

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON

CONFIDENTIAL MEMORANDUM
(Not for Publication)

C. M. 1850

October 29, 1943.

TO MEMBERS OF THE HEALTH AND SAFETY SERVICE:

SUBJECT: Mine cave-in causing 8 fatalities,
Mulcahy mine, C. F. & H. Mining
Company, near Shullsburg, Wisconsin.

A fall of roof killed two men in the Mulcahy mine of the C. F. and H. Mining Company, near Shullsburg, Wisconsin, about 12:20 p. m. on February 9, 1943; while a crew of men were recovering the bodies from under the fall, a second fall of rock occurred about 12:45 p. m. killing 6 men and injuring two others.

The Mulcahy mine is one of about 45 small mines in the lead-zinc district of southwestern Wisconsin. A total of 28 men is employed of whom 18 work underground on two shifts producing an average of 100 tons of crude ore daily, analyzing about 7 percent zinc and 0.5 percent lead.

The mine is opened by a vertical shaft 6 by 9 feet and 108 feet in depth; it is ventilated by a 30-inch fan (1800 r.p.m) operating blowing; it delivers air through a metal pipe to a 6-inch churn-drill hole located about 60 feet from the shaft.

The open stope pillar method of mining is used, with but few pillars being left. The mining height is 6 to 7 feet. Practically no timbering is done in the mine.

The falls occurred in a stope measuring approximately 18 feet wide by 30 feet long and $5\frac{1}{2}$ feet high.

The two miners who were killed by the first fall returned to their stope after their lunch period and were told by the superintendent to drill a test hole for ore in the stope about 20 feet back of the face. The hole was drilled at an angle of approximately 45 degrees; at an inclined depth of 16 inches a thin seam of "mud" containing some water was encountered; the hole was drilled to 6 feet but no ore was found. The superintendent then told the two miners to drill 5 or 6 short holes to penetrate the clay seam and blast down the limerock below the "mud" or clay seam. The second hole was being drilled when the fall occurred and killed the two men drilling. Help was summoned from the James mine operated by Gill Brothers and located about a 1/2 mile from the Mulcahy mine. Before entering the caved area the superintendent and a miner of long experience from the James mine tested the roof and found it safe for the men to proceed with the work of recovery. A short time later the second fall occurred killing 6 of the miners from the James mine and injuring two men from the Mulcahy mine. It was

estimated that 100 tons of rock fell in the two falls. The men killed were completely covered by the falls. The first body was recovered by 2:30 p. m. and the last was recovered about 4:15 p. m. of the day of the accident.

No attempt had been made to set props or timber before the fall or during the recovery operations.

Recommendations made:

Many recommendations were made for the elimination of existing hazards at this mine; the recommendations applicable to this accident are:

1. Systematic testing of backs (roof) in all working places, tramping ways and walkways, for "clay partings" which may separate the bedded limestone, should be done by drilling test holes at reasonable intervals (not to exceed 15 feet) to vertical heights of at least 3 feet. From information obtained, all dangerous roof material should be removed and substantial props and timbers set.

2. Timbering should be done promptly as the face advances.

3. The recommended timbering should be considered as supplementary to the leaving of pillars which in size and location should be suited to localized conditions.

4. A second exit in the form of a shaft or slope should be provided

Lessons to be Learned:

Timbering or safety props are a "must" if accidents from roof falls are to be prevented.

The fallacy of a good sounding roof was illustrated by the second fall. The method of testing was not given in the report.

Extra precaution is needed in recovery operations following a roof fall. If props had been set after the first fall and set as recovery operations progressed there might have been no second fall, at least not one causing 6 fatalities.

This information is taken from the final report of the accident by Frank Cash, Jacob A. Stampe and Ernest W. Johnson. It is confidential and must not be published.

R. G. WARNCKE.

Approved:

D. HARRINGTON.