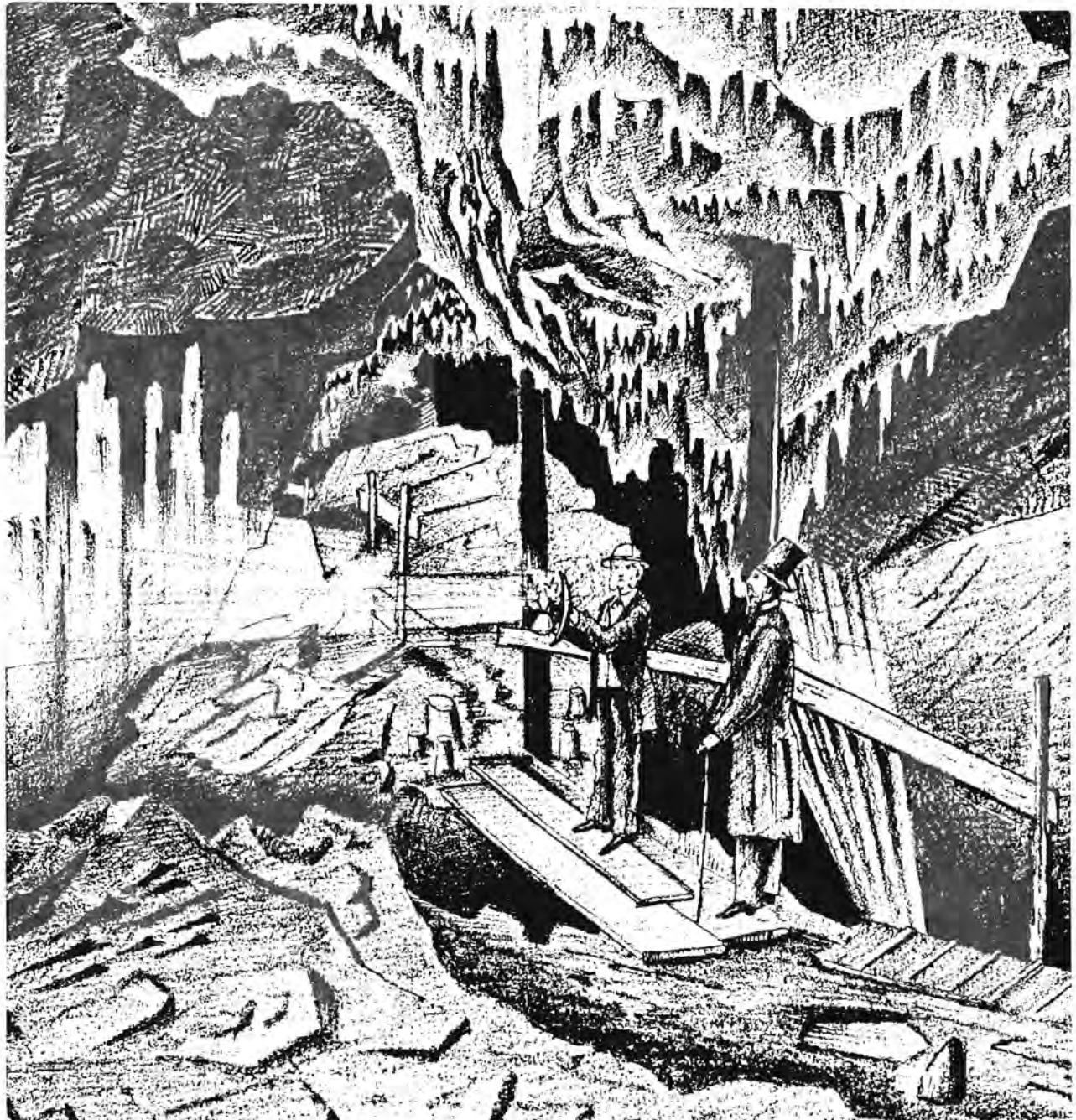


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The American Spelean History Association is chartered as a non-profit corporation for the study, dissemination, and interpretation of spelean history and related purposes. All persons who are interested in those goals are cordially invited to become members. Annual membership is \$8. Meetings are held in conjunction with the annual convention of the National Speleological Society and sometimes at West Virginia's Old Timers Reunion.

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A pencil drawing by P. Meissner shows visitors inspecting Crystal Cave, Pennsylvania. Date unknown; but possibly as early as 1872. Courtesy of Nevin Hill.

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Editor for this issue:

Dean H. Snyder  
3079 Main St.  
Neffs, PA 18065

Assistant editor and proofreader:

Carolyn E. Cronk  
127 Cookman Ave.  
Ocean Grove, NJ 07756

## A 1797 DESCRIPTION OF PENNSYLVANIA'S LAUREL CAVERNS

Tom Metzgar

In 1976, Paul Damon completed his well-researched and informative book, The History of Laurel Caverns of Fayette County, Pennsylvania. Damon's history is one of the few books devoted entirely to a single Pennsylvania cave. It is now out-of-print as well as out-of-date. Cave historians hope that Damon will revise his work and publish an updated edition of his popular book.

Since 1976, historical research has brought to light a wealth of additional material about Laurel Caverns. This material upholds and reinforces many of Damon's statements. Laurel Caverns in the past has indeed been a popular tourist spot, perhaps as well known locally as Kentucky's Mammoth Cave. Certainly today Laurel Caverns is the most visited and best known western Pennsylvania Cave because of its commercial status and the superb marketing efforts of owner Dave Cale.

Until recently, Laurel Caverns unquestionably held the record as Pennsylvania's longest cave. Harlansburg Cave in Lawrence County with 6,648.8 meters (21,808 feet) of passageways now officially surpasses Laurel Caverns' second-place standing of 3,682.9 meters (12,080 feet) of surveyed passageways (Wheeland, 1986b). Edward Frank's work in Clarion County's Sarah Furnace (Porter's) Cave indicates that even Harlansburg Cave's record will eventually bite the dust. Frank predicts a length exceeding 60 kilometers for this maze-type Vanport limestone cave (Frank, 1985).

Despite its second-place length status, Laurel Caverns, formed in Loyalhanna limestone, will probably remain the largest commercialized cave in Pennsylvania. The small passageways of Vanport limestone caves such as Harlansburg and Sarah Furnace offer meager potential for tourist trails. Also, Laurel Caverns will no doubt remain the deepest Pennsylvania cave with its farthest known reaches extending 141.4 meters (464 feet) below the entrance (Wheeland, 1986a).

Laurel Caverns cannot claim to have the longest documented history of any cave in the state. In fact, one of the earliest documented Pennsylvania caves is found in the same county as Laurel Caverns. A partially collapsed rock shelter known as Christopher Gist Cave is located in Luzerne Township, Fayette County, northwest of Laurel Caverns, which is in Georges Township. Damon devotes a lengthy paragraph in his history to Christopher Gist's early explorations of Fayette County. Oddly, he does not mention Christopher Gist Cave.

Future research involving land records may provide a definitive report on Christopher Gist Cave, but that is beyond the scope of this article. The principal point to be made here is that Laurel Caverns was not documented as early as Christopher Gist Cave.

Laurel Caverns has been described in dozens of gazetteers, geological works, geography texts, travel descriptions, local and regional histories, guidebooks, and newspapers. A fairly complete bibliography of these

descriptions is being prepared for future use. The most fruitful sources are old newspapers. Sadly, however, few complete files of Fayette County newspapers have been preserved, meaning that some important early accounts of this cave are probably irretrievably lost. This fact enhances the historical value of the description presented here.

Laurel Caverns received an enormous amount of attention in a diverse array of publications, undoubtedly accounting for its ever increasing number of explorers. Even during the early 1800's, the cave was known to visitors from outside the Pittsburgh area.

The best known and most widely quoted account of Laurel Caverns was written in 1816 by John A. Paxton, a Philadelphian venturing throughout the United States while gathering information for a Gazetteer. Paxton published his now-classic cave account in a Brownsville, Fayette County, Pennsylvania newspaper called the American Telegraph. After its initial appearance in the Telegraph, Paxton's description was reprinted in several other newspapers. Interested readers may find the entire contents of Paxton's article in two sources: Cave Clippings of the Nineteenth Century (Gurnee, 1983, pages 146-147) and History of Fayette County, Pennsylvania (Ellis, 1882, pages 15-16). An enjoyable addition to Damon's revised history of Laurel Caverns would be the full text of Paxton's and other early articles.

