disaster of 1909: The Rest of the Story as Told by George S. Rice

Mark Aldrich*



12:44 p.m., Monday.
Our lives are going out.
I think this is our last.
We are getting weak. . . .

From the diary of an unknown miner
who perished in the Cherry, Illinois
mine fire, November 15, 1909.¹



The fire that broke out in St. Paul Coal Company Mine No. 2 in Cherry, Illinois on November 13, 1909, took the lives of 259 men. The tragedy at Cherry, along with the 1907 explosions at Monongah, West Virginia and Darr, Pennsylvania, reshaped the course of mine safety in the United States. Collectively these disasters resulted in the establishment in 1910 of the U. S. Bureau of Mines, which was formed "to conduct scientific investigations especially with a view to preventing the loss of life . . . which now characterize[s] and bring[s] discredit upon American mining."² The Cherry fire itself led to improvements in the Illinois mining code and to the passage of that state's workmen's compensation law. And the dramatic rescue of twenty-one men, trapped by the fire long after anyone believed they could have lived, both reinforced and reshaped emerging public and private mine rescue efforts.

The Cherry disaster is important for another reason as well, for its public recounting, both by contemporaries and modern writers is sharply at variance with the private recollections of George S. Rice, who was Chief Mining Engineer at the Technologic Branch of the United States Geologic Survey (USGS) and head of the federal rescue team at Cherry. Before his arrival at the USGS in 1908, Rice had been employed as a supervisor in an Illinois coal mine and had briefly done consulting work for the Chicago, Milwaukee, & St. Paul Railroad, owner of the Cherry mine. He went on to a distinguished career as a mine safety expert at the U.S. Bureau of Mines.

Shortly after the disaster, Rice penned two articles recounting the events he witnessed, but they make tame reading compared to his private observations. A quarter century later, when Oscar Cartlidge described the fire at Cherry in an article for *Explosives Engineer*, Rice promptly sent Cartlidge his own version of events. Even then Rice felt the need to caution that he was writing simply "as a matter of internal record, but with no thought of your quoting directly."³

That Rice felt the need to pull his public punches reflected a flaw in the evolving federal-state system of mine regulation. While investigators at the Bureau of Mines were supposed to make and publicize scientific investigations into the causes of mine disasters, they had no regulatory authority and could not even enter a mine without the owner's permission. As a result, bureau personnel routinely tempered their public pronouncements to avoid offending mine operators and state regulators. While such care was necessary to maintain the bureau's good relations with the mining community, it also helped perpetuate the lax safety conditions that had led to disasters such as Cherry.

Many of the events of the Cherry mine tragedy are uncontested and therefore must be recounted only to illustrate the matters of contention. Cherry was a

