

THE JOURNAL OF **Spelean History**

OFFICIAL PUBLICATION OF THE AMERICAN SPELEAN HISTORY ASSOCIATION



THE JOURNAL OF SPELEAN HISTORY

Volume 22, No. 4

October-December, 1988

THE ASSOCIATION

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 \$5; family membership is \$6; and library subscriptions are \$4. ASHA is the official history section of the National Speleological Society.

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FRONT COVER

A photograph taken at the entrance to Mammoth Cave, Kentucky, date unknown.

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THE JOURNAL

The Association publishes the Journal of Spelean History on a quarterly basis. Pertinent articles or reprints are welcomed. Manuscripts should be typed and double-spaced. Submissions of rough drafts for preliminary editing is encouraged. Illustrations require special handling and arrangements should be made with the editor in advance. Photos and illustrations will be returned upon request.

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BACK ISSUES

All copies of back issues of the Journal are presently available. Early issues are photocopied. Indexes are also available for Volumes 1, 2, 3, 4, and 5. All issues of Volumes 1-7:2 are available on microfiche from Kraus Reprint Company, Route 100, Millwood, New York 10546.

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Official quarterly publication of
AMERICAN SPELEAN HISTORY ASSOCIATION
History Section
National Speleological Society

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ENDLESS CAVERNS, VIRGINIA AND THE EXPLORERS CLUB

or

Search for the End of Endless Caverns

Russell Gurnee

On October first, 1879, near New Market, Virginia, (so the story goes) two boys ran a rabbit to ground and discovered a cave on Reuben Zirkle's farm. Mr. Zirkle was very interested in this find as the popularity of nearby Luray Caverns and Fountain Cave was a local success story. Reuben Zirkle decided to capitalize on their popularity.

This was not difficult as the fame of Luray Caverns attracted visitors from Washington, Philadelphia, and as far away as New York. The location of the Zirkle Cave, only three miles south of New Market, was near the main railway line running down the Shenandoah Valley. The Baltimore and Ohio Railroad Company had connecting trains with all the companies supplying service both north and south. Mr. Zirkle proceeded to promote visitation to the cave by enlarging the entrance, smoothing the trails, adding steps where needed, and changing the name to the "Endless Caverns."

In addition to the local visitors to the cave, Zirkle attracted out-of-town travelers who debarked from the train at New Market.

" 'Stage to the cave! Go easy on the Fast Line!' cried the drivers of horse drawn tally-ho's that met the train."

Most visitors had come to see Luray Caverns, 13 miles to the east over the Massanutten Ridge, which required an overnight stay in Luray. Those with only a few hours could see the newly discovered cave nearby. Mr. Zirkle was able to get enough business to make improvements in the cave and entrance site.

One unfortunate experience that had far reaching consequences took place when a party from the Smithsonian Institution, invited by Luray Caverns to see their cave, stopped overnight at New Market. They were denied entrance to the Endless Caverns by Mr. Zirkle as he said he had never heard of the Smithsonian Institution. Luray Caverns, who entertained the group, received an elaborate testimonial from the scientists (who were seeing their first cave) and for the next 30 years the management used the quotes by these "experts" in their advertising.

However, as long as the nearest train station to Luray Caverns was New Market, Mr. Zirkle was able to get some business from those who were passing through. The principal source of income was from local residents attending Illumination Days when thousands of candles

were used to light sections of the cave for a few hours of viewing. An area of the floor was leveled in one room and dances were held during the heat of the summer. Natural air conditioning provided a comfortable atmosphere for the parties.

In 1882, when the railroad came to Luray, the traffic to New Market ceased and business for Endless Caverns faded away. An attempt was made to exhibit the cave as Silver Hill Caverns, but by the financial crash of 1893 it was closed as a business venture.

In 1919 the farm and cave were put up for sale and a Col. E. T. Brown and his son Major E. M. Brown of Atlanta purchased the property. A Corporation was formed, Natural Wonders, Inc., and the name of the cave was changed back to Endless Caverns. The next year was spent in refurbishing the cave, adding an indirect electrical system, and providing new surface buildings and visitor's center. On August 14th, 1920 the cave was opened to the public again.

Times had changed. The automobile was making an impact on the travel habits of the public; the railroads no longer controlled the movement of vacationers. The Messers Brown saw an opportunity in this natural attraction, just off the main north/south highway, and proceeded to exploit it to the best of their ability. This skill was considerable as they were experienced and successful businessmen.

Major Edward Mitchell Brown, thirty years old, threw his energy into the work at the cave. A graduate of the University of Georgia with a law degree from Harvard, he had commanded an infantry regiment in France. The practice of law in Elberton, Georgia, did not excite him and the challenge of the Endless Cave promotion became his life-long interest. His father, Edward T. Brown, was owner of the Eastern Printing Company of New York and was active in the business and scientific community.

In 1923, Edward M. Brown joined the Explorers Club in New York as a resident associate member and shared his interest in exploration with other members. He became active in the Club and through his family publishing business offered Henry Collins Walsh, founder of the Explorers Club, a position as Vice-President of the Nomad Publishing Company. In 1925 Walsh was made president of the Nomad Travel Club and the Nomad Lecture Bureau. This Bureau listed among its speakers such distinguished members of the Explorers Club as Horace Ashton, James P. Chapin, George K. Cherrie, Viljalmur Stefansson, and Henry Collins Walsh himself.

The next logical step in this relationship was to find a quest that was of sufficient interest to challenge the Explorers Club, and pique the interest of the traveling public. Major Brown had an idea: "find the end of Endless Caverns." He would provide transportation and expenses, notify the press and photographers, and arrange for newsreel coverage.

An "expedition" was born and the leaders were Bob Bartlett, of Admiral Peary North Pole fame, and Henry Collins Walsh. Dr. Chester A. Reeds, Associate Curator of Geology at the American Museum of Natural History, and George K. Cherrie, companion of Theodore Roosevelt on the River of Doubt trip, provided scientific validity to what might have been considered a publicity stunt. Complimentary tickets on the Chesapeake and Ohio Railroad gave the means for all to assemble at the cave house in New Market, Virginia to begin the search.

