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AMERICAN FORK CANYON
WASATCH NATIONAL FOREST
U T A H

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

TIMPANOGOS CAVE NATIONAL MONUMENT

was established by Presidential Proclamation on October 14, 1922. It is located near the mouth of American Fork Canyon, Utah County, Utah, within the Wasatch National Forest, and has an area of 250 acres.

All acts of vandalism within and injury to the national monument are prohibited by an Act of Congress dated June 8, 1906, and in President Harding's proclamation for Timpanogos Cave, a special warning is given to the public "not to appropriate, injure, deface, remove, or destroy any feature of this national monument."

Timpanogos Cave was accidentally discovered in 1915 by the small son of a mining prospector who literally fell into the cave. The existence of the cave was kept a family secret for five years, but finally the approximate location was inadvertently disclosed, and in August, 1921, the cave was rediscovered by a hiking party. The United States Forest Service immediately initiated protective and development features which met with the generous support of local citizens, so that now the cave is completely equipped with passageways, stairways, and electric lights.

The following description of the cave is published in a volume entitled "Through the Heart of the Scenic West" and is quoted with the consent of the author, J. Cecil Alter.

"The tickets which we purchased at the Timpanogos Cave superintendent's office informed us that 'Timpanogos Cave is operated (under permit from the Wasatch National Forest) by the Timpanogos Outdoor Committee. All receipts are devoted to maintaining and developing the cave for the benefit of the public. Length of trail—one mile; elevation of cave above road—1,200 feet.'





"We might have been inclined to double the elevation and length of the trail with its forty-odd zigzag laps, but for the seats at opportune intervals, each with a different prospect of the canyon. Utah Valley, seen far to the westward through the tall V in the end of the canyon, smiles wider and brighter with its expanding checkerboard from each successive hinge of the trail, and the immensity of the canyon walls round about is majestically impressive.

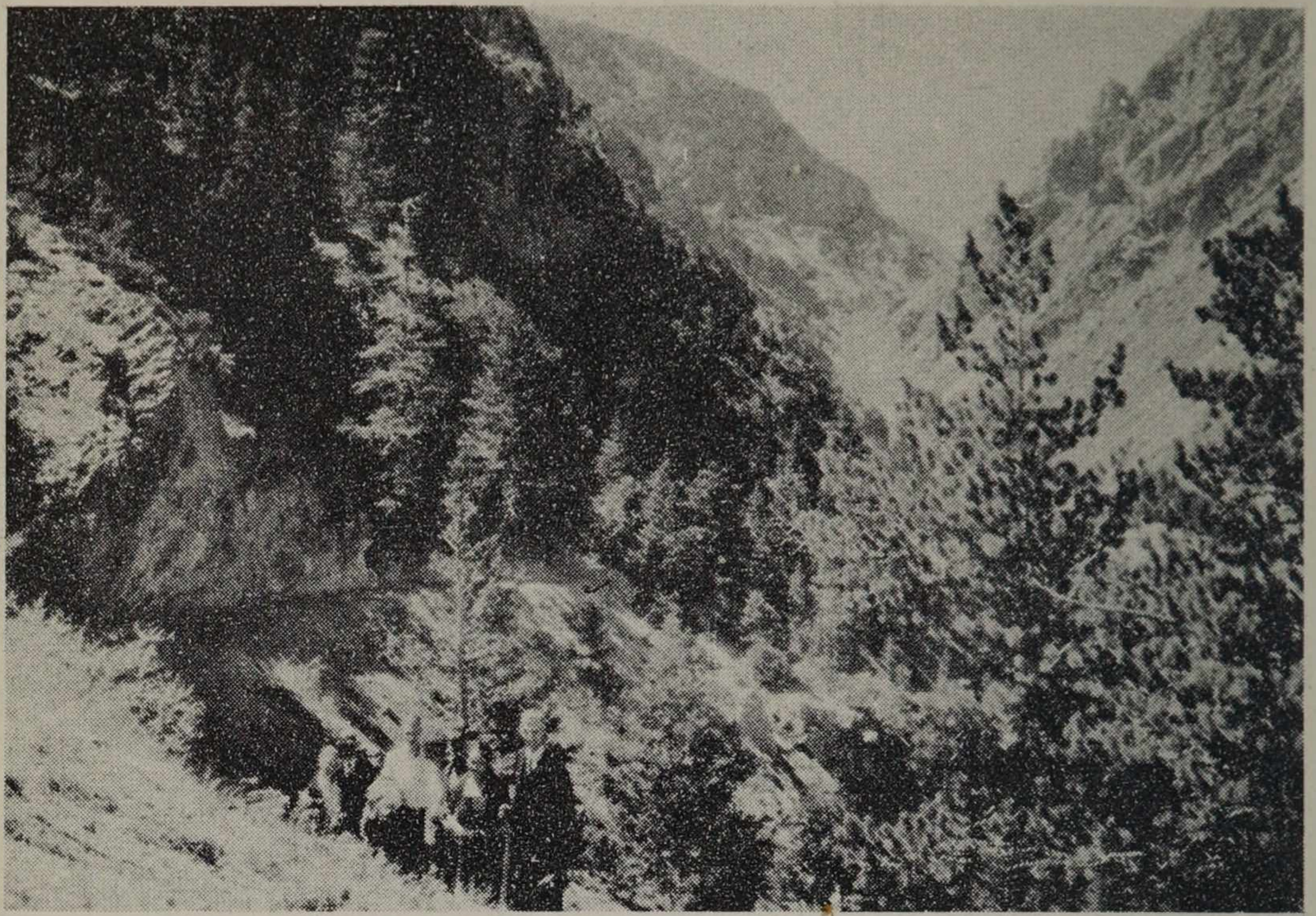
"The trail finally ends at a closed mine door * * * Around the door was hung an assortment of tourists' headgear. * * * We signed the register, uncovered, and lined up in the tow of a talkative guide. He carried neither smoking torch nor hand flash lamp, for a house-lighting expert has properly placed the spots, clusters, reflectors, indirects, glows, and the full prism list of colors to set off the cave features.