Laurel Caverns was known for many decades as Delaney's Cave. This name referred to the family of John Delaney and his heirs who owned the cave's entrance property from 1814 to 1836. The name "Delaney's Cave" was used up to 1964, when cave developer Norman Cale (grandfather of present owner Dave Cale) selected the name "Laurel Caverns." Many cavers and local residents were upset by this name change. A few still stubbornly adhere to the Delaney name. The 1797 article reprinted here reveals an interesting point concerning the cave's name through the years.

The inspiration for the commercialized name of the cave was derived from John Paxton's 1816 article. Paxton, with all the arrogance of a proper 19th century gentleman, begins one paragraph boastfully: "Laurel Hill Cave, which I have taken the liberty to name, it being in want of one...." The title of the 1797 article presented here is "Laurel Hill Cavern." Note that this is simply the title of the article and not specifically the name for the cave. But this title precedes by nineteen years the appellation Paxton claims to have invented, and is very similar to the name used today. Perhaps Paxton first became aware of this cave through the 1797 article which may have been reprinted in a Philadelphia newspaper. Consciously or subconsciously, he may have selected a slight variation of this article's title for the cave's name.

Amusingly, despite Paxton's pomp, the cave remained nameless a year later, in 1817, when John Whiteside mapped Fayette County and simply noted "Great Cave" on Laurel Hill (Whiteside, 1817). Another later map of the county shows even more laconically, "cave" (Lewis, 1832).

The article reprinted here is one of the earliest known newspaper descriptions of a Pennsylvania cave. It appeared in the Western Telegraph and Washington Advertiser, published at Washington, Pennsylvania, on Tuesday, February 28, 1797, as volume 2, number 82, on page 3, column 2. The

copy used here was made from a microfilm held by the Carnegie Library of Pittsburgh.

### LAUREL HILL CAVERN

A few weeks since four young men made an excursion from Union Town in Fayette County, prompted by their curiosity to explore a Cavern, which they understood was situated in Laurel Hill, about 9 or 10 miles from thence. They found the mouth of the Cave narrow, and difficult of entrance. Descending about 10 yards, they came to an apartment 20 feet diameter, irregular in form, and covered with a smooth and tolerably regular arch; here they thought it prudent to light candles which they had brought with them for that purpose. Furnished with light, they proceeded about 20 yards through a narrow lofty passage, which brought them into a second apartment, something less than the former, rough at the bottom, and descending as before, its arch about 30 feet high. From this apartment they proceeded through a declining, rough, and lofty passage, in which they passed a fine spring, about the distance of 3 or 4 yards, and entered a third apartment, somewhat irregular in shape, and from which, there appeared to be passage to different quarters; this room was more spacious than the others, being about 40 feet wide and somewhat longer; its floor on the north side was composed of a beautiful white sand, that on the south side, of irregular rock; a vast number of bats were here suspended by their feet to the arched roof, in a torpid state. Passing from hence, by the North west corner, they descended suddenly, about 30 feet, through a very narrow passage and came into a fourth room, more contracted, and less lofty than either of the former, at the lower end of which was a small stream of water, having a steep descent through the rocks.

By this time their candles grew dim, and they thought it prudent to retreat. They had brought a line with them, 15 yards long, and they had now advanced 15 lengths of it, 675 feet. Not readily finding the way back, they began be alarmed, but soon recovered themselves, and deliberating on the best mode to pursue, they soon regained the passage by which they had entered, and again emerged into open day. Persons in future, lead by their curiosity, to visit subterranean recesses, would do well to fasten the end of a clew of twine to the entrance, by taking which with them, they would not only measure the distance they progress, but it would serve as an unerring guide to their return. Taking into view the angle of descent of the Cave, and the ascent of the hill, the young men must have been at least 200 yards beneath the surface.

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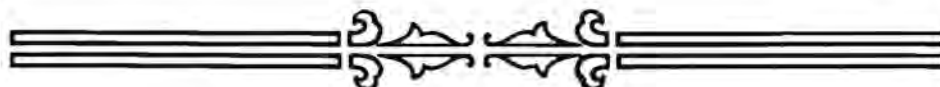
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## THE HERMIT OF WOLF ROCKS CAVE

Dean Snyder

During the middle of the nineteenth century, residents near Doylestown, Pennsylvania, were puzzled over the curious events reported from the slopes of Buckingham Mountain, at the Wolf Rocks. At times, an odd, melodic human voice was heard on moonlit nights; yet no one could ever be found. A strange smoky fog was seen above the rocks, supporting the claim that evil spirits inhabited the mountain. Nearby farmers complained that some of their poultry was disappearing from one day to the next. Children picking berries and chestnuts ran home scared after sighting a man with a beard that was three feet long. Stories of this "man of the mountain" soon became commonplace in the area.

These mysteries were finally solved on Friday, April 9, 1858. William Kennard, a free black man, was searching for three stray goats on the mountainside when he was startled to hear strange metallic sounds coming out of the rocks. Kennard quickly left the Wolf Rocks, but was so curious that he returned with a companion and a crowbar. Investigation soon revealed that the rattling noises seemed to be emanating from a narrow fissure which was partially obstructed by roots and rocks.

Gathering all of their courage, the two men expended great effort to belly crawl into the dark fissure. They were soon stopped by a voice from the darkness that exclaimed, "Who is it and what do you want?" After an uncomfortable period of silence, the shaken Kennard stammered that he was searching for a goat. "Wretch, you advance to your destruction," came the reply. "One step more and you're a dead man!" Not willing to press on, the two men hastily bid a retreat to the surface. They scurried back to Doylestown and excitedly told of their adventures to the townspeople.

As night was falling, an armed mob gathered at the entrance to the cave, intent on driving the hermit from his hiding place. A huge fire was built at the entrance with this purpose in mind. Soon, a large man appeared from the smoke and rocks, and he was taken captive immediately. His name was Albert Large, who had been seen in town only infrequently for the last 20 years. Dressed in goat skins and fox fur and having a long beard with equally long hair, the hermit claimed that he had lived in the cave for a period of 40 years, only leaving it under the cover of darkness. An unhappy love affair had caused him to retreat from society.

An inspection of the cave soon followed. Consisting of three small rooms, the first served as a kitchen. It contained a fireplace, a pipe to carry away smoke, and various crude utensils. A powder keg served as a table. A second room at a higher level made the hermit's sleeping quarters. Here a bed, surrounded by wooden boards to ward off the dampness of the cave, was filled with leaves and straw.

The story of the discovery of the hermit in his cave created quite a sensation, especially after it was reported in the Doylestown newspapers. The following Sunday, hundreds of curious visitors from towns all over the region clogged the roads leading to Buckingham Mountain. At one time, a

crowd of 300 milled around the Wolf Rocks, although only two or three at a time could squeeze into the cave to view the hermit's abode. It wasn't until darkness that the last of the visitors left the mountain.

Apparently, Albert Large was not permitted to return to his cave. Some evidence suggests that local officials wanted the cave blasted shut. The Wolf Rocks returned to being a quiet place once again after the hermit and his cave disappeared from the slopes of Buckingham Mountain.

#### Acknowledgement

Thanks to Rich Kranzel, who provided me with the Democrat newspaper articles.

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171. BUCKS COUNTY (PA.) VIEWS  
*Arnold Bros., Printers, Richland, Pa.*

"WOLF ROCKS," SUMMIT OF BUCKINGHAM MOUNTAIN.

## A LOOK BACK AT KOOKEN CAVE

Garrett E. Czmor

In commemorating the 50th Anniversary of the National Speleological Society, it is appropriate to celebrate some of the caves that helped bring a few grottos into existence and set foundations for future growth in the NSS. One such cave, Kooken, perhaps played such a vital part in the expansion of caving. This cave can be said to be directly or indirectly responsible for the birth of at least two grottos. Although the cave is "closed" today, future generations may get a chance to unravel some of the mysteries of this sleeping giant in Huntingdon County.

