

November 3, 1926; Barnes-Hecker Mine, Ishpeming, Mich.; 51 Killed

(From Bureau of Mines report)

The back of one of the stopes in this iron mine caved to the overlying glacial drift material and the mine was filled with water and quicksand. Within approximately 15 minutes of the time that the cave started, all the workings of the mine were completely filled; water rose in the shaft to within 185 feet of the surface, later receding to about the 540-foot level.

Of the 52 men in the mine, only one escaped by climbing 800 feet of ladders in the shaft. The stope that caved had been worked by top slicing, starting 220 feet below the top of the ore body. Above this undermined thickness of ore was about 210 feet of glacial surface material, water-soaked and containing small ponds.

Although the mine workings were wet when opened, mining operations had drained most of the water from the ore stratum; the stope that caved had become dry enough to permit use of scrapers. The amount of water handled by the mine pumps had dropped from over 3,000 to about 700 gallons per minute.

The only intimation of anything wrong noted by the man who escaped was a rush of air that blew out his light. He was on the second level and rushed to the shaft, calling to others to follow. The rush of water wrecked the shaft manway below the 200-foot level and carried out many of the timbers dividing the compartments; but the wall and end plates and lagging, which were embedded in concrete, were not disturbed.

The sudden flow of water prevented use of prepared bulkheads and water doors, and although emergency escapeways, including a low-level connection to a neighboring mine, weren't provided, men were engulfed

before they could reach safety.

Sand came through the connection to the adjoining mine for 3,000 feet, from the connecting raise to a point where the flow gradually decreased to nothing. Very little water came through here.

A large depression formed in the overburden above the caved stope; the fine, sandy material was water-soaked, and the banks of the depression at one point reached the edge of a small muskeg swamp. The mine was sealed and was not recovered.

Seven bodies were found in the connecting escape drift, and three others were recovered from the shaft when it was cleared to the first level.

The conclusion of officials was that the cavity over the stope gradually enlarged as slicing progressed downward; this resulted in a sudden failure of the block of ore that had been left to support the overburden.