

REPORT OF A FIRE AT POWHATAN MINE
POWHATAN POINT, OHIO
JULY 5, 1944 - 66 KILLED

From Bureau of Mines report by G.W. Grove,
M.C. McCall, and O.V. Simpson)

A mine fire occurred sometime between noon and 1 p.m., July 5, 1944, on No. 3 entry, C north face entries, near the slant to No. 3 right butt entries in the Powhatan mine.

One hundred and ninety men were in the mine when the fire occurred. Sixty-six of these men were trapped inby the fire and were killed; 124 men escaped unassisted. Sixty of the sixty-six men killed barricaded themselves in 7 right butt entries off C north face entries with stoppings constructed of boards, posts, screw-type roof jacks, coal, and clothing. One man began erection of a barricade in a crosscut in the chain pillar in 7 left butt entry off C north face entries. The remaining five men apparently attempted to get around the fire and were in part of the area which was sealed. The seals were opened on June 9, 1945, and a great part of the area was explored. Three bodies were found and removed, but rekindling of material under a large fall made it advisable to reseal the area on June 15 and 16, 1945.

The fire occurred when a timberman who was "scaling" roof caused a fall of roof coal and rock which pulled the trolley wire out of a trolley frog and allowed the wire to contact the track rail which ignited the coal. The timberman pushed the trolley wire off the rail and against the rib, and then traveled to a circuit breaker near the junction of main west entries and C north face entries, a distance of about 2,000 feet. The fire was confined to the C north face entries between 3 right butt entries and 5 right butt entries.

This mine is opened by four shafts and six slopes: namely, two air shafts about 110 feet deep at Cats run, Powhatan Point hoisting shaft about 147 feet deep, Big Run shaft about 110 feet deep, a slope at 24 right entry off west main entry, Cats Run slope, a slope at the face of B north entry, a slope at the face of C north entry, a slope at Powhatan Point, and a slope at 16 north off west main entries.

Ventilation is induced by a 10-foot propeller-type fan operated blowing at about 5-inch water-gage pressure.

About 200,000 cubic feet of air a minute was circulated in the mine through nine splits. When the mine was inspected in November 1943, it was liberating 535,968 cubic feet of methane in 24 hours.

Attempts to extinguish the fire by the use of rock dust and water and by loading the burning caved material with a loading machine were unsuccessful, and the fire gained headway. The C north face entries were ventilated with about 28,000 cubic feet of air a minute. This quantity of air was confined to the Nos. 2 and 3 C north face entries and was permitted to sweep over the fire in order to carry smoke away from the men engaged in fighting it until about 3 p.m. when a hole, approximately 4 feet in diameter, was made outby the fire in a stopping between Nos. 3 and 4 C north entries to short-circuit some of the air from the fire and into the return air course in No. 4 entry. This hole was later partly covered with brattice cloth because the quantity of air was not sufficient to keep the smoke away from the men who were fighting the fire. A member of a rescue team entered No. 4 entry C north to determine the quality of the air returning from the fire by the use of a methane detector, a carbon monoxide detector, and a flame safety lamp. The atmosphere, according to the detectors used, contained 4.5 percent explosive gas, 1 percent carbon monoxide, and less than 16.5 percent oxygen.

A stopping between Nos. 1 and 2 entries C north, and outby the fire, was broken in a effort to force intake air through No. 1 entry toward the faces of C north face entries.

Fire was evident in the No. 1 C north face entry when the stopping between the Nos. 1 and 2 entries was removed. This fire extended along both ribs for a distance of about 100 feet from the slant into No. 3 right entry toward the main west entries. It was extinguished with rock dust and water used by crews wearing oxygen breathing apparatus.

The amount of air that could be forced into the NO. 1 entry between two regulators was limited. One of these regulators was near the main west entries and the other was inby No. 3 right entry off C north face entries.

About midnight, one man advanced to and removed the regulator in No. 1 entry inby No. 3 right entry C north face entries, thus permitting the air to move unrestricted toward the face of the entry. While plans were being made and a party was being organized to attempt to reach the face of No. 1 C north entry, the fire again broke through from the No. 2 to the No. 1 entry at about 4 right entries and spread rapidly toward No. 3 right entry. Because of the risk of having fire break through into the No. 1 entry behind any advance crew, and because of the danger of the fire burning into No. 4 right entry which with Nos. 1,2, and 3 right entries C north face entries were worked out, abandoned, sealed with incombustible stoppings, and known to contain methane, it was decided about 3:30 a.m., July 6, that all rescue men should be withdrawn from the mine. A meeting of the above men augmented by representatives of the United Mine Workers of America was held on the surface, and a decision to seal the mine was made about 5 a.m. The fan was stopped and the construction of 10 seals was begun about 7 a.m. and completed about 10 p.m., July 6.