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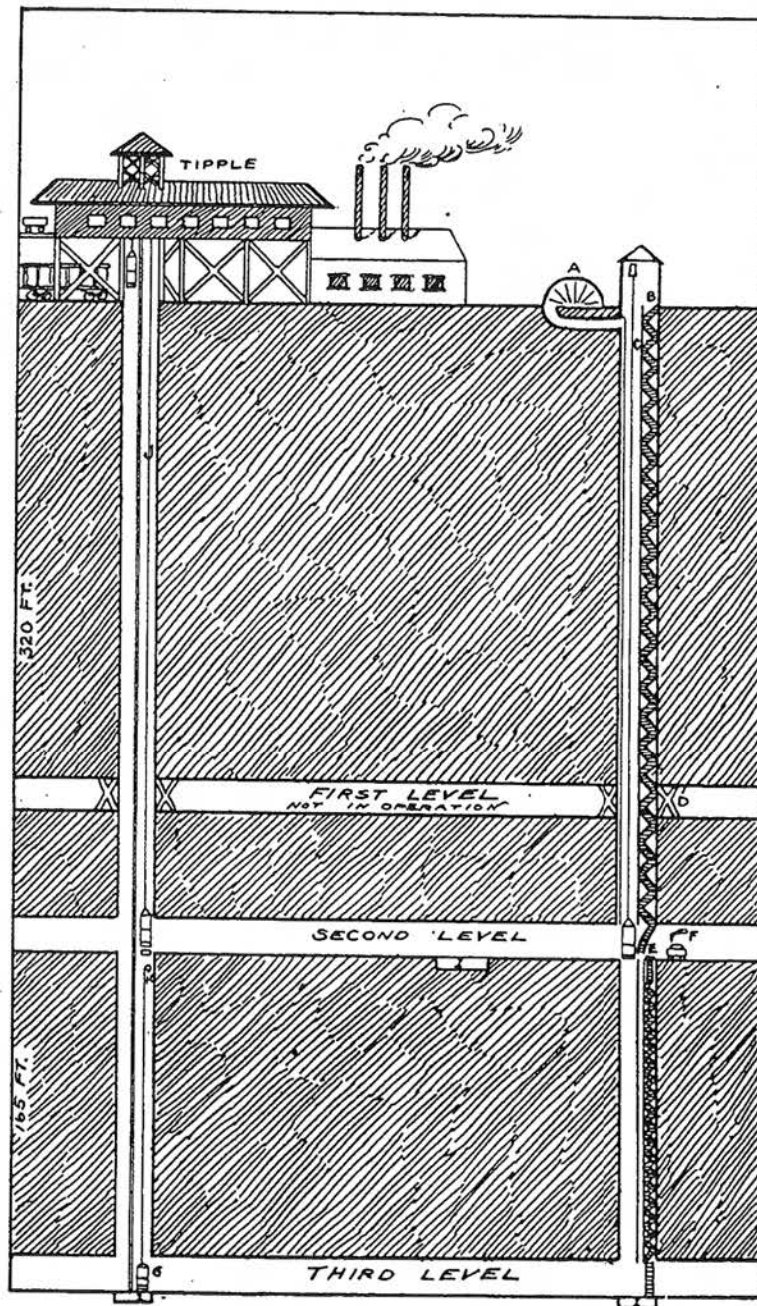


Figure 1 Map of the workings at the Cherry Mine. Escape from the third level was by ladder, 165 feet up the air shaft to the cage on level two, or by the cage slung from the main cage in the hoisting shaft.

shaft mine in Bureau County, Illinois, operated by the St. Paul Coal Company, a wholly owned subsidiary of the Chicago, Milwaukee, & St. Paul Railroad to which it supplied coal. The mine, which normally employed about 535 workers, descended through one unworked coal seam to a second seam, 323 feet below the

surface that the company worked using room and pillar methods. The miners also worked a third seam at about 485 feet employing longwall mining techniques. The main haulage shaft ended at the second seam (Fig. 1). Below it was an escape shaft from the third vein. The air shaft also included an escape ladder that ascended from the third vein to the surface and served as the hoisting shaft from the third to the second seam. A large, reversible fan supplied ventilation by forcing air down the air shaft and through the hoisting shaft. On Saturday, November 13, 1909, the electrical system was out of order, as it had been for a month, and so the company used kerosene lights instead.⁴

Just after noon that day, one of the kerosene lanterns set fire to a cart of hay on the second level, south and west of the air shaft. After efforts to put it out failed, two men dumped the burning cart into the water-filled sump of the air shaft, which extinguished the hay fire, but not before it ignited the timbers in the passage between the main and air shafts. Forty-five minutes after the fire began the cry went out to abandon the mine. At this point events moved rapidly. Ten or twelve cage loads of men went up the haulage shaft, while others scrambled up the air shaft to safety. About 2:00 p.m., someone decided to reverse the fan, apparently in an effort to keep the main shaft open, but it was too late. This action worsened matters, turning both shafts into surging walls of flames and cutting off escape from the third vein via its hoisting shaft. When a cage of rescue workers was lost, the company decided to seal the haulage shaft in an effort to smother the fire. It was 4:00 p.m.

Robert Y. Williams of the USGS headed the rescue operations which began the next day, Sunday, November 14, with a team of men using German Draeger self-contained oxygen helmets. American mine rescue efforts at that time were still in their infancy. Survey personnel were familiar with the work

of the British physiologist J.S. Haldane who had proven that asphyxiation rather than fire or explosion accounted for many of the deaths from mine disasters. Haldane's findings underlined both the potential of rescue work and the need for speed, and other accidents bore out this latter fact. In December 1907, a USGS rescue team had entered the Monongah, West Virginia mine after it exploded, but found no one alive. Three hundred and sixty-two men died in that tragedy. In spite of this failure, rescue work began to spread. That same year Anaconda Copper became the first private company to purchase rescue equipment. To encourage additional purchases, the USGS began to demonstrate proper rescue techniques. By 1909 a few coal companies had established their own rescue teams, but so far none of these efforts had had a chance to prove their worth.