In 1925 there were no American speleologists, or even authorities on cave matters, that could be consulted. Enthusiasm and interest were about all that the leaders brought to the

project. Bartlett lent his name to the venture but was unable to attend; Walsh coordinated all of the preliminary arrangements, but wisely never went off the tourist trail in the cave. The burden of work fell on Reeds, Cherrie, and Carveth Wells, all experienced mountaineers, but only Major Brown was familiar with the cave and had experience in caving.

Another element was added to the "promotion" that never appeared in the *Explorers Journal* reports of the trip. Miss Betty Larimore, reporter for the Boston Post, joined the team as "the only woman member of the party." This must have been a shock for the male egos aboard, but explorers are not misogynists and Carveth Wells wrote to her editor after the trip:

"Whatever story she sends you has really been secured at the risk of her life, because she went where no other woman has ever been and where not one in a million would have dared."

Upon entering the cave, the first trip off the tourist trails showed the problems involved. It was soon apparent that being roped together (in mountaineering fashion) was an impediment in the cave. The ropes were then only used in descending and ascending pits. They discovered that dropping of confetti and laying out of string in the passageway were not really necessary to find one's way in the cave. The soft headgear gave warning, but little protection, from sharp stalactites. Fortunately for the inexperienced spelunkers, the two photographers in the party provided sufficient drag and delay to the explorers so that they did not out-run their reserve of ignorance.

Betty Larimore, in purple phrasing, later painted the experience in quotable verse:

"The further in we got the hotter it felt, and the less scientific among us thought we were getting closer to the hell at the earth's centre."

Carveth Wells, to the delight of future cave guides, told Miss Larimore about the stalactites, and stalagmites, and those that join together are called "mighty-tights".

Measurement of the string stretched in the cave revealed about six hundred feet of "new" cave passage along the upstream corridor. The bones of an extinct (or at least expired) bear were found in one of the cave recesses. Bear tracks and claw-mark scratches were found in several places in the cave. There were no major discoveries, but one room was named the Walsh Cavern in honor of the leader of the expedition.

It was evident that the group had not found the "end" of Endless Caverns, but then Major Brown did not want to find the end. What he did want was more newsreel footage from Pathe and International Companies and photographs by Pacific and Atlantic, Harris and Ewing. As the group prepared to leave for New York and Boston, Major Brown invited them all to return in a few months to complete their explorations.

Dr. Chester A. Reeds had been fascinated by the opportunity to see more of the cave, and so he cooperated in a joint venture with the American Museum of Natural History and the Explorers Club for a return trip as suggested by Major Brown. the *Explorers Journal* listed the new team members. (There is no mention of Miss Larimore, but she was there and carried on in a trim flying suit, rubber hip boots, and miners' candle lamp.)

This was more of a work trip. Reeds brought an assistant, Edward Foyles, to help survey the passageways. Horace Ashton kept the log and Merl La Voy, a mountaineer and professional photographer, rigged the lines and belayed the climbs. Again, the endeavor was well documented by the newsreel photographers. Perhaps the most lasting record of the trip was suggested by Ashton after the first preliminary trip:

"I suggested that we place an empty bottle containing a note and record of our trip up and down the underground river as far as we could go--and challenge any one to find it and move it farther ahead. Bottles were produced, and this note placed in each:

'This bottle is placed at the farthest point penetrated by members of the expedition of the American Museum of Natural History and The Explorers Club of New York, May, 1925. If anyone finds it and can carry it still farther, please report to the American Museum of Natural History.'

The note was signed by all members of the party."

The expedition continued its work and spent another eight hours underground. One of the bottles was left at the farthest point upstream; the other at the most remote point reached on the downstream end. Ashton repeated his challenge in his public report of the trip and Miss Larimore wryly remarked:

"If any one ever finds those bottles and carries them further, they deserve more than an empty bottle."

The trip was a huge success for the owners of Endless Caverns. National attention was focused on the cave and the visitor attendance soared. It was also a success for Chester Reeds, as he published a popular report of the geology of the cave and the Shenandoah Valley limestone region. This booklet, *The Endless Caverns of the Shenandoah Valley*, liberally illustrated with the fine photos taken on the expedition, included sketches and geological maps of the region.

In spite of this national publicity there was not much popular American interest in the study of caves. The French, British, Austrians, Swiss, and Italians had organized clubs before the first World War. In 1925 only a few individuals in the United States were caving in isolated regions without communication or contact with other cavers. In February, 1925, the Floyd Collins story dominated the news. For seventeen days Floyd was trapped, buried alive, in a small cave in Kentucky. Rescue attempts failed to save his life, but the publicity brought the tragedy of his plight home to the public. Everyone could identify with him and shuddered with vicarious concern. The experience placed cave exploration in the category of reckless endangerment--suitable only for eccentric characters like Floyd Collins, or professional explorers.

The Explorers Club was not known as a caving group. Member interest covered all of the field sciences. (Interest in caving was found among archaeologists, biologists, geologists, and engineers who worked in the show caves.) One of the most active members and Vice-President of the Club at the time of the trip to Endless Caverns was Dr. Edmund Otis Hovey, Curator of

Geology at the American Museum of Natural History. He was the son of America's most famous speleologist, Horace Carter Hovey, author of *Celebrated American Caves*, but even young Hovey was not particularly interested in caves.

The Floyd Collins experience affected an entire generation, and caving as a sport and science did not capture national interest until the 1940's. By that time, several independent outdoor groups were interested in the caves along the Eastern seaboard. Leadership was provided by William S. Stephenson in Washington, and he brought the various groups together to found the National Speleological Society. This organization is now the largest caving organization in the world and is highly respected in scientific, academic, and sporting fields.