Arrangements were made to have a 3-1/8-inch diamond drill rig and a 9-inch churn drill sink holes in 7 left off C north face entries, and in C north face entries, so that communication with the entombed men could be established provided the men were still alive. A road was constructed for a distance of approximately 1 mile through fields and a wooded area so that the drill rigs could be moved to the drilling locations.

The 9-inch churn drill began operation at 9 p.m., July 7, and completed a hole, 395 feet deep into No. 2 entry C north face entries in the slant at 9 right entry, at 5 a.m. on July 9, with a drilling time of 32 hours.

The 3 1/8-inch diamond drill began operation at 1 a.m. on July 8 and completed a hole 551 feet deep into No. 2 entry 7 left off C north face entries at point opposite room No. 8. This hole was completed at 7 p.m. on July 10, with an actual drilling time of 66 hours.

Tests of the air at the bottoms of both of these drill holes showed that the air was irrespirable. A telephone and a signaling device were lowered to the bottoms of the drill holes, but no response was received from the entombed men.

A decision was made to drive a pair of entries from the surface to the faces of the C north face entries, to facilitate recovery of the bodies of the trapped men. These entries were driven from a district on Captina Creek known as Fishbasket, about 1,400 feet from the faces of C north face entries.

A bulldozer began breaking ground in Fishbasket on July 9 in preparation for the driving of two slopes about 30 feet long from the surface to the coal bed. The slopes were difficult to sink because they were in loose ground and did not intersect the coal bed until July 18. In addition to sinking the two slopes, a transmission line about 8,000 feet long, a tipple, a substation, a morgue, two office buildings, a mine rescue station, and a supply yard were constructed. A fan duct was also built and two fans were installed in parallel.

The two entries driven from the bottoms of the slopes in Fishbasket were driven three shifts a day for a distance of about 1,385 feet to intersect the faces of Nos. 1 and 3 north entries. These entries advanced an average of 49+ feet a day in each entry. The entries advanced slowly until the first slant was completed July 26, and room was provided for switching cars. The remaining distance of about 1,260 feet was driven at an average of almost 63 feet a day in each entry with a maximum of 219 feet in crosscuts, 96 feet in the left entry, and 84 feet in the right entry. Connection with the C north entries was made August 14, 1944. The last cut was removed by hand by rescue teams under oxygen and inside of air locks which were also built on August 14.

Three mine rescue teams established ventilation in the Cats Run slope on July 30, by opening the seal at the portal of the slope and advancing 400 feet of vent tubing from blower fans on the surface to an air lock inby the bottom of the slope. Portable telephone communication was established from the slope portal to the slope bottom.

On July 31, seals were removed from the Cats Run fan housing, the main hoisting shaft at Powhatan Point, and the Big Run air shaft, and the haulage road was ventilated outby from the temporary seals in main west entries.

On August 14, rescue teams wearing oxygen breathing apparatus and working inby an air lock "picked" through from the left entry driven from Fishbasket into the face of No. 1 entry C north face entries.

Exploration trips in the C north face entries to locate places for erecting stoppings and an air lock were started at 1:22 p.m., August 14. The work of erecting stopping and air-locking operations was continued with nine State-maintained mine rescue teams working three shifts a day.

In the interval between August 15 and August 31, rescue teams built 28 seals and 6 air locks, while advancing from the faces of C north face entries to a point near 6 right entry. These stoppings and air locks were built in five moves and covered a distance of about 1,950 feet.

Barricades erected by trapped miners were found outby No. 1 room in Nos. 1, 2, and 3 entries 7 right C north face entries on August 24, but an increase in atmospheric pressure and a resulting change in the quality of the air in the sealed area caused the recovery men to be removed from the mine until August 28.

August 29, a fresh-sir crew found a brattice-cloth stopping in No. 4 C north face entry between Nos. 2 and 3 entries 7 left. A board was also found in this location, which had an arrow on it pointing toward 7 left entry, and a second board found there had the check number 643 written on it.