On Sunday, November 14, when rescue chief Williams arrived at Cherry, he made several attempts to enter the mine. The next day Rice arrived from Pittsburgh to take charge. Rescue efforts continued throughout the week, but with no more success, although on Friday, the 19th, the teams recovered a

number of bodies at the bottom of the air shaft. Finally, on Saturday the 20th--a week after the fire had started -- rescuers found alive twenty-one men who had barricaded themselves in a room off the second south west entry. The official death toll from the fire was 259.⁵

Immediately after the tragedy Illinois Coal Mine Inspector Thomas Hudson claimed that "the mine was equipped with all modern safety devices and was well planned. . . . Blame rests directly upon the shoulders of the men themselves." More recently, historian Steve Stoa concluded that "it was not the physical plant that was ultimately responsible for the disaster, but the questionable acts of the men in charge." He also quoted a survivor who claimed the fire resulted from "the biggest bunch of carelessness I have ever seen."⁶

These assessments are misleading, because the mine itself was highly unsafe. Both its methods of operation and layout contributed to the magnitude of the disaster. Right after the fire, in fact, an *Engineering and Mining Journal* reporter criticized the inadequate fire-fighting equipment at the mine. George Rice himself refrained from publicly criticizing the mine



Figure 2 The empty chair belongs to one of the men who died at Cherry. His family numbered among the 607 widows and orphans left by the disaster. Courtesy of National Archives.

management or the Illinois officials, but did describe certain "lessons" to be drawn from the disaster. These included, 1) "the menace of having the approaches and exits themselves of combustible material," and 2) that exits suitable for shallow mines employing 100 or fewer men were inadequate for deeper mines employing 500 to 600 men. To solve these problems, Rice suggested the sinking of an additional shaft that was not part of the ventilation system and was lined with non-combustible material. Finally, he urged the company to construct underground rescue shelters, a safety measure found in some German mines. Furthermore, he claimed that fireproof shaft linings and bottom archways were universally used in Europe although "they are not used in this country."⁷

The official report, which Rice privately termed a "whitewash," noted the poor design of the escape route from the third to the second level, but it refrained from criticizing the St. Paul Coal Company. Privately Rice described the mine's safety in scathing terms:

The escapeways . . . were the most absurd arrangements that were ever conceived as far as concerns the third or lower vein. There was a single cage to run between the third and second or middle vein . . . and in order for men to escape who might be cut off from the air shaft . . . this cage had to be slung by chains and rope to one of the bottom of the main cages. . . . Then when the men in the lower vein were to be hoisted they could be taken up only to the middle vein where they got off. Meantime the main cages were out of commission. . . . So far as I could learn there never had been a trial of the arrangement and when practically tried, the emergency cages stuck.⁸

No aspect of the Cherry fire has been recounted more often than the dramatic rescue of the twenty-one men (one of whom later died) trapped for a week after the fire. The official report stated that several days prior to the rescue, some officials had advocated sealing the mine, and that document merely notes that "on Saturday, some practical miners took charge of the rescue work . . . and at 1:00 o'clock some men were discovered alive and twenty-one taken out." One modern writer, relying on the official report, described the rescue as the work of clean-up crews. Rice, however, described a different version of events.⁹

Rice was a personal friend of A. J. Earling, President of the Chicago, Milwaukee, & St. Paul Railroad, who had arrived on the scene Monday or Tuesday (the 15th or 16th) to direct the operations. Rice told Earling that he thought there was a possibility of

rescuing survivors who might have retreated to the work faces, places that had not filled with smoke and gasses before the fan was disabled. On Wednesday, the 17th, Earling called a meeting of the inspectors present, and presented Rice's views. He then asked for each inspector's opinions. Rice later claimed that they were practically unanimous that "there had been enough men lost already in attempted rescue work," and that rescue efforts should be halted. When Rice tried to persuade them that there might still be men alive, Inspector James Taylor said "I vote the geological fellows [members of the USGS rescue team] make the investigation."¹⁰