A new generation was also active in the Explorers Club. The Arctic phase of exploration had run its course; the African/Asian animal collecting period was nearly complete; and a new editor, Seward S. Cramer, assumed leadership of the *Journal*.

Cramer was energetic, enthusiastic, and interested in people. As Editor he brought a bit of "Gee Whiz" to what was a staid (and stodgy) publication. The format of the magazine was enlarged and upgraded, but the expense of publication (carried by a 600 membership base) was draining the treasury. Something had to be done, so Cramer thumbed through the old *Journals*, found the Endless Caverns Story, and contacted Major Brown.

As Cramer describes it in the winter of 1940:

"This year another group invited themselves into the Caverns and Major Edward M. Brown, being the genial host that he is, could not refuse."

The new party included Wallace D. Barlow, a professional engineer; Richard O. Marsh, United States diplomat, an authority on the San Blas Indians and the White Indians of Darien; Herford T. Cowling, who traveled the world as photographer for Burton Holmes, now making training films for the Air Force; and Leland Reid, geologist and leader in several investigations of the Bluff Dwellers' community of the White River Valley of Arkansas.

Seward Cramer, who was described as knowing the trade routes in the interior of China and over the West China mountain ranges better than the camel caravaneers themselves, acted as leader, although he described his expedition position in the *Journal*:

"I kept in the background and had a grand time, sans worry."

The planning and equipment for the expedition was much farther advanced than the 1925 trip. The U. S. Bureau of Mines loaned them a supply of approved helmets and carbide lamps. The group was more agile and not quite so encumbered by the newsreel and press. John Vhay and G. W. Grove were observers from the U. S. Geological Survey and with Leland Reid made collections of some blind shrimp and performed dye tracing in the river.

Again, the bottles left by the first expedition became a point of interest. Cramer says:

"Mention has been made of a point of penetration reached by the exploration party fifteen years ago. The present party overtook

that point on the first morning and pushed on quite some distance beyond. A copy of the Club membership, a list of members of the present party, and a colored picture of the Explorers Club Flag were placed in sealed jar and left at the farthest point of entry by Wallace Barlow."

The event was also recorded by a live broadcast via a telephone hookup to an outside line. On October 30, 1940 Lowell Thomas conducted a live interview with his fellow Explorers Club members in the cave on his coast-to-coast broadcast.

The publicity for Endless Caverns gave another boost to attendance. The Brown family was appreciative and the *Explorers Journal* received support from their publishing company. The magazine was subsequently printed on their presses for several years.

Many changes have taken place in the Valley of Virginia in the 48 years since that trip was made. Endless Caverns has been sold (several times) and it has been explored and mapped by a number of explorers. Speleology has become an accepted science; the techniques and equipment make the efforts of the first team seem sophomoric. But it was the start of a new endeavor in the United States and the beginning of the serious study of caves.

Today more than seven thousand members of the National Speleological Society are exploring and pushing back the frontiers in caves all over the world. This interest in the unknown is shared by all members of the Explorers Club and may we never find an "end" to our "endless" caverns.

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THE OBITUARY OF PICADOME CAVE

Gary A. O'Dell

Picadome Cave, located in the bank of a sinking tributary of Vaughns Branch near the intersection of Clays Mill and Harrodsburg roads, was one of the most frequently visited caves in Lexington, Kentucky before its closure in 1957. There is considerable evidence that the cave referred to variously as Reed's or Reid's Cave in the early part of this century is the same that was later known as the Picadome Cave, named for the close proximity of the Picadome School and subdivision. The cave has now been sealed for over 30 years, but through interviews and scattered references in the literature, reconstruction of the history and physical appearance of Picadome Cave has been possible.

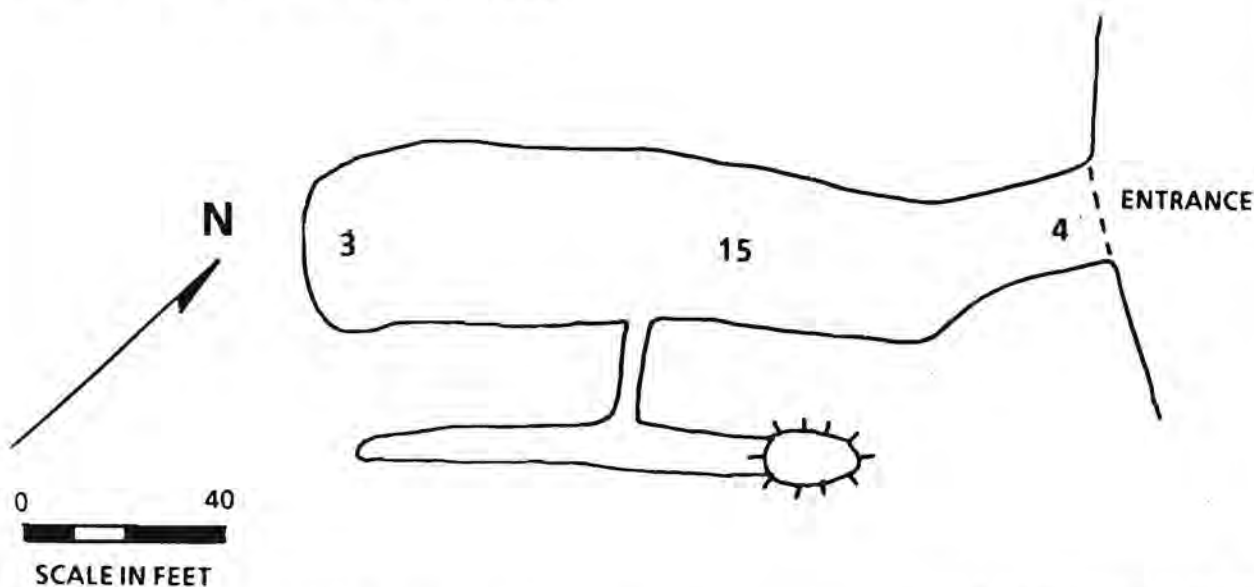
There are several references to a Reed's or Reid's Cave prior to the 1930's. Arthur M. Miller, head of the University of Kentucky's Geology Department at the time, stated in 1919 that Reed's Cave was about a mile from Lexington on the Harrodsburg Pike. Another writer gave the location as one and one-half miles from Lexington. The site of the Picadome Cave entrance, measured from the courthouse in the center of the city, is actually one and three-fourths miles. Further evidence linking the two caves is the 1877 map of Fayette County, showing a house occupied by a Mrs. Reed at the Picadome site, and today, two blocks from the buried cave entrance, is a street called Reed Lane. The name was probably changed by a more recent generation of cave explorers when the Picadome school and subdivision were constructed during the outward expansion of Lexington.¹