"The inner vestibule resembles an immense papillae-covered throat, frosted over and congealed. * * * The features everywhere are set out to fine advantage by the electric lights. The air is good and ventilation perfect, probably from untraced vents to the outside. Here and there are tiny fairy pools or mirrors of water, and most surfaces are moist, though there is no stream of flowing water. The slow dripping from the myriad of stalactitic heads is evidence of the present activity of the beauty-building processes.

"Nearly the entire interior cave surface is thinly thatched with a macaroni-like filigree, or what appears to be a mass of vermicelli plastered to the walls in pink, white, and translucent crystal forms * * * .

"Frosty feather boas, and neatly braided wreaths trimmed the walls and corners in places as if to suggest that the departing stairs led to a warmer region where such apparel was not needed. Fine coral forms betokened the purity and perfection of the designs. Here and there the veneer of beauty has fallen away, by its own weight perhaps, revealing mother earth's bare breast of rugged rock. Handholds of ivory and glass indicate the route here and there, though warning signs contradict with 'hands off.'

"The story of the birth, growth, maturity, and decay of the floor of stalagmites and their ceiling companions, the stalactites, is told to the visitor in their own pantomime. A tiny tongue grows from the ceiling, as many others are now starting, the drippings from which erect a counterpart on the floor plumb beneath. If the distance be but a foot or two, as it is in many places, these tiny swains of Nature reach out for but a comparatively few years before finally clasping hands."



To reach Timpanogos Cave one may travel by rail to Salt Lake City or Provo and thence by auto bus over the Timpanogos Loop Road joining the town of American Fork and the highway in Provo Canyon, about 12 miles from the city of Provo. The auto tourist may drive to the cave camp ground which is located 7 miles off the main highway, No. 91, between Salt Lake City and Provo.

A public camp ground is provided here with pure water, shade, tables, benches, stoves, and fuel, all furnished free to cave and canyon visitors. A store is maintained at the camp grounds where lunches and regular meals, foodstuffs, and tourist supplies may be obtained.