Kooken Cave lies under the fields of the James Kooken farm near Waterstreet, Pennsylvania. The cave's trunk passage is of large walking dimensions with several rooms along the way. Perhaps most noted for its extremely muddy conditions, Kooken Cave does flood to some extent, although its hydrology is not well understood. Nevertheless, this challenging cave has fascinated spelunkers for the past 61 years. The physical and mental strain exerted on this one mile-plus cavern can equal or surpass many of the other well known caves in the eastern United States. Traversing over pits, climbing up chimneys, and slogging through lots of mud has kept explorers coming back for more fun and torture. Despite the extreme physical challenges to hundreds of cavers over the past six decades, no one to my knowledge has ever received serious injury. It is the respect cavers have for this cave that made trips successful each time. Although not heavily decorated, scattered areas do show fine examples of nice and sometimes large formations, unharmed by vandals.

Perhaps the greatest love for this cave originates from the possibility that much of it still lies unexplored. After 18 trips in this cave (and others have made more), I never got to see all of it, and now doubt that I ever will. Kooken Cave is still a young cave, geologically speaking, compared to others in the area; though some past publications tried to explain the cave's existence, many questions remain unanswered. Past explorations are now of great interest to speleohistorians. This article is a compilation of material I've collected over the past ten years. It deals with the history and for that reason you will not be reading a cave description per se, but rather a walk-through of events. Much of this information has resulted from researching old newsletters, bulletins, publications and eyewitness reports, and my own experiences. And so the story begins....

A geologist in 1929 noticed that several surface streams flowing down Canoe Mountain soon disappeared in sinkholes. The fact that these waters did not reappear led him to correctly believe that a vast cavern must exist. One of these sinkholes was located on the property of Robert Kooken (James' father).

Word reached a coal operator by the appropriate name of William Mines. Mines agreed to finance a search for such a cave. Two coal miners were hired, Neuville Rodgers and John Bougher, along with Theodore Price. Price, a mine inspector by trade, was to supervise the operation. They dug into

several sinkholes, one of which revealed a small cave, but not the sizable cavern that was hoped for. They also dug into a 20-foot hole that had opened on the former Anderson farm, only to find another small cave with no apparent continuation. Knowing this wasn't the cavern they were looking for, they moved on to other areas on the Kooken property.

Ironically, one of the mine workers walked over to a low spot in the field to relieve himself while the others were walking around and poking into sinkholes. It is said when the worker was in a stooped position, he noticed cold air blowing hard on his backside. He traced the air back to a six-inch hole.

In 1930, the coal miners successfully excavated this hole down to ten feet when they struck an awesome 160-foot vertical chimney. They cribbed the entrance and small room over the shaft with wood. After a quick look, Mines decided that a great money-maker had been discovered. His plans were to commercialize the cave and to construct some sort of amusement park to draw crowds. At the time, he was paying his coal miner workers 45 cents an hour to work in the cave. In order to make this commercial enterprise come true, he estimated that it would take at least \$100,000 to complete the project, including an elevator to enter the cave's main passages.

The cave is coated with slippery, thick mud and contains many deep pits, some of which take up the entire width of the passage. This made it very difficult, if not dangerous, for the miners. A search in the cave resulted in locating a wide, steep, up-sloped chimney about 1900 feet from the entrance which appeared to come close to the surface. Since this would make a better entrance to bring in materials for building purposes, they decided to open it. During the summer of 1931, the miners dug toward the surface and after several blasts of dynamite, they were able to poke through a bar. This entrance, known as the "2nd Entrance", was said to be "28 steps" from the main road toward Kooken's barn.

Upon opening the 2nd entrance, work began by building bridges and ladders. The team of workers built over 20 ladders and 15 bridges, some with handrails made out of chestnut wood cut nearby. Most of these items were taken into the cave through the 2nd entrance. Mr. Kooken didn't like the idea of another open hole on his property and claimed that some of his good topsoil was washing down this hole. By 1933, the 2nd entrance was closed.

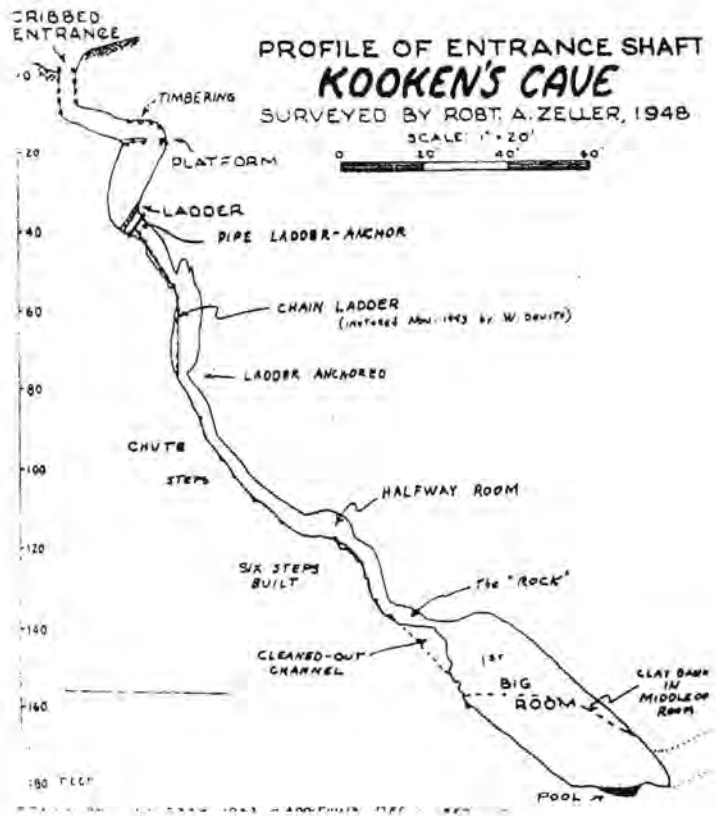
During early explorations, an attempt was made to cross the "1st Lake", which ended in comic disaster. The 1st Lake is located between the "1st and 2nd Big Room." Passage continued on the other side and they wanted to see it. In 1934, a wooden boat was built inside the cave to cross the water. Their adventure soon caught a snag when a large rock suddenly fell into the water, blocking their route. The workers blasted the rock with dynamite and returned after the smoke cleared, only to find they had succeeded in blowing up their boat!

It seems Mine's original plan for the cave was beginning to fade away. He probably realized that due to the cave's nasty nature, commercializing the passages would be difficult. With all the money needed, his efforts proved too much to handle. Some say that one of his early interests was in hoping to find lead-zinc ore. Whatever his intent, William Mines eventually became ill and gave up any interest in the cave.

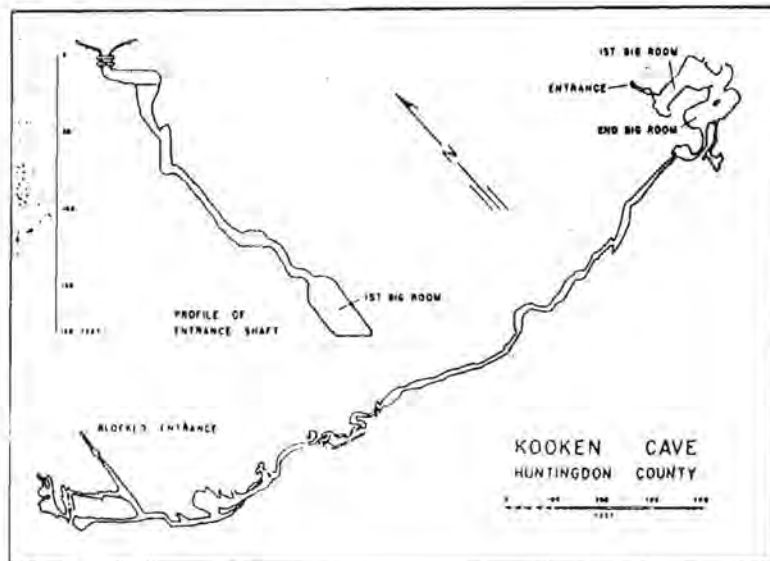
The cave was, for the most part, forgotten until 1941 when Dr. S.W. Frost of Penn State University "rediscovered" it. Numerous trips were made by Frost and several students. One of the first known maps of the cave was made during this time by C. Edwards, L.E. Smith, and E.S. Richardson. The map was very basic and portrayed the main trunk known to them at that time. In November of 1941, Frost guided 25 members of the National Speleological Society through the cave. By September of 1942, Kookan Cave would be described by Ralph Stone for the first time in the Pennsylvania Internal Affairs Monthly Bulletin. Shortly after World War II, a flash flood poured down the cave's entrance, knocking out the ladders in the shaft. The flood also blocked the chimney with mud and debris. Members of the Philadelphia Grotto spent two lengthy work trips reopening the cave.

