

July 16, 1950: Lark Section -- U. S. and Lark Mine (lead-zinc)
U. S. Smelting Refining and Mining Company, Lark, Utah
5 killed

Five men perished from fire gases originating in a battery-charging station on the 1400 level, 5728 Incline Shaft. The fire was first detected by a pumpman who encountered smoke while being hoisted in the Lark Shaft from the 2500 level to the 1200 level. He returned by cage to the 2500 level to notify the hoistman by telephone and died some time later after closing the water doors when a power outage occurred. The other four men died while attempting to rescue him. News of the fire was promptly phoned to the watchman on surface by the hoistman.

The U. S. and Lark Mine is comprised of two widely separated mining operations having a single underground shaft connection. The U. S. Section is operated through a haulage tunnel and has several other openings on the Bingham Canyon side of the mountain. The Lark Section is operated through the Mascotte Tunnel entering the foot of the east slope of the Oquirrh Range at Lark, Utah, about 3 miles east of Bingham. At the time of the disaster a new connecting tunnel, the Bingham Tunnel, was being driven from the surface at Lark toward the connecting shaft in the U. S. Section. The Bingham Tunnel was started 440 feet northeast and 15 feet above the Mascotte Tunnel portal and crossed over the top of the Mascotte Tunnel at an acute angle. At the time of the fire the face of the Bingham Tunnel had been advanced several hundred feet beyond a branch to the main Lark Shaft serving the Lark Section and there were two connections with the Lark Section workings; a 700 foot branch had been driven to intersect the Mascotte Tunnel about 250 feet outby the Lark Shaft and an intersection had been made with 2808 crosscut of the Lark Section for ventilation control purposes. The branch connection had a wooden ventilation stopping in it and the 2808 crosscut had a ventilation door installation.

The Lark Section had numerous surface openings and more than 275 miles of underground workings. The Lark Shaft, a 3-compartment vertical shaft about 7,800 feet in by the Mascotte Tunnel entrance, was installed on the Mascotte Tunnel level about 1000 feet below surface. This shaft served as main hoistway for workings below the Mascotte Tunnel. Levels were driven at 500 foot intervals. The Section also had several inclined shafts that followed veins down the dip to varying horizons. The ore minerals were mainly sulphides and brittle ground conditions required timber support throughout most stopes and about 60 percent of the development openings. Stopes were back-filled. Mining methods were varied and complex.

Air circulated through the many openings by natural means. Generally, the Mascotte Tunnel was outcast during the warm summer months and incast during the winter months but supplied more than adequate volumes of air underground. Blower fans and vent pipe were utilized to force fresh air into active dead-end drifts, raises, and stope headings.

Normally about 350 men were employed underground. At the time of the fire outbreak, only a pumpman and a hoistman were on duty in the Lark Section as the mine had been idled by a labor strike since July 1, 1950. Also, at the time, a tunnel face crew was working in the Bingham Tunnel. Mine air was exhausting by natural means out the Mascotte Tunnel.

News of the fire was promptly relayed to the surface watchman by the hoist engineer shortly after the pumpman reported smoke in the shaft about 4:00 a.m., July 16, 1950. The assistant general mine foreman and a shift boss proceeded into the mine by trolley locomotive about 4:15 a.m. On arrival at the Lark Shaft they conferred with the hoistman and instructed him to leave if the smoke became too dense. The assistant general foreman and the shift boss then attempted to locate the fire without respiratory protective equipment. Their efforts were futile as smoke forced them to return to surface through an escape shaft.

About 5:30 a.m. the general mine foreman, a surface foreman and an electrician, three of the disaster victims, arrived at the Lark Shaft. By telephone they advised an official outside the mine that smoke was getting bad and they would have to leave. Instruction was given them to call the pumpman and instruct him to open the north water door and escape through the stopes in the fresh air intake course at the east end of the mine. That was the last contact made with the victims. At 6:00 a.m. smoke began to issue from the Mascotte Tunnel portal. Other attempts to reach the Lark Shaft through the Bingham side were driven back because of smoke and extensive travel distance. The tunnel crew in the Bingham Tunnel finished their shift and left the mine at 7:00 a.m. On their way out they encountered some smoke between the Lark branch and the portal but were not adversely affected. At this time all men were withdrawn from the mine until rescue and recovery procedures could be established and rescue crews and equipment organized. Assistance was obtained from the State Mine Inspector, the U. S. Bureau of Mines, neighboring mining companies, and two suppliers of respiratory protective breathing equipment. The complex rescue and fire fighting operations that followed were carried out in a very efficient, safe and orderly manner.

Ventilation was restored to the Lark shaft by 1:00 p.m., July 17. This was accomplished by reversing the flow of air in the Mascotte Tunnel by means of an exhaust fan installation in the Bingham Tunnel, erection of a brattice stopping across the Bingham Tunnel in by the Lark branch connection, removing the wooden bulkhead in the latter connection, and advancing truck-mounted blower fans in the Mascotte Tunnel as the smoke receded. The bodies of the hoistman and surface foreman were recovered at the Mascotte Tunnel level station and the hoist was found inoperable due to moisture absorption in the electric motor coils. The pumps were also found out of operation due to power cable failure.

While hoisting equipment was being dried out, ventilation conditions were improved and a fresh air base was established at the Lark Shaft station, rescue crews explored extensive workings above and below the level for the missing men and to locate the fire, and dewatering pump equipment was procured.

On the afternoon of July 20 the hoist was back in operation and exploration of the mine to the 1200 level had been completed. The search for the fire was narrowed to the vicinity of 5728 Incline. The general mine foreman's prospector's pick was found on the cage indicating he and the electrician had been lowered to the bottom level. Search continued for the men and the fire area was sealed on three sides to prevent spreading while pump equipment was installed in the Lark Shaft. No trace of the missing men was found. It was then evident the missing men had not left the 2500 level station which lay under 85 feet of water on July 29 when pumping was resumed. The bodies of the pumpman, electrician, and the general mine foreman were recovered on August 9 near the shaft landing.

The fire was controlled and eliminated by confinement seals on three sides, by direct application of water in some accessible areas, and by tailings sand filling in inaccessible stoped-out areas. Limited production was resumed on October 30, 1950 following an inspection of the mine by the State Metal Mine Inspector.

Investigation revealed the fire started in the battery-charging station on the 1400 level of 5728 Incline. The fire burned about 10 feet outby the station then extended up the inclined shaft to the upper levels and to the Mascotte Tunnel level through No. 4 Incline Shaft before it was brought under control. The battery-charging station was situated in the open, along the side of 5728 Incline Shaft and was timbered heavily with wooden cross bars and 2-inch lagging. The power

wires into the station were fastened by nailing them to the timbers. The motor-generator charging equipment was installed on a wooden floor.

During the work stoppage electric lights and heaters had been installed under and around stationary electrical equipment throughout the mine, including the battery-charging station, to keep the motors and other electrical equipment dry and ready for resumption of work. The source of ignition was believed to be from the electrical heating equipment or from power wires contacting combustible materials.

Reports on the fire fighting activities pointed out that fog nozzle sprays were found to be an important means of pushing smoke ahead so that fire fighters could advance safely.