The cave entrance is reached by a well-graded scenic foot-trail one mile long, and is at an elevation of 6,776 feet.

Guide service is maintained year-long, but because of the snow there are few visitors between November and April. Admission to the cave, including competent guide service, is 50 cents for adults and 25 cents for children. The cave is open from 8 a. m. to 5 p. m.

A group of public-spirited citizens from the nearby towns of American Fork and Pleasant Grove manage the cave with the cooperation and supervision of local forest officers.

GEOLOGY OF TIMPANOGOS CAVE

By J. J. BEESON

Timpanogos Cave, geologically, is very young, but in terms of years it is probably many hundreds of thousands of years old. Originally the cave was a fissure vein cutting through the Maddison formation of lower Carboniferous limestones. This fissure was probably filled with Pyrite (iron sulphide), but as American Fork Canyon was gradually cut through the Wasatch Range, surface waters came in contact with the Pyrite, forming sulphuric acid, which reacted on the surrounding limestone, and dissolved out the soluble parts of this formation and eventually formed a rather large open cave along the fissure. For some time at least, the cave existed as an open watercourse and was somewhat enlarged by the flow of surface waters.

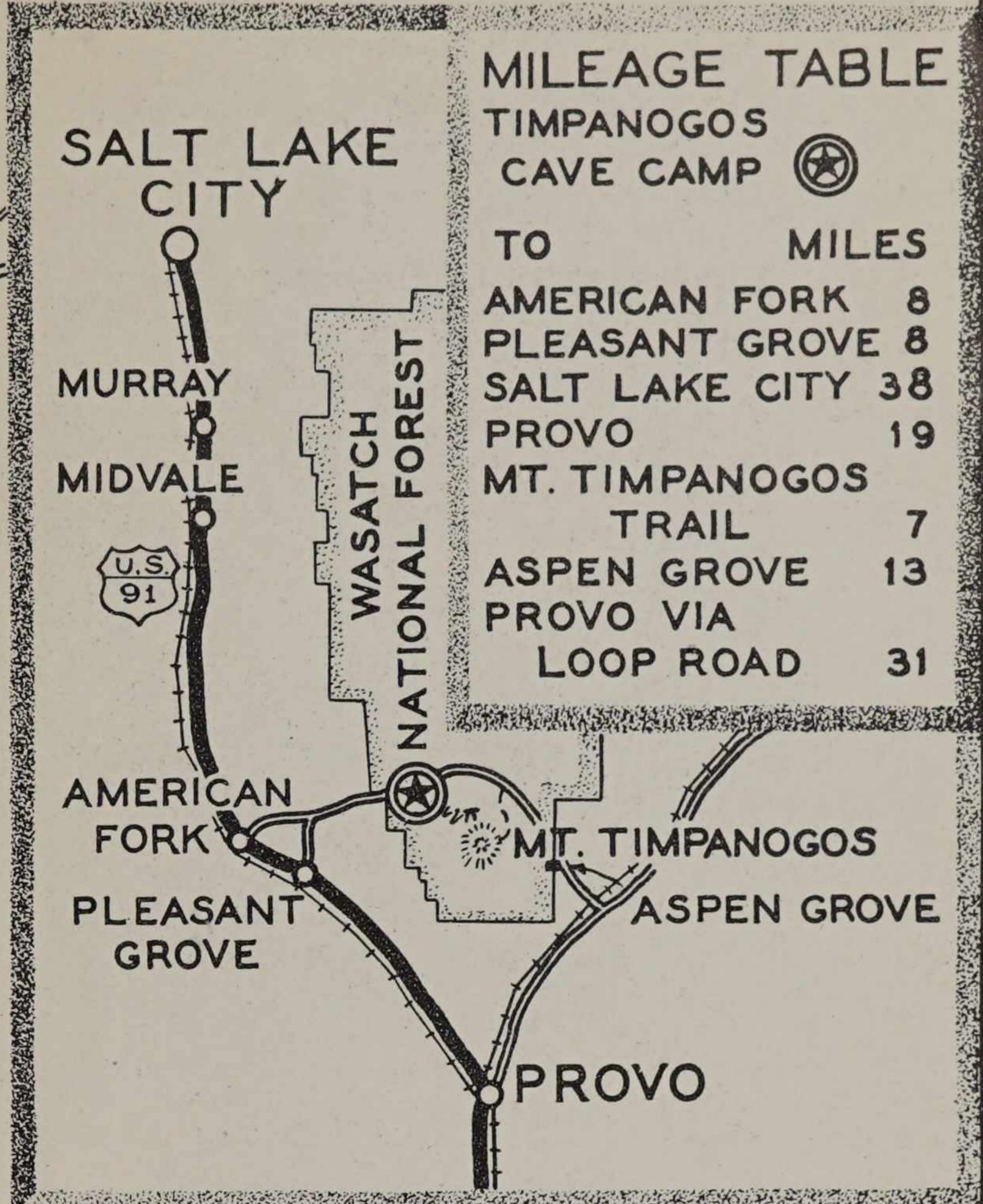
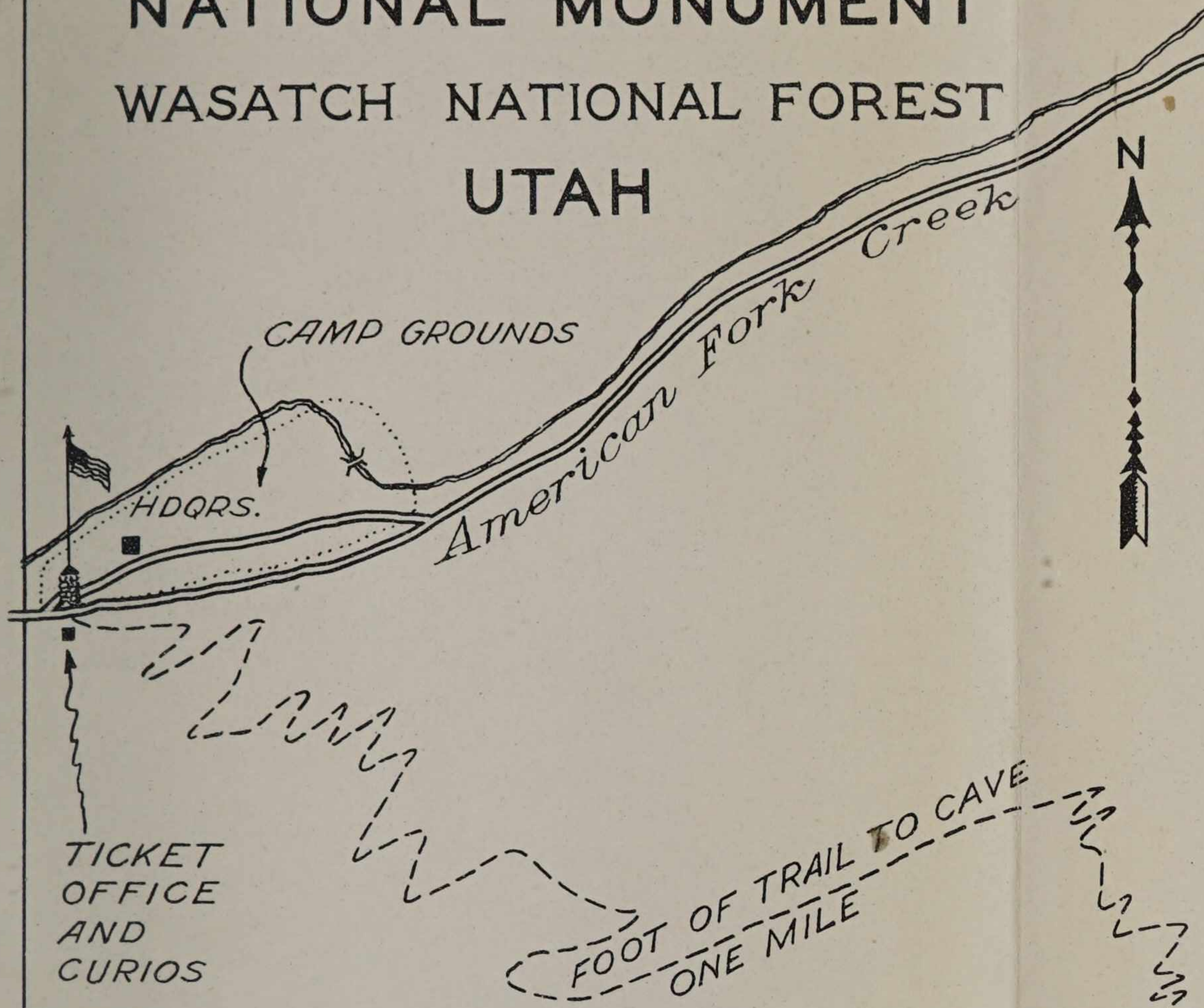
Since the time when the original cave was formed, American Fork Canyon has been cut over 1,200 feet deeper until now the entrance to Timpanogos Cave is high on the precipitous southern slopes of the canyon, where there is little chance for any considerable amount of surface waters to flow through the cave. So, for the past few thousand years, surface waters entering the cave have been charged with carbon dioxide and have dissolved a small amount of the surrounding limestone before reaching the cave. This water has gradually trickled down the