During the winter of 1948, a newly organized group of cavers (later known as the Nittany Grotto) under the leadership of Robert Zeller Jr. visited the cave. Upon investigation, they found the cave entrance, shaft, and platform over the shaft to be in very poor condition. The platform and ceiling cribbing was rotted and of little use in supporting any weight. With railroad ties and timber, Robert Zeller Jr. and Warren Hinks (mining engineers), and Nittany Grotto members replaced the original supports used to crib the 10-foot section to the small entrance chamber. Here, they also rebraced the area over the platform covering the shaft. But these were not all of their problems. The shaft was found to be blocked once again with fill. Several trips were made to remove the clay and rock to gain access to the cave. Another part of the work was to remove material in the narrow part of the entrance chimney. This work was never finished. Another special project undertaken by Zeller was a gravimeter survey on the surface to help find additional rooms or passages. Several readings indicated other cavities coming close to the surface. These were later thought to be the high chimney located in the 2nd Big Room. At best, he felt his findings were inconclusive.

During 1949-1950, some trips were made into the cave by the Philadelphia and Pittsburgh Grottos, but in the spring of 1951, new interest sparked the Nittany Grotto into high gear. Nittany visited the cave often; so often in fact that they discovered new and extensive passages not seen since the days of the now dead miners. Many explorations also took cavers to areas above ground in an effort to gain access to parts of the unknown system from a different vantage point. On June 15, 1951, William Devitt, Dick Smith, and others searched a sinkhole on the Kookan property that was taking in water from a small stream. It was believed that this stream was feeding the cave, so a new discovery here was of utmost importance. After removing a bale of earth-covered wire and other debris, they noticed a cave entrance. It appeared that the early miners had also investigated this sink, for Devitt found it to be shored up and logs were placed over the entrance. Although the timbers were quite rotted, the great danger lay in the many loose rocks that kept falling in after they had uncovered it. After removing these, they were astonished to find cave passage sloping down to a "Y". With the small stream spraying into the entrance, they explored further to find a dry, clay floored left passage which seemed to continue for over 100 feet. The right or water passage was small and appeared to be heading towards Kookan Cave at a 30 degree downslope. Forty feet into this passage, a large chimney (like the Kookan vertical entrance) was met.



Early profile surveyed by Zeller, 1948, and drawn with additions by Walczak, December 1, 1953.



Early map as published in Stone's NSS Bulletin 15, December, 1953. Note that no cave passage was shown beyond the Rover Room.

Little more was done that day, but on June 30, 1951, they returned to find the stream had dried up. Once again, they entered this cave and used a 40-foot rope ladder to explore this large chimney. It was found to be about 25 feet deep and slanted back under the entrance. At the bottom was a clay floor with small stones and several fissures leading down that could not be entered. Again, the early miners had been here, since they left behind two old ladders for Devitt to find. Devitt never understood why the ladders were there, since the chimney didn't appear to go anywhere. They also explored the dry left passage and found it to be wide. But after 100 feet, it became a tight but level crawl. They had to stop when the ceiling height lowered to a point that would not allow further exploration. Perhaps this is the other end of Kooken Cave. Devitt couldn't prove it then, and we still don't know for certain today!

On September 23, 1951, signs of exhaustion were noted by Dick Smith, and Bob and Bill Devitt. After a 12 hour trip inside "Kooken's 1800 feet," they felt that because of "insufficient equipment, and continual expenditure of brain and muscle power," the threesome had only one interest of "self preservation."

Only two months later, on December 3, another Nittany group comprised of Dave Anderson, Phil Smith, Doug Lind, Paul Smith, Bob Higgs, Paul Barton, Wes Doughty, and Jim Walczak, made a second attempt to find the end of Kooken Cave. This better equipped group reached 1850 feet into the cave with Walczak taking pictures. While part of the group rested and grabbed a snack, Barton and Doughty explored past the second entrance and through a side crawlway that lead into a wide, broken chimney going upward. At the top of this chimney they found a window opening and another chimney going down for about 30 feet. The floor below was unusual since it was covered with boulders rather than clay. Their thoughts were that they may have discovered the back door to Kooken, but in fact they unknowingly had discovered the area just before the "Rover Room." Clearly not the back door nor the end of the cave!

Nittany Grotto continued to explore. By the early part of 1953, most trips terminated at the "Dining Room," which would be said later to be the halfway point of the cave. It seems the furthest exploration ended at the Rover Room, which had a few side leads which mostly pinched out. The Rover Room was named after a young gang of stalwarts known widely at that time as the "Rover Boys," but not always affectionately. To further the exploration, Devitt decided the entrance shaft had to be made more easily negotiable, but not too easy in order to discourage others who weren't experienced enough for such a cave. On November 1, 1953, DeVitt, Deike, Luebbe, Bluestein, Porterfield, and Grime fastened together two 30-foot sections of galvanized chain ladder with hardwood rungs. The ladder, donated by DeVitt, was made by removing alternate rows of rungs from a net used during World War II for climbing down the sides of ships into landing barges. Two four-foot sections of two-inch pipe were cut to size, filled with iron bars, and fitted securely in the entrance shaft 15 feet below the platform. The two end rungs of the ladder were slipped over one pipe; the other was used to anchor a spare safety chain which was run down and fastened by clevis to the lower section of ladder. A one-foot square sign painted on zinc read, "Use Chain Ladder At Your Own Risk-- Be Careful!", signed, "Nittany Grotto, Penn State" was nailed to the short wooden ladder section under the platform. The idea was to place the wooden ladder in such a way that it couldn't be seen by

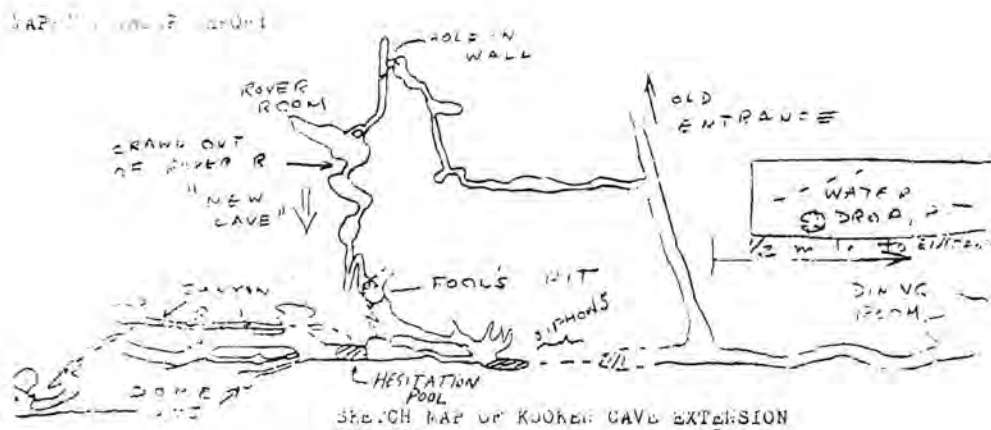
someone looking down. This again was to discourage anyone from entering the cave without prior experience. The ladder still exists, but not the sign.

On November 8, 1953, Devitt, Luebbe, Gine, Bluestein, and Higgs spent four hours with picks, sledge, and bars removing some large rocks wedged halfway down the entrance shaft. They also constructed several steps in the shaft above this halfway room with short logs and iron rods. Their biggest task was in the removal of three huge rocks wedged in the chute that enters from the top of the "First Big Room". Once the rocks were removed, six additional steps made out of flat rocks and pipe were installed in the enlarged lower section of the shaft. Again on November 13, 1953, Hussey and Devitt returned to finish the lower extension of the chute started by the previous crew. Prior to all this work, explorers would have had to climb up over "the rock" and squirm through the narrow steep slot. With the rocks gone and channel cleaned out, the new five-foot by one and a half-foot fissure made life much easier. Final touches were made by Clark, Radosh, and Devitt on November 14, 1953. Devitt star-drilled two holes at the foot of the chain ladder and placed a 3/8-inch rebar through the lower links, fastening it so the chain ladder would be steady and not swing.