On August 31, a rescue team under oxygen found and recovered the body of a man from a crosscut between Nos. 2 and 3 entries at NO. 8 room 7 left C north, face entries. This man had check No. 643. He had begun erection of a barricade but had been unable to complete it.

Many persons participating in the recovery work were of the opinion that atmospheric pressures would cause increasing hazards as the fire area was approached, and that the sealed area was now as small as it should be. Men and rescue equipment were withdrawn from the Fishbasket opening for the foregoing reasons and were transferred August 31 to Cats Run to begin air-locking in the main west entries to C north face entries.

Work was begun air-locking in the main west entries at 2 a.m., September 1, and was completed September 27, at 10:20 p.m.

Mine rescue crews, wearing oxygen breathing apparatus, opened the seals in 7 right C north face entries at 6:30 p.m., September 12, and ventilation in these entries was advanced by fresh-air crews. Exploration of 7 right C north face entries was greatly hampered by extensive falls and very dangerous roof conditions. It was also necessary to move the methane in these entries slowly because it discharged in Fishbasket near the fan which was operated blowing and was driven by an electric motor.

The barricades erected by the trapped men were examined while the methane was being removed from 7 right entries C north face. They had been constructed inby the first slant crosscut, of posts, ties, screw-type jacks, clothing, and coal.

Bodies of the trapped men were found in Nos. 2 and 3 rooms on the right side of the 7 right entries C north face entries about 11 p.m., September 12, but it was not practical to recover any of them until some falls were leveled, dangerous roof "scaled" and timbered, and the rooms ventilated.

Fifty-eight bodies were recovered from rooms Nos. 2,3, and 4,7 right C north face entries from September 13 to 22, and two were recovered in the 7 right entries, during the constant search from September 22 to October 5. Fresh-air crews moved and loaded numerous falls of rock both by hand and with loading machines in order to find and recover the bodies in 7 right. The work was carried on three shifts a day, except for interruptions caused by changes in the atmosphere in the sealed fire area.

Letters and notes written by the men barricaded in 7 right C north face entries indicated that the men working in 5 right C north face entries were probably in 5 right, and since further advance in C north face entries was deemed inadvisable, it was decided that a pair of entries would be driven to 5 right. These entries were started September 25, at a point about midway between 7 right and 6 right C north face entries, and were driven on an angle of 45 degrees to intersect 6 right at Nos. 4 and 5 crosscuts. They crossed 6 right and were driven parallel to C north face entries until they intersected 5 right, a total distance of about 1,125 feet. These entries cut into 6 right October 6, and into 5 right October 18. Rescue teams, wearing oxygen breathing apparatus, erected seals in 5 right and 6 right entries near C north face entries to isolate them from the fire area.

Exploration of 5 right C north face entries disclosed that the men working there had made an attempt to escape. They left their dinner buckets (5) and two jackets in the second crosscut from the faces of the entries and traveled into the C north face entries. An exploration trip in the C north face entries at 5 right furnished no clue as to where these five men had gone. Rescue crews reported roof conditions very bad and traveling difficult in C north face entries. State, Bureau, company, and union officials conferred and decided to abandon further exploration because of the dangerous roof conditions and difficult traveling in C north face entries until the fire was definitely known to be out and the area could be ventilated so recovery would be in fresh air.

Equipment in 5 right C north face entries was removed from the mine at fishbasket, and the two entries driven from C north to 5 right were sealed near C north face entries October 20.

Notes written by some of the entombed men are conflicting, yet they do show what conditions were in the barricaded area and give an idea as to how long the men were alive.

A note was found August 17 on a dinner bucket in the mechanic's shanty between 7 right and 6 right C north face entries. This note stated, "I have gone to B north by way of 7 right."

Another note found was written at 4:40 p.m., 5:30 p.m., 6:30 p.m., and 9 p.m., July 5. It stated that the dirt stopping (barricades) were completed by 4:40 p.m. and that men had failed in an attempt to reach B north face entry through 7 right, C north face entries.

A note written by an engineer, listed 48 men within the barricaded area. This note was in error regarding the number of men, because it did not list several men known to be there. It was significant, however, because it did not contain the name of any man that worked in 5 right C north face entries.

A long letter written by another indicates that he probably did not survive after midnight, July 5. The latter part of his letter written at 11:07 p.m., July 5, was illegible and the lines of writing wavered.