Constantine S Rafinesque, who resided in Lexington from 1818-1826, was possessed of an insatiable curiosity regarding all natural phenomena and, among numerous other endeavors, explored and described several of the local caves. He made no mention, however, of a cave in the Picadome area and nothing is recorded of the early history of the cave, though undoubtedly it was quite familiar to local residents. The first brief, non-descriptive reference to the Reed's Cave is from an 1898 University of Kentucky student thesis.²

By the early twentieth century the cave was well-known and much favored by large numbers of children who attended the nearby Picadome Elementary School. Mr. Lewis Sherrod, of Lexington, recalled that as a child attending the school in about 1918, he spent the noon hour of nearly every favorable day inside the cave, where he ate his lunch. According to Mr. Sherrod, the cave was very popular with the more adventurous children and they had their own special names for all the outstanding features within, such as the "Fat Man's Misery" and others along similar lines. A few years later, the cave was one of many examined by Dr. William D. Funkhouser of the University and his associates and students, as part of his statewide investigation of caves for ancient human and animal remains. Unable to discover anything of interest to them in the cave, little was reported of its physical appearance. In 1924 Sigma Rho, an honorary mining fraternity at the University, used the cave to initiate Samuel M. Cassidy, of Lexington, and three or four others: "A total of about fifteen were present, including two of the faculty who were members of Sigma Rho."³

PICADOME CAVE FAYETTE COUNTY, KY.

BASED ON A SKETCH BY
DR. THOMAS C. BARR, JR. (1980)



NOTE: DIRECTION AND DISTANCE ARE APPROXIMATE

CARTOGRAPHY BY G. O'DELL

In 1927 a brief commercial venture utilizing the cave was made by a local farmer, who installed irrigation pipes leading into the cave and raised mushrooms in the dark interior. This story was confirmed by Mr. Sherrod, who added the information that the cave was leased, rather than owned, by the enterprising agriculturist, a man named Hefner.⁴

The presence of a growing subdivision around the cave, in what was once a rural setting, intensified visitation to Picadome and ultimately led to its closure. Mr. Cassidy recalled that "a few cans and bottles were scattered about, which led to the mouth being sealed in a later year." A story is related by Johnny Colliver, onetime custodian of the Picadome School, that once two small children of the neighborhood were missing, and after much frantic searching were discovered playing happily in the mouth of the cave. Perhaps the greatest spur to the closure of the entrance occurred in 1956, when Lexington police found a quantity of dynamite secreted in the cave; it was believed that the explosives had been stolen from a nearby construction site, but whether the act was a mere childish prank or had some destructive design is unknown. Mr. James Ishmael, retired principal of the nearby Lafayette High School, stated that the cave was ultimately sealed because school officials believed it to represent a potential danger to small children.⁵

Regardless of the rationale, the cave was first closed by covering the entrance with boards nailed together. This soon proved insufficient to keep out the more determined children, so in 1957 a more permanent barrier was constructed. A wall of concrete blocks was built across the mouth of the cave, but even this solid structure was not enough; only a few years later, many of the blocks had been knocked out. Permanent closure of the cave was assured in 1961 by dumping several loads of furnace ashes over the entrance.⁶

One of the more interesting legends associated with the cave is that of a secret passageway leading to an entrance in the old Knights of Pythias home nearby, allegedly covered by a wooden door in the basement of that building. As the story is related, "the basement of the Pythian home was used as a storeroom for foodstuffs. One day...food started to be missed from the stocked shelves in the basement. Much later, it was discovered that some adventurous boys were making their way through the cave--sneaking in through the wooden barricade--and stealing the food from the shelves." Mr. Sherrod remembers hearing tales of a connection between Picadome Cave and the Pythian home, although neither he nor anyone else interviewed could recall anyone who had actually traveled from one to the other. This legend is probably based on the fact that the Pythian home did truly have an underground tunnel that connected several buildings, but it was entirely man-made and it is fairly certain that there was no boarded-up entrance to a natural cavern in the basement. The tunnel was closed in 1949 after one of the buildings burned down.⁷

With the passage of three decades since the closure of Picadome Cave, it is understandable that eyewitness accounts of the physical appearance of the interior would be distorted by time and be at variance with one another. Considering too, that many of the accounts given are based upon experiences as small children, most reports probably describe the cave as larger than it actually was. In addition, true for all caves and all manner of explorers, distances and dimensions underground are difficult to judge accurately.

