

Vincennes, Indiana
December 6, 1960

Memorandum

To: F. J. Smith, District Supervisor, Health and Safety
District E

From: R. W. Whittaker, Coal-Mine Inspector (Roof Control) and
S. J. Douglas, Coal-Mine Inspector (Electrical)

Subject: Report of Limestone Mine Fire, Pere-Marquette Cement
Company, Oglesby, La Salle County, Illinois, November 14,
1960

A fire of undetermined origin was discovered in the Pere Marquette Cement Company's abandoned limestone mine at about 5:30 a.m., Monday, November 14, 1960, when the assistant quarry foreman parked his car in the mine portal and noticed it was filled with smoke to within 3 feet of the mine floor. The fire resulted in the death of Lyle Baker, age 16, by asphyxiation, a nonemployee of the cement company. The portals, which were close to the cement plant, were used to store trucks, crawler-type equipment, oil, grease, spare parts, and creosote preserved timber.

The mine was opened in the late 1800's and was actively worked until about 1937 when it was abandoned. The workings were quite extensive with numerous openings to the surface from cave-ins and places driven to the outside along the outcrop.

After the assistant quarry foreman discovered smoke in the mine portal, he called the quarry foreman who in turn called the local fire department and then called the local civil defense unit. The local fire department assisted by plant workmen successfully recovered some of the vehicles parked just inby the portal doors but were unable to penetrate any great distance due to smoke, even though gas masks were worn.

A great amount of smoke and fumes were pouring from the mine portals near the cement plant due to natural ventilation and this smoke was blanketing the plant area and making it difficult for plant operation. A call was placed to the Illinois Department of Mines and Minerals on Monday morning, November 14, 1960, and Inspector-at-Large John Kotzman arrived about 2:00 p.m., the same day. He advised them to install

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some fans operating exhausting at some openings away from the plant, which would pull the smoke back into the mine and discharge it at a location some distance from the plant. He also recommended that they seal the portals. An official of the cement company called Mr. H. E. Mauck, Vice President, Charge of Operations, Freeman Coal Mining Corporation, at Chicago, Illinois, on Monday morning and asked for advice. Mr. Mauck came to the plant and advised them to get some fans, which they did from a contracting firm in Chicago, Illinois. Three fans were set some 500 feet from the plant at three drift openings, each rated at 20,000 cubic feet a minute and operating exhausting. The fans received power from a portable gasoline-operated 440-volt alternator, but considerable trouble was encountered in keeping the portable power unit in operation. Mr. Mauck then left the operation but called Benton, Illinois, and instructed Lloyd Saylor, underground maintenance supervisor, and Frank Kolisek, safety inspector of the Freeman Coal Mining Corporation, to report to the fire scene Wednesday. Mr. Kolisek and Mr. Saylor arrived Wednesday around 10:30 a.m. and stayed until the following Monday. They were greeted by the Oglesby Chief-of-Police with information that it was almost certain that a boy was in the burning mine. This was substantiated by the fact that the boy's mother had found a note from him at 6:00 a.m., on Wednesday, November 16, stating that he was going to the mine to put out the fire. The watchman at the mine saw the boy at the mine at 2:00 a.m., Wednesday morning and the boy stated that he wanted to help put out the fire. The watchman turned the boy back, and never saw him again.

After Messrs. Saylor and Kolisek learned of the situation they called Mr. Mauck and he arrived at the mine Thursday shortly before noon. In the meantime, two of the three fan motors had burned up, leaving only one of the fans in operation. A larger fan was sent from Orient Mine No. 3 at Waltonville, Illinois, and arrived at the mine on Friday night.

Messrs. Mauck, Kolisek, Saylor, and others in the meantime were attempting to get into the mine to look for the boy. The one remaining fan did not have the capacity to ventilate the mine to any great degree and the carbon-monoxide content in the mine air was too high at all openings on the intake side of the fire to enter without respiratory equipment. Many of these openings were too small to permit a man to enter wearing apparatus. A suitable opening was finally located and Mauck and Saylor entered the mine wearing Scott Air-Paks', obtained from the Ottawa, Illinois, Civil Defense Unit, and on the third trip the boy's body was located some 1,200 feet east of this opening at about 6:00 p.m. Mauck and Saylor, aided by members of the civil defense unit removed the body to the outside at 7:00 p.m.