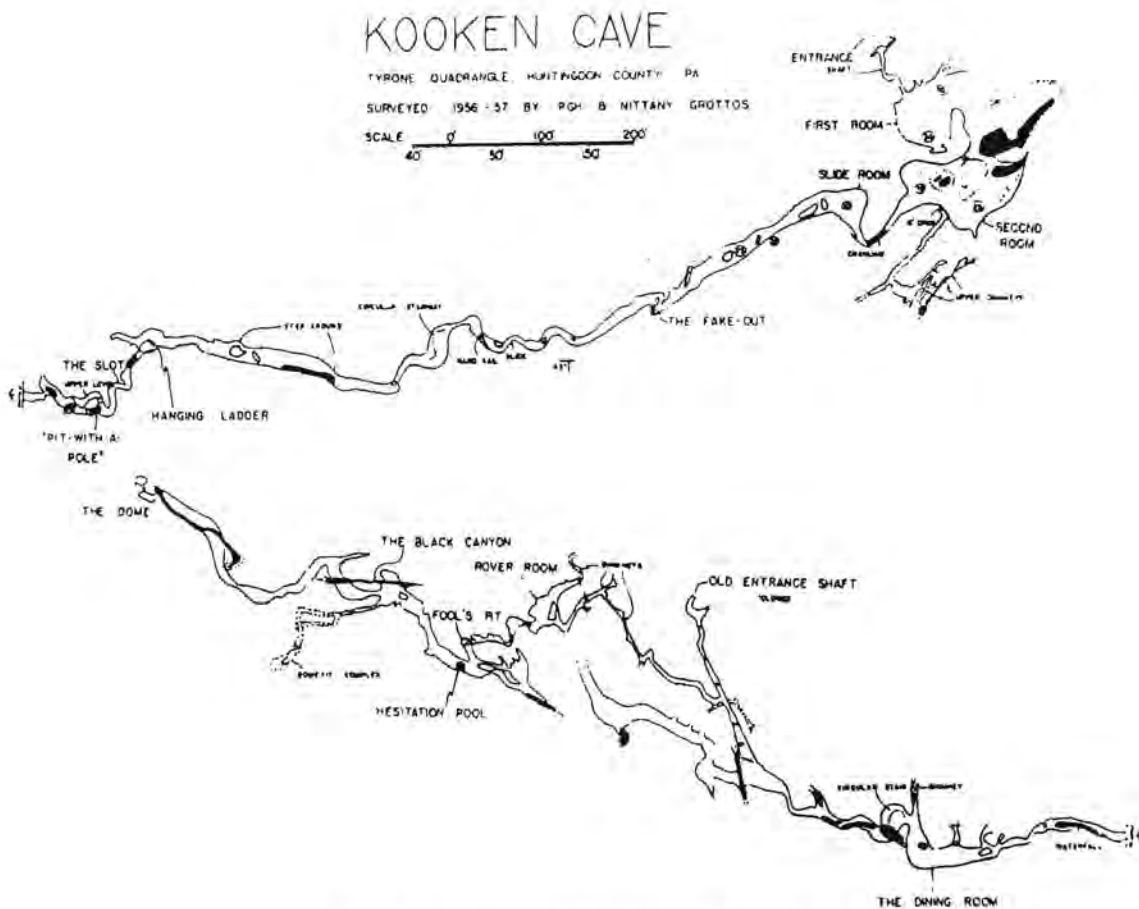
Some interesting features appeared in the cave around 1954. Apparently, students were interested in the "1st Lake" water level fluctuation, so they placed two water markers made from wood poles with metal markers calibrated in feet to measure the water depth. Perhaps one of the most noted remnants of past exploration is a life-size mud sculpture of a nude girl. Some have said the late Dennis McGill was responsible for this unique masterpiece. Both the water markers and the mud sculpture "Kookena" have survived through the years and were noted during explorations as late as 1987.

After much planning, it was decided that serious reconstruction was needed in the small entrance room overlooking the shaft. By November of 1955, rotted timbers above the platform were blasted with three charges of dynamite, using a total of seven sticks. The loose rubble fell on the platform, causing it to be shaped like a bowl. No one was willing at first to clear off the platform due to its dangerous condition. Later, volunteers were sought and the job was completed. The ceiling of this chamber would not be timbered again as solid rock satisfied the need for it. Something serious occurred during this time, however. It was discovered that three electric blasting caps were missing after the dynamite project ended. It was noted that while it seemed "not probable," it was still "presumed" that they were somewhere in the shaft. As of the last exploration in 1987, no sign of the caps was ever found.

The Nittany cavers were becoming frustrated; here it was 1956, 26 years after the discovery of the cave, yet no one had found its end. One rough map existed with some doubt as to its accuracy, since it lacked detail and was "not an NSS or grotto project." They were counting on Jim Walczak to remap the cave, but he was called to active duty in the Navy before things even got started. The people most interested in Kookena did repair work on the ladder (chain?) and door, which were being demolished by others. On the 20th of October, 1956, two grottos teamed up to extend the known limits of the cave and begin mapping. Cavers such as Willy White, Henry Sorell, and Jim Fisher came from Pittsburgh to join cavers from Nittany, including Chuck Willingham, Jay Edwards, Chuck Landis, John Haas, and Jim Van Gundy. They explored a previous lead after reaching the Dining Room. The lead went into



Sketch map from the Nittany Grotto News, December, 1953.



The last map of Kookken Cave.

a new section that stopped them at the edge of a deep pit. With no rope or ladder, they headed back, doing some mapping along the way.

Mention of this new section was made at the October 24, 1956 Nittany Grotto meeting. Before the meeting was over, ten members raced to the cave for what they thought would be a thrilling trip. Their trip ended soon after they entered the cave. Rain had fallen the day before and they found the First Big Room flooded.

Another attempt to pass the new pit was made on November 3, 1956 by Jim Van Gundy, John Haas, Chuck Willingham, Jay Edwards, Chris Malone, Chuck Landis, and Stew Debenham. Halfway to the Dining Room, the group was stopped by water. They tried to bypass this by going up to a higher level, but soon returned. In going back, several members got wet and as a result, no mapping was done nor cave penetration accomplished.

Yet another try was made on November 10, 1956, and it became a successful mapping and exploration trip, but the new pit was not entered. A major breakthrough occurred on November 13, 1956, when exploration led them again to the mysterious pit. "Only a fool would try this," but after a rock was thrown over, the sound fading away brought about the comment, "It goes."

The four cavers, John Haas, Harry Johnson, Dave Belz, and leader Karl Francis, were equipped with cable ladder, ready to descend what later would be known as "Fool's Pit." The pit starts on a 60 degree slope for 15 feet and then becomes completely vertical for the next 50 feet. At the bottom, two passages went down with the one on the left leading into a room 30 feet below the bottom of their ladder and the pit. The passage to the right led down into a whole new system. A low passage in front continued until water stopped any further progress. Directly across was another small tube leading to water. They could see still another hole past Fool's Pit that had very deep water. Sizable passage seemed to continue past the deep water pit. They wanted to cross it, but how? Having found 200 feet of new passage, they made plans to return. This deep, dark pond would later be known as the "Hesitation Pool."

Finally, on November 17, 1956, Hesitation Pool was crossed for the first time. This trip started out with four cavers, but two of them turned back shortly after entering the cave because of exhaustion from a previous trip the night before. This left only Karl Francis and Ken Graves to descend Fool's Pit and cross Hesitation Pool. Francis was the first caver to cross by traversing the loose mud wall on the right and dropping to the far side. There he rigged a rope for Ken and the trip back out. A brief exploration "revealed beautiful formations, chimneys, and a maze of large passages with rooms leading into the unknown." Admittedly, they explored very little. As Karl Francis put it, "We face a serious exhaustion barrier here. By the time we reach Fools Pit, most parties are too tired, wet, and cold to explore much." They claimed that for further exploration to occur, extra dry clothes and hot food would be needed.