All of the notes found indicate that the trapped men made any effort to bypass the fire, in C north face entries, and travel to the main west entries.

A meeting was held May 8, 1945, and a decision was made to begin recovery of the sealed fire area at midnight June 9, 1945. This decision was made because since March 18 the oxygen in the samples from the sealed area had varied between 0.8 and 1.8 percent, and because the carbon monoxide in the samples (with 2 exceptions) had not been above 0.005 percent.

Representatives of the Ohio Division of Mines, the company, and the Bureau of Mines entered the Cats Run slope of the Powhatan Mine at 11:00 p.m., June 9, 1945. They were accompanied by two complete mine rescue teams and three members of a third team. The entire party arrived at the seals erected in C north entries near the intersection with main west entries at 11:40 p.m.

The second shift entered Cats Run slope at 7:00 a.m., June 10, and arrived at the mouths of C north face entries at 7:40 a.m. Two rescue teams removed the inner permanent seals and the temporary seals in Nos. 1,2, and 4 C north face entries. They worked in oxygen breathing apparatus inby the air locks in the respective entries. The work was started at 8:32 a.m. and was completed at 11:15 a.m.

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The day shift entered the mine at Cats Run at 10:45 a.m., June 11. A party, members of which were representatives of the Ohio Division of Mines, the company, and the Bureau of Mines, explored all of the accessible sealed area. Some falls, over which it was impossible to travel, were encountered, but explorations extended to both ends of these falls. An oxygen-deficient atmosphere in 6 right entries prevented exploration, but these entries had been explored before the area had been sealed.

The bodies of three men were found by the above-mentioned party in the first crosscut between Nos. 2 and 3 entries of 5 right off C north entries. The men had made a very ineffective attempt at erecting a barricade.

The bodies of the two men not yet found are the motorman and the brakeman of the locomotive which was in 5 right C north face entries.

The afternoon shift on June 11 removed the three bodies and continued searching for the other two.

Smoke was found coming from the inby end of a large, tight fall in No. 2 C north face entries at 8:34 p.m. This fall was part of that covering the origin of the initial fire. Notice of the fire was received outside the mine at 9:05 p.m.

A decision to seal the fire area, at the original seal locations, was made at 2:15 a.m., June 12. All men were out of the mine at 9:45 a.m., and the fan was stopped.

An attempt to fight the fire was not made because: 1. The fall over the fire was too "tight" to travel over or even ventilate. 2. It was estimated that about 35 cars of rock could be loaded each shift and the fall contained several hundred cars of rock; therefore, it was believed inadvisable to ventilate the area for a period which would permit all of the rock to be loaded. 3. The seals in the mouths of 3 right entries C north face entries could not be inspected, and these entries contained a large body of methane and were near the fire.

June 20 another meeting was held relative to the resumption of mining in the Powhatan mine. It was agreed by all parties, previously named, that the mine be operated, and plans were made to continue patrol of the seals and collection of air samples. It was necessary for a representative of the Ohio Division of Mines and one of the Bureau of Mines to prepare and post a notice that the mine was safe to be operated before the men would go to work.

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A meeting of representatives of the Ohio Division of Mines, the United Mine Workers of America, the company, and the Bureau of Mines was held March 20, 1946, and a decision was made to begin recovery of the sealed area at 12:15 a.m., March 31, 1946. This decision was made because carbon monoxide had not been found in any of the air samples collected from the fire area since November 13, 1945.

Searches for the two bodies still in the mine were conducted from the time the fire area was ventilated until the bodies were found about 8:50 a.m., April 10. These bodies were found in No. 2 C north entry at the inby corner of the first crosscut between Nos. 2 and 3 C north entries outby the 5 right supply-track chute. They were brought to the surface at the river portal of the mine at 10:50 a.m. the same day. These men, the motorman and brakeman in 5 right off C north, had apparently tried to get out of the mine by either No. 2 or 3 entry, and were retreating toward the faces of the C north entries when they were overcome.

On April 2, the loading machine in No. 3 C north entry pulled the trolley wire, the feeder cable, and a piece of 3/4-inch steel-wire rope from under a fall at the long slant into 3 right. The end of the trolley wire had been melted, the steel-wire rope had been burned through, and copper from the trolley wire had melted on the rope and cooled there. This definitely confirmed the belief that the fire originated in No. 3 C north entry at the long slant into 3 right.