Tom Fuller, now a Louisville resident, explored the cave as a boy before 1930 and reported its length to be between 400 and 450 yards. An anonymous local historian, reported in a newspaper story many years after the event, is said to have crawled back into the cave for half a mile. Art Lawson, of Lexington, saw the cave as a child and described it as low, wet, and muddy, so that even as a boy he had to duck his head inside.⁸

Dr. John Keller, of Lexington, explored the cave as a boy of about ten in the 1930's. Although he went only a short distance inside, he reported that some of the older boys went much further. As he recalls, the entrance was about eight feet high and led into a room 15 to 20 feet high and littered with large slabs of breakdown. The passage gradually decreased in height and also inclined downward until, about 100 feet from the entrance, stooping or crawling was necessary. The passage was straight from the entrance, wet and muddy, although there was no flowing water.⁹

An adult explorer, Samuel Cassidy, saw the cave on his fraternity initiation: "Immediately after walking through a rather small mouth the cave widened to about 20 or 30 feet and to a height of about six or seven feet in the middle, less around the sides. At least one passageway led off this room, but of a lesser height and not very wide. The room was dry and had a few fallen slabs of rock on the floor."¹⁰

What is believed to be the most reliable description of the cave is an account by two French biospeleologists, Jeannel and Bolivar, who were touring the United States in 1928 to study the life forms of this nation's caverns; Jeannel was many years later made an honorary member of the National Speleological Society in this country. Their report, referring to a "Reid's Cave" and published upon their return to France, states that:

"When exploring this cave, we had the help of Professor J. Garman, of the University of Kentucky. In a small cliff, near a path, the opening of the cave consists of a depressed vault hidden by undergrowth. One enters first into a weakly lit forerom, about 20 meters deep, the floor of which is littered with stones. At the far end, near the remains of an ancient wall, there is a narrow passage that leads into a dark, horizontal, rather dry corridor, the left wall of which is pierced by several openings that allow a descent into another passage on a lower level. In a recess of this second corridor a rivulet cascades from the vault and fills a clay floored basin before it disappears into the cracks of the limestone rock. Debris of all kinds, pieces of wood, cask staves, fragments of metal and glass containers indicate that this brook was utilized and that its flow should be constant. The total length of this small cave is approx. 100 meters. The walls do not contain (limestone) concretions, but the floor, which is littered with stones and wooden debris, is very humid almost everywhere."

Dr. Thomas C. Barr, Jr., of the University of Kentucky's Department of biology, a noted speleologist specializing in invertebrate cave fauna, provided the original of the above account and had himself explored Picadome Cave before its closure. Dr. Barr also believes the Reed's or Reid's Cave and the Picadome Cave to be one and the same, as his recollections tally closely with the observations of the French scientists.¹¹

Picadome Cave again received attention in 1975 with the demolition of the old school building in September and the beginning of construction of the new Picadome Elementary on the level ground above the sealed cave. The possibility of a large cave underlying the construction site was naturally of concern to the engineers, who drilled numerous test holes about the site to determine if the presence of underground passages would endanger the stability of the new structure. No actual cave passages were located in this manner, though one test hole slightly to the southwest of the old school revealed an underground solution cavity completely filled with sediment.¹²

Hydrologically, Picadome Cave is probably part of a groundwater network that includes the tiny Mason Headley Cave (located beneath the parking lot of the annex to St. Joseph Hospital) and the Big Elm Sink; the stream on which Picadome is situated sinks at Big Elm, less than 2,000 feet due north. Nearer to the Picadome Cave, there are numerous small sinks and swallets. One such, located behind a house on Woodbine Avenue, has an unusual background. The property owner relates that many years ago, this small, shallow sink was quite a nuisance to her as it filled with water after a rainfall and was very slow to drain. About 1950, she recalled, a Mr. Cardwell of the Kentucky Highway Department, using water dowsing techniques,

claimed to have located a cave some distance directly beneath the sink. A hole was subsequently drilled, and as he had predicted, at a depth of 75 feet, a cavern was broken into. Runoff is now directed into the 12-inch diameter hole which is covered by a beehive grating.¹³

Picadome Cave has been shut away, but an older generation of Lexington carries it in their memories.

The author would like to extend appreciation to the many individuals who shared their recollections of Picadome, and to Angelo George for sharing information and an interest in this particular cave.

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AN 1828 ILLINOIS CAVE DESCRIPTION

Tom Metzgar

The following description of Half Moon Mountain Cave appeared in *The Blairsville Record and Conemaugh Reporter*. This rare Pennsylvania newspaper was published at Blairsville, Indiana County, by T. M'Farland on Thursday mornings. The date on this issue is 20 May 1830. It is further identified as Volume 3, Number 34, Whole Number 138.

The Henry E. Huntington Library and Art Gallery in San Marino, California holds this newspaper in its collections. Clarence D. Stephenson, author and historian of Indiana County, Pennsylvania, kindly permitted me to use his photocopy of this paper.

This cave description was originally written for the *Bedford Gazette* by a traveler known only by his initials - S. C. C.. Bedford, Pennsylvania was noted for its mineral water at Bedford Springs. Many famous people, including President James Buchanan, vacationed there during the 19th century. The health spa was widely known to travelers passing through Bedford on one of Pennsylvania's principal east-west highways, the Pennsylvania Road, forerunner of present-day U. S. Route 30. This may explain why the mysterious S. C. C. stopped at Bedford in about 1830 and took the time to write about a unique experience encountered during a trip through Illinois, hundreds of miles to the west.

A copy of the *Bedford Gazette* containing this cave description could not be located to compare with the version printed here. Newspapers during that era commonly exchanged and reprinted material verbatim. Publication in a newspaper appears to have placed printed matter in public domain. With due acknowledgement, reprinting entire articles was apparently taken as a compliment by the quoted newspaper instead of resulting in copyright infringement litigation. At any rate, this practice has preserved for us today an excellent 19th century cave description.

From the Bedford Gazette.

Sir - Having stopped a few days at your interesting village, for the purpose of using the Mineral water, and not being other-wise engaged, I have taken the liberty of sending you a description of a Cave in the state of Illinois, which I visited in December, 1828. - Yours, S. C. C.

HALF MOON MOUNTAIN CAVE

In the state of Illinois, below Shawney town, there is a mount, or mountain, called by the inhabitants the "Half Moon," that stretches from the Saline creek west, near to the Ohio river, upwards of thirty miles. Being at Equality, the county town, at the Saline Salt works, I was informed of a Cave, which had been recently discovered in the Mount in sight, and made up a party of sixteen persons to explore it.