By December, 1956, Nittany Grotto had a well organized plan to separate cavers into groups to do certain projects with the cave. These were broken down into mapping and exploration. The advance group was made up of Tom Smyth, Chuck Willingham, and Jim Van Gundy. The mapping group consisted of Jay Edwards, George Deike, Harry Johnson, and Chris Malone. Other units

included the spearhead group of Karl Francis, Frank Bryson, and John Haas, plus the surface group managed by Jack Stellmack, Herb Black, Ginger Deike, and Bill and Carol Eckel. Mapping and exploration continued past Hesitation Pool. Again, they began to see sections of the cave that had never been explored. One area noted was the "Black Canyon," which never was fully explored and still remains a mystery to this day.

During 1957, the "Terminal Dome" was found but not climbed. In October of 1959, Tom Turner, Rebne Thompson, and Will White did a bolt climb up Terminal Dome without finding any continuation. After 5500 feet of passage, was this the end? No one can say for sure. Much of the cave was surveyed by 1958 and later a map would be produced through the joint efforts of the Nittany and Pittsburgh Grottos. Due to many areas that were incompletely explored, such as the lower level, side passages, Black Canyon, and others, we can say that the map is still incomplete. Nevertheless, we owe much credit and gratitude to those who went through so much difficulty in mapping this monumental cave.

The year 1959 brought very sad news to cavers. It happened that Mr. Kooken's cow was killed on the highway by a motorist. In checking with his insurance after this incident, he found that the insurance company was not aware of the cave. Upon reading the article, "Kooken- Pennsylvania's Toughest Cave" by William Devitt III in Ralph Stone's Caves of Pennsylvania, the insurance company feared possible liability problems. What made matters worse was that Mr. Kooken had to use his tractor to pull some college students from the cave when they couldn't get all the way up the entrance shaft. Plainly put, Mr. Kooken was told to close the cave, and without checking his landowner rights any further, he closed it.

The cave lay dormant for a couple of years until 1961, when an explorer from Huntingdon by the name of Chuck Mong got an agreement with James Kooken for a one year lease with an option to buy the cave. Tentative plans were to reopen the 2nd Entrance to be used as the main access. Even wild dreams of building a monorail system through the cave were talked about. Around 1962, the original vertical entrance was reopened. Large boiler pipe was installed in the first small excavation that led to the entrance chamber overlooking the vertical shaft. Meanwhile, legal papers were being drawn to lease with option to buy five acres of land around the 2nd Entrance and one acre around the vertical entrance. Kooken's lawyer, Newton Taylor, advised against the deal unless Mong could have the cave insured. Many insurance companies were approached, but none seemed interested except one that insured coal mines. The cave's vertical entrance was a surprise to the mine insurance inspector. During many trips, rubber boots were used in the cave. Sometimes, cavers would drop their boots down the shaft, then climb down the ladder, which was easier on their feet. When the inspector heard Mong's boots go down the shaft, he decided not to go in; and never came back. Sadly, once again the cave was closed in 1963.

During the 1970s, some local cavers reopened the cave, rebuilt the chain ladder, and built a new platform over the old one. The cave was seldom visited and ultimately closed again.

The 1980s brought new life to the cave. Several trips were made exploring and comparing it with the map. Most agree that perhaps twice as much cave exists than was ever mapped or explored. Areas were pushed such as

the pit below the 2nd Entrance, beyond the 1st Lake (we found the 1st and 2nd Lakes to be part of each other), high chimneys in the "2nd Big Room", pits into the lower level, and others. What was remarkable was that half of the original wood bridges and ladders built by the early miners were still intact, although not in the best condition. During the period of 1984-85, local cavers formed a grotto in the NSS, calling themselves the "Huntingdon County Cave Hunters." Charter members were Garrett Czmor, Ken Reynolds, Tim Semple, Dennis Heeter, and Ron Dively. Talks had been going on with Mr. Kookken to "officially" open the cave to responsible cavers. An agreement was reached with the owner to allow the Huntingdon County Cave Hunters to manage, explore, and map the cave. One requirement was that the cave entrance was to be gated and liability waivers be signed by those involved. Mr. Kookken indicated that he might allow excavation of the entrance chamber roof and possible reopening of the 2nd Entrance, but this was never certain. By 1986, the cave was gated and some new ladders installed in the entrance to make access easier and safer. Those present for the gating were Ken Reynolds, Garrett Czmor, Tim Semple, Dennis Heeter, and John Rader. Another project, undertaken by other members, was to bolt and install about 1000 feet of rope across the pits for safety reasons. This project was never finished due to the unexpected closure of the cave. We also offered to buy the cave, but the owner said he couldn't sell it due to a government land program he was involved with. He did indicate to us that leasing the cave on a year-to-year basis might be possible, but later changed his mind.

During the time we had it open, three basic plans were in effect. One was to make it easier and safer to explore, another was to completely remap the cave, and of course, the third was to explore the entire cave. At the time, new member John Ganter, also a Nittany Grotto member, drew up guidelines for mapping to begin. As a joint effort, the plan was to get cave mappers from different grottos. The data was to be compiled by Ganter, and everyone involved would get an updated line plot as the survey progressed. Surveying never got off the ground because of bad weather and poor caver turnout. As far as the exploring part, there was never a dull moment and for most of the time, it was very interesting. Even "Kookena" was found still lying on her back in the Dining Room. We learned many things about the cave, and were able to see it in different stages of hydrologic change. Accurate evaluations were sometimes made by just looking at the old water markers left in the cave since the '50s.

One of our greatest disappointments was not finding the end of the cave. Four lengthy trips were made just for that purpose, only to be stopped in the series of dome rooms past the Rover Room. Here, no continuation could be found, and to think Fool's Pit was supposed to be just around the corner! Some now believe that the 1972 flood from Hurricane Agnes that struck Pennsylvania hard may have made some changes to this part of the cave. Might Mother Nature have wanted to keep this a secret?

Plans of remapping and exploration were continuing when sad news struck again. During the MAR Meet at Lincoln Caverns, word arrived that the owner wished the cave closed. It seems Mr. Kookken was once again troubled by the worries of liability. So once more, this time in December, 1987, the cave was closed. In March of this year, I approached the owner about the cave status. He simply does not want the cave opened at this time, and does not want to be bothered with others seeking permission.

I've made 18 trips inside the cave and never saw the end. My dream of getting the cave mapped never materialized, and now I'm writing about experiences first-hand that not so long ago I was only reading about. In Caves of Pennsylvania, William DeVitt wrote about Kooken Cave. For the most part, 38 years later, his words are still true today:

The most experienced Kooken spelunkers claim that more than a dozen passages still await exploration. Those who attempt to reach Kooken's unknown end will find that almost superhuman endurance and mountaineering ability, plus adequate equipment are necessary for such a venture. Only speculation can now describe subterranean wonders that still await the spelunkers lamp beneath Robert Kooken's rolling fields.

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# THE DISCOVERY AND EARLY HISTORY OF CRYSTAL CAVE, PENNSYLVANIA<sup>©</sup>

Dean H. Snyder

During the early 1700s, the first German immigrants settled in eastern Pennsylvania's Berks County. These hard working "Pennsylvania Dutch" found the fertile farmland and rolling woodlands an excellent place to live. Because the predominant occupation was farming, many small limestone quarrying operations and kilns dotted the countryside, as large quantities of lime were needed to "sweeten" the fields.

On Sunday, November 12, 1871, William Merkel and his assistant John Gehret were blasting limestone from a quarry on the farm of William's father, Gideon. This small operation was located 80 feet above the base of a wooded hill. After the smoke cleared from one particular blast and the resulting rock removed, the two young men were surprised to find an opening which led directly into the hillside. Having no source of light, they explored for only a few feet before they had to turn back.

That night at the village tavern, the two men excitedly spoke of their discovery. A trip was planned, and a few days later, a group of men carrying torches, candles, and ropes returned to the opening and entered the cave. They found walking passage decorated with stalactites and stalagmites. Because of the beautiful white sparkling crystals, the cave soon was dubbed "Crystal Cave."