The Safety Development Corporation arrived Saturday afternoon and a foam generator was set up in the portal calculated to be nearest the suspected fire area in an attempt to extinguish the fire. The two burned-out electric motors had been replaced on the fans on Saturday morning, and the large fan rated at 75,000 cubic feet a minute was installed by Saturday night. Power lines had been extended from the cement plant to the fans, replacing the portable alternator. With all fans operating exhausting and the foam generator operating several attempts were made Saturday night and Sunday morning to fight the fire by direct means but the smoke and heat drove the men back. By Sunday morning the foam generator was out of detergent and the 40-horsepower motor on the large fan was severely overloaded and had to be replaced, which stopped nearly all fire-fighting activity.

Mr. Mauck and an official of the company called F. J. Smith, District E Health and Safety Supervisor, for some assistance, and Federal Coal-Mine Inspector Walter Kessler arrived at the mine Saturday night, November 19, and Federal Coal-Mine Inspectors R. W. Whittaker and S. J. Douglas arrived at the mine on Sunday, November 20.

A 100-horsepower motor and starting compensator, were obtained and installed on the large fan and detergent was obtained for the foam generator. Considerable difficulty was experienced with the fan motor and compensator and finally the motor was rendered completely inoperative on Monday night. Another motor (75-horsepower) was obtained and installed and the fan was again operating by Tuesday morning. The foam generator was applying foam in the area of the equipment storage all during this time.

Several attempts were made to enter the foam-filled portals to erect brattice to control the air and foam, but first attempts were futile due to smoke and heat. A brattice would be created in one attempt and would burn out before the next attempt could be made. Little ventilation pressure was exerted on the mine portals, due to the many intakes which allowed considerable smoke to pour out the portals with all fans operating, even though all known entrances to the mine had been blocked off. The generated foam did push the smoke back and allow personnel to work for a few minutes without apparatus or masks. Erection of brattices was difficult as the mined area was approximately 12 feet high. The heat of the burning materials, creosote timber, tires, etc., was so intense that the foam would be disintegrated before it could reach the actual burning material, and due to the many passageways the air could not be cut off the fire by the foam. The presence of the foam, however, did prevent the fire from spreading in the limited area where the foam could be controlled. Without the foam it would have been impossible to have entered the mine without apparatus and then only

to a very limited degree because of visibility being confined to a few feet inby the portal entrance.

A bulldozer was backed to a portal and the foam generator shut down, and the winch rope was pulled into the mine and attached to trucks, front-end loaders and other vehicles. When the rope became too short an extension was added and finally equipment was able to enter a short distance in the portal and hook onto other equipment. Due to the low oxygen content of the air and the heat vaporizing the fuel in the vehicles it was impossible to run the equipment out under its own power, with one exception. Some of the equipment brought out was still aflame. The last two sorties were successful in that a hose stream was played on the fire near the storage area and finally two hose streams were used. At first the great amount of steam produced would drive personnel back, but as better ventilation was established the steam was carried away. Approximately 151 barrels of oil and grease were taken out of the mine during recovery operations, and the ends of the barrels were bulged from internal pressure. Beyond any doubt, the foam prevented this oil and grease from flaming, which would have made the situation impossible. All the equipment worth recovering was out of the mine by 7:00 p.m., Tuesday, November 22.

The intense heat of the fire was caused by the burning timber that had been used to timber a motor road, and burning extra piles of stored timber. Grab analysis of fan exhausts showed oxygen 12%, carbon dioxide 4.5% and carbon monoxide 0.7%. The extent to which the fire spread or its source was not known. The cement company had drilled a vertical hole above the motor road and thought to be in front of the fire to drop a water line with a 50 g.p.m. capacity head attached, hoping that the spray would prevent the propagation of the flame beyond this point along the motor road.

Water for the entire operation was delivered by a city fire department pumper obtaining water from the river. Some 35 barrels of detergent was used in foam generation. The cement company tentatively planned to seal the mine openings and not to try to extinguish the fire by any other means.

R. W. WHITTAKER

and

S. J. DOUGLAS