We found the opening about two-thirds up the mount and six miles from the east end, on the north side. It was a hole resembling a limestone sink. We passed in on our hands and knees in nearly a perpendicular direction, about twenty feet, and entered an aperture, under an arched blue lime stone, wide enough for four men abreast to pass, occasionally ascending and descending to appearance one hundred feet or more. We proceeded on a gentle descent for about one hundred yards further, when the aperture opened to many passages, in different directions. Here we parted. Myself and five others, with sixteen candles & torch lights, proceeded in a western direction, thinking to pass through the mount, which in general is from one half to a mile wide. We proceeded parallel with the mount, as we supposed, nearly one-fourth of a mile, when we came to a brook of clear running water, and refreshed ourselves, for the heat made us perspire freely. Here two of our men gave up, and determined to return, with one candle.

We four continued a west course, passing many apertures, alleys and rooms, most beautifully sculptured and adorned with those subterraneous ornaments of native petrifications, called spar and tiff, or blossom of lead. We kept at a proper distance with our lights, still watching the foremost candle, until the foul air put it out, when prudence required our quick return. The effect on the man who held the candle, was a giddiness of the head, with sickness and puking; but on an immediate application of cold water, he soon recovered. From that point we stopped our return about three-fourths of a mile.

On our return, about one hundred yards from the water, to our and their most agreeable surprise, we found the two men who had left us, sitting in utter darkness, having by accident let their candle fall. They said it was in vain for them to move, for they had lost the course. They had remained about three hours in most fearful suspense and dread of mind, lest we might return through some other of the many labyrinths comprising the cave, and miss them. The effects of the fear and sudden joy on their pale countenances was visible for several days afterwards.

When we returned within two hundred yards of the place of entering, we

found an aperture bearing south-east, which, after some reviving air and refreshment, four of us entered and proceeded to view. This taking us an opposite course to the one we had just returned from, we passed on about one-fourth of a mile into an open room or hall, eighty feet long and pretty square; having a pedestal near the middle, fifteen feet high and ten at the base, inclining up to a point formed spiral by the water. Near this was an air-hole about one foot wide. It appeared to be a chimney for the bats, for all around this place, over our heads, they were hanging by their tails with their heads down in a torpid state. On putting our fire near them, they soon flew about, and was some trouble.

The fissures in the rock of white and blue limestone appeared more extensive on the course the brook ran, and it may be possible continued open for several miles until it emptied into the Saline creek, for no person in the neighborhood knows where this brook discharges itself from the mount.

Few can imagine the beauties & magnitude of the works of nature here concealed from the gaze of man, in these subterraneous and dark abodes of solitude, and devoted entirely to the repose of bats and bears; of the beds of the latter we examined sixteen - they were well smoothed or polished, and formed in the shape of our clay bake-ovens.

It now became necessary to prepare to return. Our candles were all gone but two and about a half. We had not far retraced our steps, when some of my companions, from admiring the grandeur of those passes and the beauty of the petrifications, got bewildered and lost, and had it not been for the pains I had taken in marking every fissure and prominent rock we had passed, together with the aid my compass afforded, we would have been in danger of remaining and starving in this recess of awful darkness.

I have been in many Caves in the states of Pennsylvania, Virginia and Kentucky, but this one, in my opinion, far exceeds them all in its size and numerous openings.

RAVENEL CAVE CONFEDERATE NITRE WORKS AND ITS LABORERS

Marion O. Smith

During the Civil War, in their relentless quest to supply Southern powder mills, the Confederate Nitre Bureau worked several caves in northern Georgia for saltpeter (KNO₃). These included Parten and Cave Spring in Floyd County; Chickamauga (called "Ringgold" by CSA) in Catoosa County; and Howard's Waterfall (probably the cave called "Trenton" by CSA) in Dade County. Recently "rediscovered" documents reveal that in mid-1862 the Bureau also manned "Ravenel cave near Kingston," which was an entirely different site from the much better known Kingston Saltpeter Cave.¹

The location of Ravenel Cave was baffling. No such name was known in the Georgia Speleological Survey files (kept by individuals in Canton and Stone Mountain, Georgia), and so far as could be learned, no one of that name before the Civil War had a direct tie to Cass or Bartow County. Neither the 1850 or 1860 census showed a Ravenel in the entire state of Georgia, let alone Cass County. The name is that of a very prominent South Carolina family.

Because Huguenot minister Charles Wallace Howard (1811-1876) had owned property in Cass County since the 1830's and had once lived in Charleston, it was thought that Ravenel Cave might have been on his property. While in Charleston he knew some of the Ravenels and had baptized two children (Samuel P., 1850, and Catherine P., 1852) of Henry Edmund Ravenel. After the Civil War one of Howard's granddaughters, Emily, married Thomas Porcher Ravenel, Jr., and they made their home in Savannah.²

About one and a half miles north of Kingston, the Howard family had a lime works which, according to one source, were in operation as early as 1845. There, a limestone "cement quarry [sic] was discovered in 1852," which afforded "an excellent plastering lime, a strong building lime, tintured with hydraulic properties, and an excellent hydraulic cement." By 1869 Howard's son-in-law, George H. Waring (born ca. 1835), had charge of the business, and "thirty hands [were] employed in the quarries, besides wood choppers, barrel makers, etc." These works eventually closed about 1912. It was theorized that since the limestone quarry at Howard's Lime Works had been underground, the remnant of which remains today, there might originally have been a cave there which also could have been mined for saltpeter. But further research yielded very strong circumstantial data that Ravenel Cave had not been owned by the Howards.³