TIMPANOGOS CAVE

NATIONAL MONUMENT

WASATCH NATIONAL FOREST

UTAH

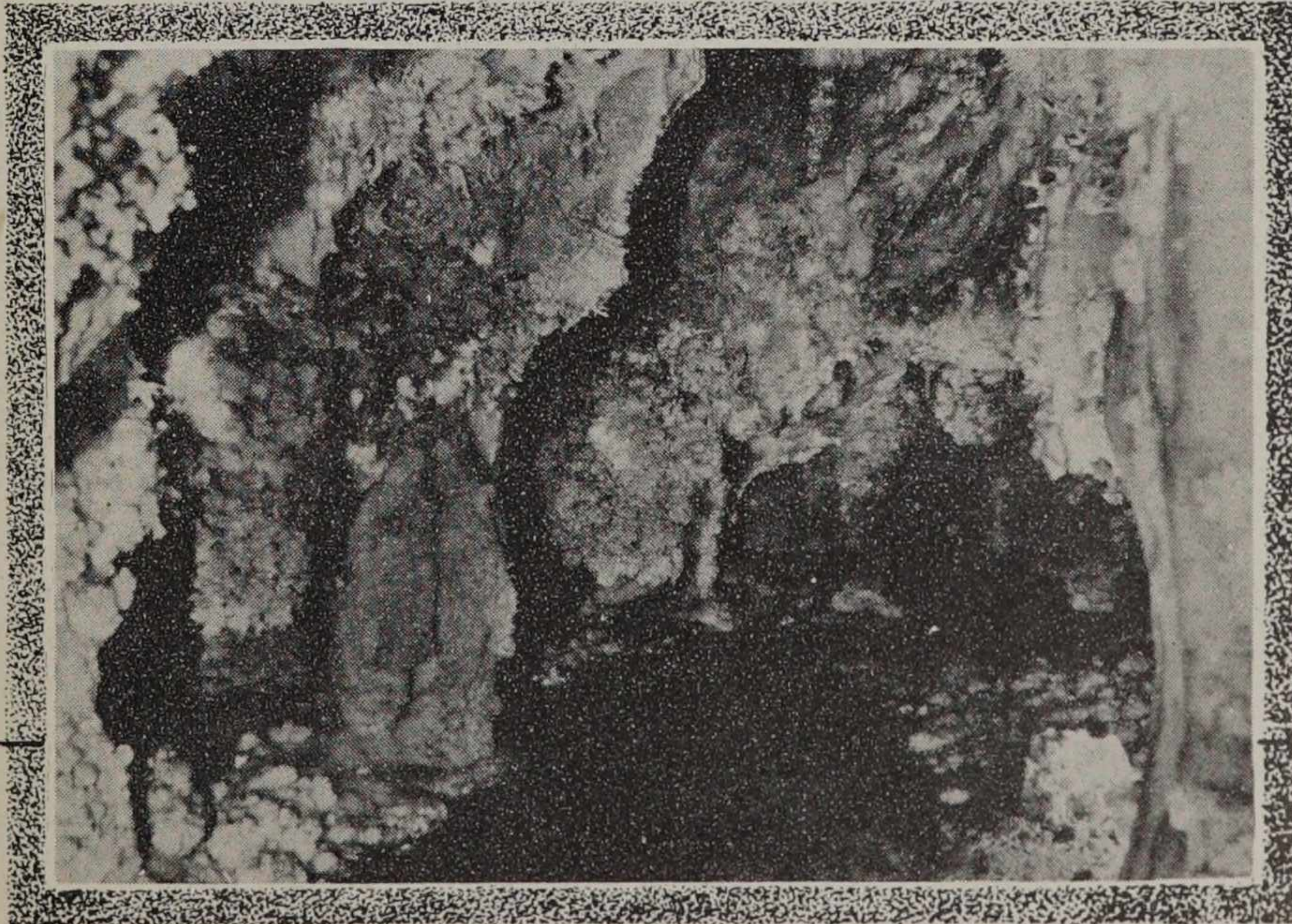


CHIMES CHAMBER

TIMPANOGOS CAVE ENTRANCE

ELEVATION 6776

CAVERN OF SLEEP

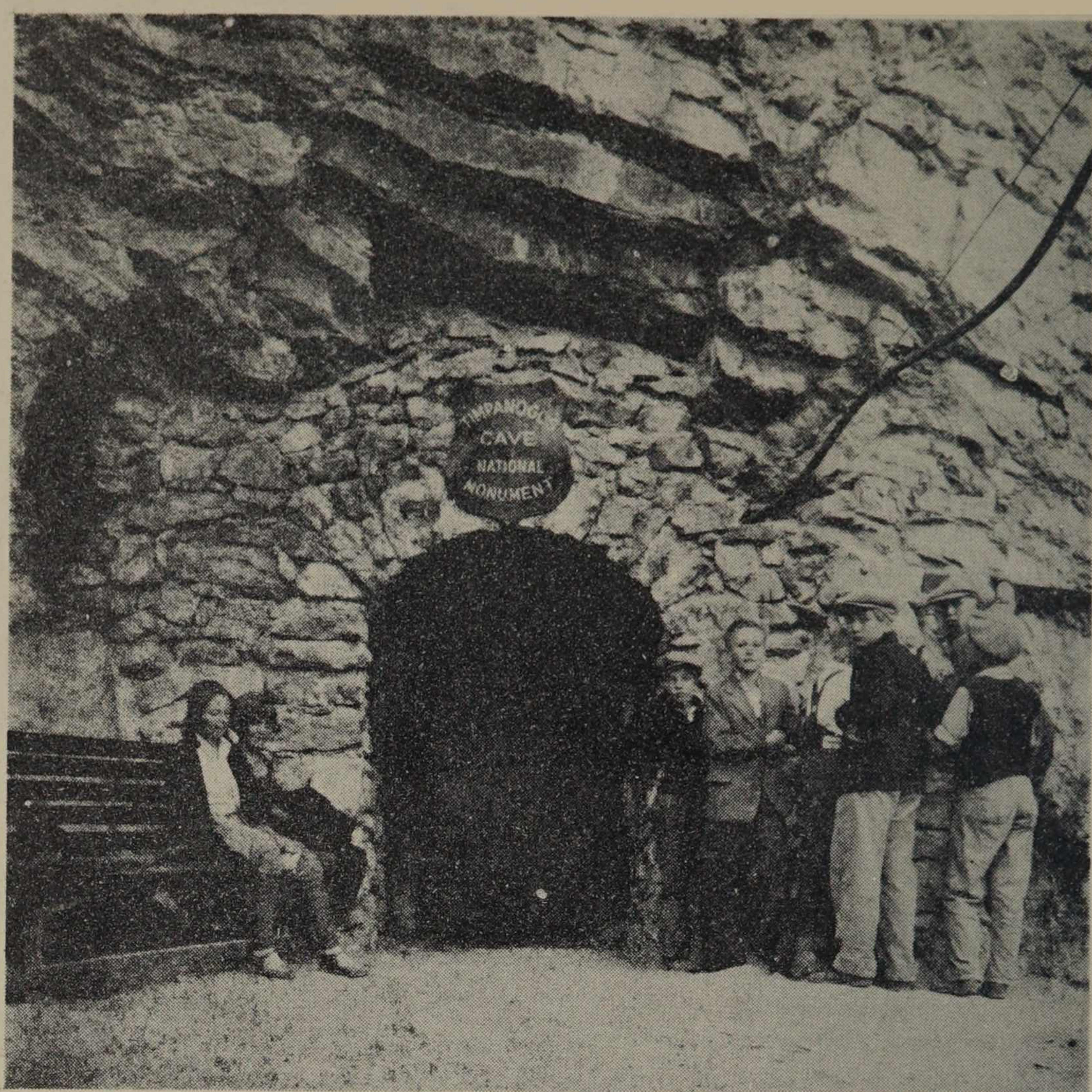




sides and also formed small seepages from the roof of the cave, where gradual evaporation or loss of the carbon dioxide has caused the redeposition of the limestone in the form of white stalactites in the roof of the cave and stalagmites on its floor. Both the stalactites and the stalagmites are a form of the mineral Calcite or Calcium Carbonate (CaCO_3).

The cave is almost 600 feet in length. At the immediate entrance the stalactites have been discolored by surface wash and powder smoke, but farther on they are almost snow white with an occasional iron stain of brown or green. Instead of being massive and smooth, as they are in many other caves, the stalactites here form delicate branches, some of which are almost needlelike. Many beautiful effects are particularly emphasized by the electric lights installed in the cave, among them the great heart of Timpanogos, the Jewel Box, and Chocolate Falls.