The discovery of a cave was not a complete surprise, as some other caves were well known in this part of Berks County. One of them, nearby Dragon Cave, was of enough interest to be located on Scull's 1770 map of Pennsylvania. According to Indian legend, a dragon, accompanied by lightning and thunder, entered the cave to become a large stalagmite.

One of the early explorers of Crystal Cave was Samuel D. F. Kohler, a 31-year old farmer who lived in neighboring Greenwich Township. Kohler was already interested in geology, and was a collector of crystals and Indian relics. He was often seen walking across fields in search of artifacts. Indeed, Indian materials were so common in this area that some farmers used them to fill in low spots in their fields.

Kohler was so impressed by the cave's beauty that he leased the property from Gideon Merkel in February, 1872. To protect the cave from local curio hunters who were carrying off formations, Kohler installed a wooden door at the cave's entrance. No one was allowed in the cave unless he went along.

One month later, Kohler was able to buy the cave and 47 acres for the sum of \$5,000. Improvements to the grounds followed. The steep approach to the cave became a graded pathway with some strategic stone steps. Inside the cave, wooden stairways and handrails were constructed. Illumination was provided by smoky torches and the ignition of gasoline thrown upon the cave's walls, much to the detriment of the cave's beauty.

After four months of difficult work, the cave was finally ready for

tourists. The "Grand Illumination" occurred on Saturday, May 25, 1872. Music was provided by the Greenwich Cornet Band. This event marked the first time that a cave was shown to tourists in Pennsylvania, and Crystal Cave has been open for visitation every year since.

Although Crystal Cave is less than 2,000 feet long, it contains two spacious rooms and several pretty speleothems. The tour of given in 1872 is unchanged from the one given today. From the entrance, the first notable formation seen is the frozen fountain, a conical, white stalagmite. At this point, the passage divides, with both sections leading to the Crystal Ball Room, a chamber 76 feet long, 40 feet wide, and up to 35 feet high. A long slab of breakdown fills the eastern half of this room.

At the opposite end of the Ball Room, visitors climb a stairway to reach a spacious part in the cave, a breakdown floored chamber 136 feet long and 40 feet wide. A stairway near the north wall lead to a platform which overlooks this room. This part of the cave contains the famous Seal Rock and the Prairie Dogs formations. Returning to the Ball Room, the visitor can exit the cave using the passage from the northeast corner. Including the retracing of one's steps, the commercial tour is about 700 feet long.



The rear portion of Crystal Cave, drawn in pencil by P. Meissner. Courtesy of Nevin Hill.

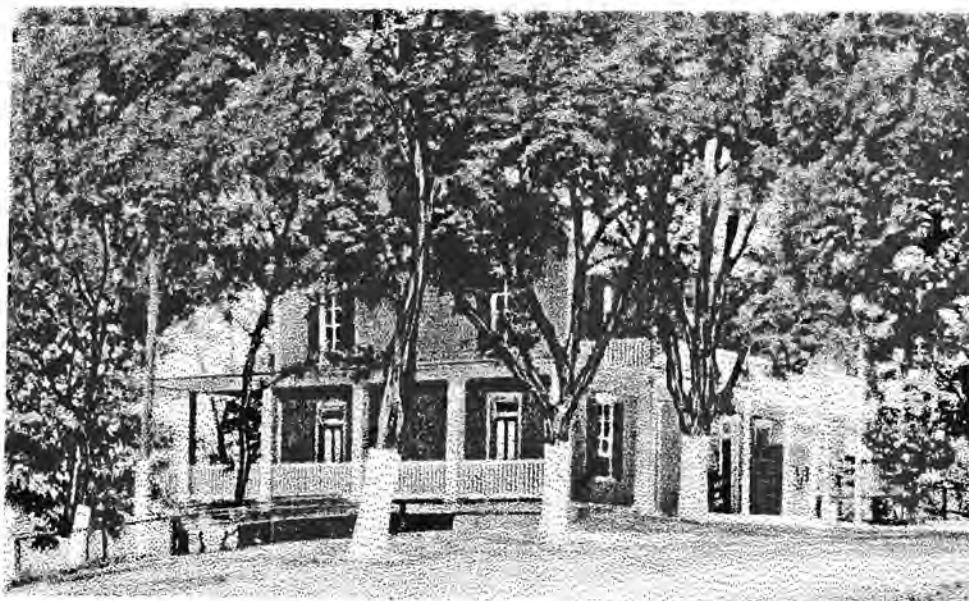
As more and more people visited the cave, Kohler was able to discontinue farming and spend all of his time at the cave. In 1876, he built a two-story hotel named the "Cave House" or "Kohler Hotel." Originally, alcoholic beverages were sold, but soon thereafter this policy ended.

Visitors were able to reach the cave by the Philadelphia and Reading Railroad, which had just established a station at Virginville. From there, a stagecoach "Omnibus" transported the people the two and a half miles to the cave.

S.D.F. Kohler shrewdly promoted his cave by encouraging writers and scientific parties to visit Crystal Cave. Their glowing testimonials were used in advertising materials for years to come.

In February, 1872, a committee from the Society of Natural Sciences of Reading visited the cave. The five men included D.R.S. Turner; H.H. Hollenbush, a chemist; D.B. Brunner, the county superintendent of schools; A.R. Horne of Muhlenberg College; and Dr. J. Schoenfield, a noted geologist who was once stuck in a small Berks County cave which today bears his name. They reported that, "Crystal Cave is filled with very interesting curiosities, the stalactites, stalagmites, and crystalline formations present a variety of beauty such as is seldom seen." Their report appeared in part in the American Naturalist. As late as the 1930s, promotional materials contained references to this early visit.

Professor Burrows, a correspondent of the Public Ledger in Philadelphia, toured the cave in 1873. He wrote a highly imaginative description of the cave, which Kohler turned into an advertising pamphlet



S.D.F. Kohler built the "Cave House" in 1876.

the following year. This was followed with a German edition, which was printed in Reading. Professor Burrows named many features of the cave for the first time, such as the "Preachers," "Woman in White," and "Pharaohs." The influence of Mammoth Cave in Kentucky is seen as one section of the cave became the "Star Chamber." Burrows even claimed to find blind fish in a fountain at the end of the cave!

In 1875, mineralogist Frederick Genth described quartz, calcite, and aragonite from Crystal Cave. This reference, along with one from nearby Luckenville Cave (later known as Onyx Cave), were the only cave localities mentioned in Gordon's The Mineralogy of Pennsylvania.

During the summer of America's Centennial, three prominent educators from Paris, France were escorted through the cave by local townspeople. They gave Kohler an autographed testimonial which read, "Niagara Falls and the Crystal Cave are the greatest natural wonders we have seen in America."

Crystal Cave continued to grow in popularity. By the early part of this century, between ten and 15 thousand tourists visited the cave annually. S.D.F. Kohler died on August 16, 1908. He was buried in the Zion Moselem Church Cemetery, just three-fourths of a mile southeast from Crystal Cave's entrance. A large stalagmite cut from cave onyx marks the grave.

By this time, the cave's manager was Samuel's son, David. Born in 1865, David was already escorting visitors through the cave at age 12. David installed a gasoline generator to light the cave and made other improvements to the grounds. Dances were held in the "Crystal Ball Room," a large, flat-floored room in the cave. The lower part of the hotel served as a pavilion where homemade ice cream was sold on hot summer days. Oldtimers still remember seeing David driving the omnibus back and forth to pick up visitors at the train station.

Crystal Cave received a great amount of free publicity when a Philadelphia couple was wed in the cave. While touring the cave during the summer of 1919, Marian Kurtz and Francis Finley, in the company of David Kohler and Reverend A.L. Brumbach, suggested that the cave would make ideal spot for their marriage. Plans were soon made for a wedding to take place on Wednesday, October 15, 1919, at 2 o'clock in the afternoon.

Several hundred people arrived at the cave that day for the underground marriage. The wedding party arrived at the cave in a large Willys-Knight touring car. Amid strains from Mendelssohn's "Wedding March," played by Professor Preston Metzgar of Kutztown on a piano placed inside the cave, the wedding party marched into the cave. The ceremony took place by a natural altar, decorated with flowers and ferns, between the frozen fountain and the stairway. Reverend Brumbach began by commenting on the natural beauty of the cave and the romantic notions it inspires. After the ceremony, photos were taken, of which four views were later sold by the cave as postcards. The wedding party then retired to the home of David Kohler for a dinner. These events were reported on the front page of the Reading newspapers.