That same day, Rice attempted to enter the mine in a bucket, with R. Y. Williams. Rice's large stature, however, caused the bucket to tip, and so a smaller man went in his place. No bodies were discovered on this first descent, but the men reported that the air was clearing. That night Rice and others built a cage and on Thursday, Rice, Williams, and James W. Paul descended the air shaft and discovered the air free of noxious fumes. State inspectors now agreed to enter the mine to begin removing the bodies. On Saturday, November 20, Rice later recounted, "no one . . . responsible [was in] charge, Mr. Newsome [Head of the State Mining Board] left to go home for the weekend and the various inspectors all slipped off one by one," as had most other members of the Survey. Rice stayed because "I felt there was still some chance of the men being alive."¹¹

Shortly after noon that day, a rescue party found eight survivors who reported that bad air had trapped another twelve men a half mile deeper in the mine, and "a call went out for rescue workers." Rice was the only one present who knew about the rescue apparatus so he "trained" a number of volunteers on the spot. He and R.Y. Williams then led a rescue party into the mine and brought the men to safety.¹²

Rice's private recollections offer three new insights about the Cherry Mine disaster. First, far from being "the safest mine in the world," as one scholar has termed it, the mine itself--and especially the third level--was a deathtrap. Had the company provided adequate fire fighting equipment, non-flammable shafts, a third shaft, or a workable escape route for the third level, the "carelessness" and the "questionable acts of the men in charge" would not have had such disastrous repercussions.¹³

Second, the twenty men who were successfully rescued on November 20 owed their lives not to "some practical miners," and certainly not to the Illinois inspectors, but to Rice's persistence--both in beginning to search for survivors on the 17th, and in remaining



Figure 3 A U.S. Bureau of Mines rescue team enters a mine during a training exercise at the Bureau's experimental mine in Bruceton, Pennsylvania, ca. 1915. Courtesy of National Archives.

available over the weekend to train the party that ultimately rescued the men.

Third, the lessons of the Cherry Mine disaster led to important modifications in federal and state mine safety practice. Illinois modified its mine laws to require fireproofing parts of mines and improved fire fighting capabilities. It also established state fire fighting and rescue stations. The Cherry incident also reshaped the rescue work of the USGS and the U.S. Bureau of Mines, which took over federal mine safety work from the survey in 1910. The Cherry rescue was the first successful large-scale rescue effort. The experience elevated the importance of rescue work because it demonstrated that men could survive for up to a week while trapped in a mine. Realizing the potential for saving lives, the bureau increased the number of rescue stations and began rescue training. Hereafter, bureau rescue teams, outfitted in masks and helmets, became regular features of every mine disaster. Such work garnered the bureau much prestige and favorable publicity.¹⁴

The bureau also changed rescue procedures as a result of the lessons taught by the Cherry fire. It now

recommended that miners build barricades and wait for rescuers, rather than attempting to get out through shafts filled with poisonous gas. This tactic saved many lives. At the Briceville, Tennessee explosion on December 9, 1911, five miners saved themselves from "afterdamp" (carbon monoxide poisoning) by following the bureau's advice. The first large-scale payoff came in March 1915, when the Layland, West Virginia mine exploded. The disaster killed 115 men, but forty-seven miners were saved when they followed bureau recommendations and barricaded themselves in. These men, and others who would follow similar procedures in future disasters, owed their lives to the lessons learned at Cherry.¹⁵

If the tragedy at Cherry led to improvements in mine safety, it also revealed some of the limitations of the federal-state partnership that emerged in the early years of this century. Writing in 1907, Joseph A. Holmes, who directed the mine safety work of the USGS and became the first director of the Bureau of Mines, had stressed the need for "information obtained through comprehensive and impartial investigations." Herbert M. Wilson, a bureau engineer, expounded a

similar vision to the Coal Mining Institute of America shortly after the bureau was founded. "That the bureau will have no authority to enforce the adoption of its recommendations is not a matter of concern," Wilson explained. It was even a virtue: "such authority would jeopardize its chief purpose--the making of impartial investigations." "The largest influence [of the bureau]," Wilson continued, "can only be through the acquisition and publication of impartial data which should appeal to . . . the industry and to an intelligent public opinion."¹⁶