Along the trail to the cave the exposed formations are marked by signs. First is the Cambrian or Tintic quartzite, the same as that found in the Tintic, Ophir, Big and Little Cottonwood, and American Fork mining districts. Overlying the quartzite is the Ophir formation, composed largely of shales, but along the Timpanogos trail there is one limestone bedding exposed. Next above the top of the Ophir shale there is probably from 50 to 100 feet of black mottled limestone of the Cambrian age. Then comes an unconformity or a disconformity, and the formations of the Ordovician, Silurian, and Devonian ages are missing, and lower Carboniferous limestone has deposited directly on the Cambrian.

Fossils are extremely rare, but along the trail the Carboniferous limestone shows many small corals and shells that are characteristic of the Carboniferous age. The remainder of the trail to the cave is along precipitous bluffs of lower Carboniferous limestone, which continues to an elevation of about 5,000 feet; then the upper Carboniferous, or Pennsylvanian formations, made up largely of alternating beds of limestone and quartzite, continue to the very summit of Mount Timpanogos.

The formation in which Timpanogos Cave is formed is many millions of years old, but the fissuring which is responsible for the present cave probably took place during the Eocene period, when there was a widespread volcanic activity from the Wasatch to the Sierra Nevada Mountains and, more particularly, in the Bingham, Big and Little Cottonwood, American Fork, and Park City mining districts, and long before the great valley bordering the Wasatch Mountains from Ogden to Provo and beyond was formed. Since that time, the valley area has moved down the Wasatch Fault (located about two miles west of the cave) thousands of feet, and the many beautiful canyons of the Wasatch Mountains have been cut through the range during the last brief geological period extending from the latter part of the Miocene to the present. It was during this latter period that the present features of Timpanogos Cave were formed.