J. R. Hopkins, a laborer at Ravenel and numerous other caves during the war, kept many detailed notes. Among these are his "Rail Road Travels" between May 14, 1862, and January 31, 1863. On August 8 he went to Stone Mountain, 78 miles away, of which the first four were from "Murchisons to Kingston". This meant that Ravenel Cave was west of Kingston and that he rode the Rome Railroad before switching to the Western and Atlantic at Kingston. "Murchison" was undoubtedly Duncan Murchison, who lived between the Rome Railroad and the north bank of the Etowah River, inside a large southern meander still known locally as Murchison's Bend. Maps in the *Atlas to Accompany the Official Records of the Union and Confederate Armies* show Murchison's home under the name "Merkerson" and on the river, at the southern tip of the bend, "Merkerson's Ford" or "Murchison's Ferry". Also shown, on the south side of the river just to the west of Murchison's Ferry, was what the map makers called a "Potash Works". This location matches almost exactly with the currently known Jolley Cave, GSS 187, and it is concluded that Jolley is the Confederates' Ravenel Cave. In corroboration, on June 28, 1862, the Nitre Bureau purchased from Thomas M. Clarke of Atlanta, for use at Ravenel, two iron well buckets and one iron wheel, "for raising water from Etowah River".⁴

Jolley Cave is in a small bluff some 50 feet from and 35 feet above the Etowah River. The shelter-like seven foot high, 22 foot wide entrance quickly narrows and the ceiling lowers to five feet. About 40 feet inside there is an intersection. The right passage is about 70 feet long and ends in twin impassable dirt filled crawls. The left continues about 35 feet before becoming a crawl to a 20 foot wide stoop height breakdown room. Altogether, the cave is but 203 feet in length. The front or walking section appears to have had some old diggings, but most of this evidence has been obliterated by modern Indian relic hunters. The ceiling is coated with a

fair amount of soot, however.⁵

June, July, and August, 1862, Nitre Bureau payrolls survive for Ravenel Cave, showing 41, 20, and 11 names, comprising the following individuals:

J. M. Bennett	June	J. R. Hopkins	June-August
C. C. Brewer	June-August	James S. Howell	June
C. C. Caldwell	July-August	T. Jackson	July
D. B. Carr	June-August	John O. James	June
Z. H. Clardy	June-July	Thomas S. Kerlin	June-August
Peter Cobb	June	H. W. Minor	June-August
Giles Coleman	June-July	D. Murchison	July
J. K. Daniel	June-July	J. Poss	June
William Daniel	June-August	J. T. Ridgdill	June
Robert Duncan	June-August	L. L. Ridgdill	June
P. F. Durin	June	Miney Ridgdill	June
J. Eason	July	C. J. Robinson	June
O. R. Eason	June-July	M. L. Robinson	June
William F. Eason	June-July	Samuel Rowan	June
J. Edmondson	June	F. M. Swords	July
J. J. Garrett	June	H. W. Walker	June
J. B. Goddard	June	W. H. Wallace	June
R. Goddard	June	W. L. Wallace	June
Thomas Goddard	June	P. W. Weaver	June
J. G. Harris	June	R. J. White	July-August
O. Harris	June	G. W. Williams	June
W. B. Harris	June	W. R. Willoughby	June
J. B. Hays	June	M. M. Woodruff	June
J. L. Hembree	June-August	F. N. Wright	August
Agnes Herto	July		

J. L. Hembree was foreman, T. Jackson "Boss", John O. James carpenter, and Z. H. Clardy "potash foreman" and mason, at \$2, \$1.50, \$1, and \$1 respectively per day. Regular laborers earned only \$0.60 per day. D. Murchison and R. J. White each supplied a "man & Team" for \$2 a day, while the lowest paid person was Agnes Herto, who received \$10 a month for being the cook. M. M. Woodruff was shown as "assisting while waiting for force for Cave Spring works" of which he was to be "Foreman". At least fourteen of the workers borne on the rolls only for a few days in June were transferred to Cave Spring Cave.⁶

Workers at Ravenel [Jolley] Cave were mostly detailed conscripts from various counties in Georgia, men who were drafted and assigned to the Nitre Bureau, many of whom continued in that service the remainder of the war. A few of these men have been identified, and their and others' various duty stations have been determined.

Gwinnett County farm laborer Christopher C. Brewer (born ca. 1831) had, in May, 1862, been a laborer at Ringgold Cave. Afterwards, he was a laborer at Lookout Cave, Hamilton County, Tennessee (August-September, 1862), Nickajack Cave, Marion County, Tennessee (October, 1862-January, 1863) and laborer (January-March, 1864) at Big Spring Nitre Works [McDerment Cave or Guntersville Caverns], Marshall County, Alabama. In February,