The fire at Cherry revealed the flaw in this vision, for the need to keep in the good graces of both the operators and state regulators prevented the bureau from simply publishing the results of its investigations. As Rice's private assessment of Cherry revealed, such findings could be damning and the operators understood the danger of stirring up public opinion. In fact, Cherry seems to have inaugurated a long tradition in which federal investigators muted their criticisms of mine safety. The unpublished records of the bureau reveal far more candid assessments of unsafe mines than were ever made public. "It is unfortunate," remarked Dan Harrington, the Bureau's Chief of Health and Safety, "that the public is not given the information which we have concerning the conditions in mines which are bound [to cause explosions]." As late as 1936, the bureau even refused a request from Pennsylvania's attorney general for a copy of its report on a mine accident that had killed five men. Another bureau official privately described the effect of this policy of silence on mine safety, in the process providing an epitaph not only for the men who died at Cherry, but for the many others who were to fall victim to inadequate safety precautions. The bureau, he observed, "has in effect afforded protection to the criminal carelessness [of the operators]."¹⁷

This policy of secrecy finally ended in 1940 when Secretary of the Interior Harold Ickes ordered the bureau to make its reports public. The *United Mine Workers Journal* promptly responded with the headline "Secrecy of Bureau of Mines Broken at Last." In 1941, when the bureau gained the power to inspect mines, it published the reports. As one bureau official dryly observed, "the publicity given to inspection reports usually has considerable influence in obtaining compliance with the recommendations." One can only wonder how many lives might have been saved if this policy had been inaugurated before November 13, 1909.¹⁸

NOTES

1. Floyd Parsons, "Cherry Miner's Last Message," *Engineering and Mining Journal* 88 (December 11, 1909): 1173.
2. The purpose of the bureau is noted in *Congressional Record*, 61st Cong., 2d sess., May 9, 1910, 45, pt. 6: 5955. The standard work on the formation of the Bureau of Mines is William Graebner, *Coal Mining Safety in the Progressive Period* (Lexington: Univ. of Kentucky Press, 1976). For a discussion of the bureau's safety work down to World War II, see Mark Aldrich, *Safety First: Technology, Labor, and Business in the Building of American Work Safety, 1870-1939* (Baltimore: Johns Hopkins Univ. Press, 1997).
3. For Rice's career, see *National Cyclopaedia of American Biography* 38, p. 52; and *Dictionary of American Biography Supplement* 4, pp. 690-691; also, see George Rice, "Mine Accident Investigations of the United States Geological Survey," *Western Society of Engineers Journal* 14 (December 1909): 784-814; and George Rice, "The Cherry Mine Disaster," *Coal Mining Institute of America Proceedings* (1909): 221-266. Also, see Oscar Cartlidge, "Fifty Years of Coal Mining -- Part 7," *Explosives Engineer* 10 (April 1932): 122-126; George Rice to Oscar Cartlidge, January 27, 1932, box 1587, General Classified Files, Bureau of Mines, Record Group 70, National Archives (hereafter GCF); Rice's lifelong interest in safety began when the Illinois mine of which he was superintendent exploded, killing five men. "This incident so impressed me that I especially studied the prevention of explosions which ultimately led to my taking up work with the Bureau of Mines," he later recalled; George Rice to O. P. Hood, June 6, 1929, box 969, GCF.
4. The mine is described in Illinois Bureau of Labor Statistics, *Report on the Cherry Mine Disaster* (Springfield: Illinois Bureau of Labor Statistics, 1910).
5. This sequence is derived from the following sources: Illinois Bureau of Labor Statistics, *Report on the Cherry Mine Disaster*; Floyd Parsons, "The Story of the St. Paul Mine Fire," *Engineering and Mining Journal* 88 (December 4, 1909): 1119-1124; Rice, "The Cherry Mine Disaster," 221-266, and "The Cherry Mine Disaster," *Mines and Minerals* 30 (February 1910): 423-428. For discussions of early rescue work, see Rice, "Mine Accident Investigations of the United States Geological Survey," 784-814; "Coal Companies Establish Rescue Stations," *Engineering and Mining Journal* 87 (May 8, 1909): 951; and J. J. Forbes, "Advanced Mine-Rescue Training Course of the United States Bureau of Mines," *Yearbook of Coal Mine Mechanization* (Washington: American Mining Congress, 1937): 326-333.
6. Hudson is quoted in "Greatest Disaster in American Mining history," *United Mine Workers Journal* (November 18, 1909), 3; Steve Stout, "Tragedy in November: The Cherry Mine Disaster," *Illinois State Historical Society Journal* 72 (February 1979): 57-69.
7. Parsons, "The Story of the St. Paul Mine Fire," 1119-1124; George Rice, "Mine Accident Investigations of the United States Geological Survey," 784-814; Rice presented similar lessons in "The Cherry Mine Disaster," 221-266.
8. Illinois Bureau of Labor Statistics, *Report on the Cherry Mine Disaster*, 20; "whitewash" is from George Rice to Theodore Marvin, April 18, 1932; the block quotation is from Rice to Oscar Cartlidge, January 27, 1932, both in box 1587, GCF.
9. Illinois Bureau of Labor Statistics, *Report on the Cherry Mine Disaster*, 34.