Tragically, this underground union did not last, as Francis Finley was killed in an accident soon thereafter. Perhaps this is why the Kurtz-Finley marriage was the only one ever performed in the cave.



David Kohler (1865-1949) operated Crystal Cave from 1908 to 1923. Courtesy of Nevin Hill.



Postcard of the first wedding in Crystal Cave.

David Kohler sold his cave in 1923 to J. Douglas Kaufman and Edwin L. Delong of Reading, who formed the Crystal Cave Corporation. Kohler moved to a farm not far from the cave. When Edwin Gillman commercialized Lost Cave in 1929, Kohler assisted in the project.

Kohler's interest in Crystal Cave was not diminished after he sold the property. In back of his farmhouse, he built a one-room brick building which he proudly named the "Kohler Museum." Inside, glass enclosed display cabinets were filled with mineral specimens from the cave, many of which were removed during construction of the trails. Two large wooden boxes contained formations at their base. When viewed through a glass portal, one saw the mirror image of these minerals. An attractive pair of oil paintings depicting scenes in Crystal Cave hung on the wall. A drawing, done in colored pastels by an unknown artist, showed the area around the cave as it was in the late 1800s. Several specimen cabinets contained minerals, old cave postcards, tickets, pennants, and handbills. Although most of the museum reflected the history of Crystal Cave, a few other Pennsylvania show caves were represented, including Alexander, Seawra, and Lost River.

David Kohler died in 1949. His daughter and grandson have preserved the museum exactly as he left it. Due to S.D.F. and David Kohler, the treasures in Crystal were preserved for the enjoyment of future generations. Their efforts made Crystal Cave Pennsylvania's first and foremost cave for years to come. Since its discovery, over one million people have marveled at the underground wonders of Crystal Cave, Pennsylvania.

#### Acknowledgement

I am grateful to Nevin Hill, great-grandson of S.D.F. Kohler, who allowed me to view and photograph materials from the Kohler Museum.

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## BIG RIDGE CAVE FOUND ON 1875 MAP

J.R. Reich

While I was preparing Tom Metzgar's article on the Evans 1755 map<sup>1</sup> for the York Grotto Newsletter, I remembered that I had found an unexpected cave reference on another old map. In fact, had I not known that there was a cave at this site, I might have dismissed the reference as unimportant. The notation on the map, you see, did not say cave or cavern, but instead said "Physick opening."

"Physick" is an old term that was used to refer to something natural. Thus, a "physick opening" is a natural opening, or a cave.

My point is that you need to be familiar with the terminology of the period in which the map was created.

In another instance I was searching for information on caves in Iceland. This search required an understanding of the Icelandic topographic maps and a knowledge of Icelandic terms for caves. Normally, Icelandic cave names are suffixed -hellir, thus cave names such as Surtshellir and Stefanshellir. However there are caves with other names such as Viogelmir that do not adhere to the general rule. There will always be cases where local names do not adhere to common rules, however, in Iceland there is little chance of not recognizing archaic terms since the Icelandic language has virtually not changed in one thousand years. Usually terms on a map drawn 800 years ago mean the same in modern Icelandic language.

But, I am getting off the subject of finding Big Ridge Cave on an 1875 map. Many years ago, my father-in-law gave me a copy of Geology of Pennsylvania, Vol. II, which he had purchased at a sale. This was part of the final report of the Second Pennsylvania Geological Survey published in 1892. The volume described the upper Silurian and Devonian formations.

While perusing this volume one day, I discovered a map of the area around McVeytown in Mifflin County. Since I have been involved with the Big Ridge project for a long time, I examined this map closely. Imagine my surprise when I found a notation indicating a "Physick opening" at the exact location of the entrance of Big Ridge Cave! There was, of course, considerable discussion between Dale Ibberson and myself before we agreed that the reference actually referred to Big Ridge Cave.

The names of Booth and White were noted along with dates of the 1860s and 1870s during initial explorations of Big Ridge Cave by cavers in 1963 (Clark, 1967). These names were scratched into the flowstone at the -153 foot level of the entrance drop. The discovery of an 1875 reference to the cave confirms the validity of their exploration and the dates found in the cave.

Big Ridge Cave could have been "rediscovered" many years earlier had cavers searched the existing literature, and had those cavers been aware of the terminology used on the early maps.

The "ore banks" noted on the map refer to iron ore mines that were worked in this area during the nineteenth century. These mines were only a few of the many "Juniata Iron" mines that historical road markers in Mifflin County commemorate.

It is possible that close examination of other old maps may yield information leading to the discovery of caves unknown to cavers. As has been demonstrated, a familiarity with the archaic terminology of these maps is essential to their successful interpretation.

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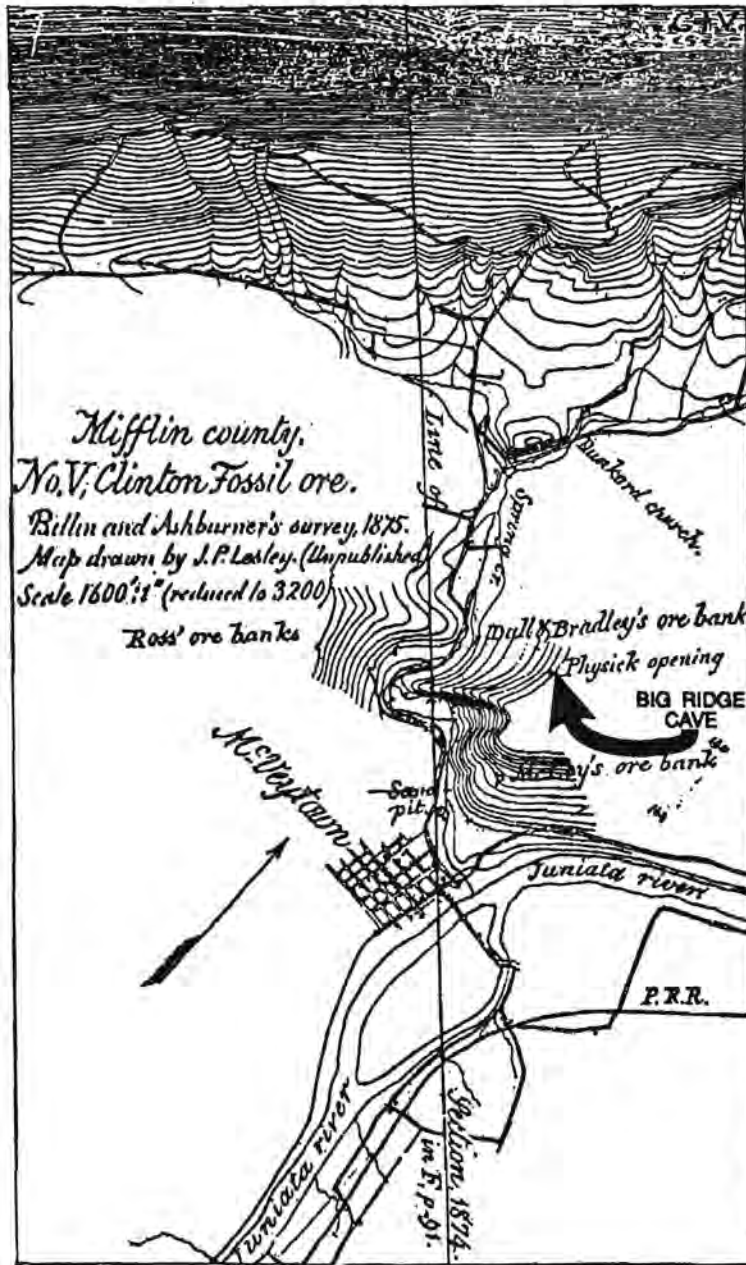
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Reprinted from the York Grotto Newsletter, Vol. 26 (January, 1989), 9-10.  
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The 1875 map of a portion of Mifflin County. The arrow points to Big Ridge Cave.