10. This description of events is from Rice to Oscar Cartlidge, January 27, 1932, box 1587, GCF; the time of the meeting is from Illinois Bureau of Labor Statistics, *Report on the Cherry Mine Disaster*, 48.
11. Rice to Oscar Cartlidge, January 27, 1932, box 1587, GCF. Illinois inspector Thomas Hudson claimed that the three Illinois inspectors who had been present early Saturday morning left because of "urgent business" that included a small mine explosion in one of the inspector's districts, see Illinois Bureau of Labor Statistics, *Report on the Cherry Mine Disaster*, 48.
12. Rice to Oscar Cartlidge, January 27, 1932, box 1587, GCF; that Rice was on the rescue team that entered the mine is from "The Cherry Mine Disaster," *Mines and Minerals* 30 (February 1910): 423-428.
13. "Safest mine" is from the consulting engineer who designed the tipple and is quoted favorably in Stout, "Tragedy in November," 58.
14. Modifications in the Illinois mining laws are from Earl Beckner, *A History of Labor Legislation in Illinois* (Chicago: Univ. Chicago Press), 346-347; on the importance of Cherry, see Rice, "Mine Accident Investigations of the United States Geological Survey," 784-814; for examples of the publicity, see M. M. Hunting, "Uncle Sam's Mine Rescue Cars," *Scientific American* 104 (January 7, 1911): 8; Hamilton Talbot, "Fighting Death in the Mines," *Scientific American* 104 (February 25, 1911): 200-01; "How Uncle Sam Protects His Miners," *Current Literature* 52 (May 1912): 535-37; and Graham Taylor, "Underground America," *The Survey* 35 (February 5, 1916): 547-553.
15. On the Briceville and Leyland mine disasters, see H.B. Humphrey, "Historical Summary of Coal Mine Explosions in the United States--1810-1958," *United States Bureau of Mines Bulletin* 586 (Washington: GPO, 1960).
16. Holmes's remarks are in Clarence Hall and Walter Snelling, "Coal Mine Accidents: Their Causes and Prevention," *USGS Bulletin* 323 (Washington: GPO, 1907), 4; Herbert Wilson, "The United States Bureau of Mines," *Coal Mining Institute of America Proceedings* (1910): 231-33.
17. "It is unfortunate" from Dan Harrington to Arthur Murray, March 29, 1930, box 1185, GCF; John R. Reap [Deputy Attorney General, State of Pennsylvania] to Bureau of Mines, May 21, 1936, box 2205, GCF; "criminal carelessness" is from Francis Feehan to Scott Turner [n. d., ca. February 28, 1929], box 969, GCF.
18. "Secrecy of Bureau of Mines Broken at Last," *United Mine Workers Journal* 51 (March 15, 1940): 3; Dan Harrington, "Activities of the Health and Safety Division, Bureau of Mines United States Department of the Interior During the War Years, 1941-45," *Bureau of Mines Information Circular* 7487 (Washington: GPO, 1949), 18-19.