1864, he also worked a few days at Blue Mountain Nitre Works [Lady-Weaver Cave] in Calhoun County, Alabama. David B. Carr may have been the South Carolina-born laborer (born ca. 1830) who lived in Floyd County. He worked as a laborer at Ringgold (June, 1862), Lookout (August-September, 1862), Nickajack (January, 1863), Pack (January-August, 1863), and Fort Payne [Manitou Cave, DeKalb County, Alabama] (December, 1863-February, 1864) caves. He was captured February 2, 1864, at or near the latter place and was held prisoner of war at Rock Island, Illinois, until October 17, 1864, when he enlisted in the Union army for service against the Indians. South Carolina native Z. H. Clardy (born ca. 1833) was a Columbus, Georgia, machinist before the war. After working at Ravenel Cave he became a potash contractor and helped supply Cave Spring Cave, Georgia, as well as Sauta [Jackson County] and Big Spring caves, Alabama. For a time, his works were near Guntersville then near Montevallo, Alabama. October 4-11, 1862, he also worked as a "Rock mason" and assisted in the construction of the furnace at McDerments [Big Spring] Cave. He was paroled at Talladega, Alabama, May 22, 1865. J. K. Daniel (1830-1894), another South Carolinian, was a Cobb County farmer who was later a laborer at Lookout Cave (August-September, 1862). Robert Duncan (born ca. 1835) was a Georgia-born farm laborer and Gwinnett County neighbor of J. R. Hopkins and C. C. Brewer. He labored at Ringgold (May-June, 1862), Lookout (August-September, 1862), Fort Payne (December, 1863-January, 1864), Blue Mountain (February, 1864), Big Spring (February-June, 1864), and Cedar Mountain [Horse-Adcock Caves, Blount County, Alabama] (July, December, 1864-February, 1865) caves. John S. (born ca. 1837), Obed R. (born ca. 1840), and William F. Eason (born ca. 1835), all Georgians, were sons of Cobb County farmer Raspberry Eason. John S. and O. R. enlisted as privates, Company F, 30th Georgia Infantry, CSA, September 3, 1862, and both later deserted, taking the U. S. oath at Chattanooga on November 24, 1864. All three, sometime in the spring or summer of 1862, worked "awhile" at Parten Cave near Rome. H. W. Minor (born ca. 1838) was a Fayette County farmer who later worked at Lookout Cave (August-October, 1862). Duncan Murchison [also Merkersen, Merkenson, Murkasen] (born ca. 1813-16 and still alive 1880), a native North Carolina farmer who had lived near the Etowah River since the 1830's, was the only known Cass-Bartow County resident on the Ravenel Cave payroll. He claimed real estate worth \$7,000 in 1850 and \$5,000 in 1870. Although he is not shown on the extant portion of the 1860 Cass census, he probably was in the county since various Confederate vouchers show him there in 1862 and 1863. Miney Ridgdill or Ridgill (born ca. 1842) was a Georgian from Henry County. Richard J. White (born ca. 1833), another native Cracker and a DeKalb County farmer, was a "Wagoner with wagon & team" at Parten Cave (May, 1862), and a wagoner and laborer at Lookout Cave (August-September, 1862). He was also a laborer at the Chattanooga Potash Works (September, 1862). While at Ravenel Cave he hauled ashes and fuel. Moses Woodruff (April 3, 1836-April 15, 1893), a North Carolinian and Floyd County farmer who was employed at Parten Cave in May, did become foreman at Cave Spring Cave. On June 12 and 14, 1862, he sold a small quantity of bacon, corn, oats, and lime to be used for the workers, team, and furnace at Parten Cave.⁷

John Riley Hopkins (November 5, 1835-July 14, 1909) was a native Georgia farmer from Gwinnett County. Because he saved numerous wartime papers pertaining to saltpeter mining, now at the Georgia Archives, much is known of Nitre Bureau activities in Georgia, Tennessee, and especially Alabama. During the war he worked at ten different caves. Beside Ravenel, his assignments were: Ringgold and Anderson caves in Catoosa County, Georgia (May-June, 1862) and Lookout Cave (August-September, 1862) as a laborer; Nickajack (November, 1862, February-April, June-July 1863), Big Spring (November, 1863-April, 1864), and Blue Mountain (November, 1863, June-July, 1864) as a carpenter; Long Hollow [Cave

Mountain Cave, Marshall County, Alabama] (May, 1864) as superintendent; Cedar Mountain (September, December, 1864-March, 1865) as assistant superintendent and superintendent; and Blountville or Nixon's Cave [possibly Posey Cave, Blount County, Alabama] (April, 1865) as superintendent. After the war Hopkins lived near Norcross in his home county where, among other pursuits, he maintained "his blacksmith and woodwork shops, mills and cotton gin." He was credited by some as the "inventor of the first cotton cleaner."⁸

Subsequent work assignments for other Ravenel Cave laborers are as follows:

James M. Bennett	laborer	Parten (May-June, 1862), Cave Spring (June, 1862), Sauta (January-February, 1863)
	boiler	Sauta (May-June, 1863), Camp near Kingston (September, 1863), Blue Mountain (November, 1863- January, March-April, 1864)
C. C. Caldwell	laborer	Parten (May-July, 1862), Lookout (August-September, 1862), Nickajack (October, 1862, January, July, 1863), Camp near Kingston (October, 1863), Blue Mountain(December, 1863, January, April, June-July, 1864), Cedar Mountain (March, July, 1864, February- March, 1865), Long Hollow (April-May, 1864)
Peter Cobb	shoemaker laborer	Blue Mountain (March, 1864) Parten (May-June, 1862), Cave Spring (June, 1862), Fort Payne (November, 1862- January, 1863), Bartow (July, September, 1863)
	foreman of kettles	Fort Payne (September, 1862)
William Daniel	boiler laborer	Sauta (April, 1863) Lookout (August-September, 1862)
John Edmondson	laborer	Parten (May-June, 1862), Cave Spring (June, 1862)
	carpenter	Big Spring (September- November, 1862), Sauta (November, 1862-March, May- June, 1863), Camp near Kingston (September, 1863),

		Blue Mountain (January, March, June, 1864), Long Hollow (April-May, 1864), Nixon's Nitre Works [Blountville or Posey Cave] (July, 1864)
	asst. superintendent	Blue Mountain (November-December, 1863)
John J. Garrett	laborer	Parten (June, 1862), Cave Spring (June, 1862), Big Spring (September-October, December, 1862-November, 1863, January-February, 1864)
	cave foreman	Big Spring (March-June, 1864)
J. Bayliss Goddard	laborer	Chattanooga Potash Works (June, 1862), Cave Spring (June, October, 1862), Sauta (November-December, 1862), Big Spring (December, 1862-November, 1863), Little Warrior [Crump and Second Caves, Blount County, Alabama] (July, 1864)
	boiler	Big Spring (December, 1863-January, March-June, 1864)
Robert Goddard	laborer	Chattanooga Potash Works (June, 1862), Cave Spring (June, October, 1862), Sauta (November-December, 1862), Big Spring (December, 1862-November, 1863), Little Warrior (July, 1864)
	boiler	Big Spring (December, 1863-June, 1864)
J. G. Harris	laborer	Parten (May-June, 1862), Cave Spring (June, 1862)
	overseer	Blue Mountain (March-April, July, 1864)
	unknown	Cedar Mountain (July, December, 1864-February, 1865)
O. Harris	laborer	Parten (May-June, 1862), Cave Spring (June, 1862)
	foreman	Cave Spring (October, 1862)
	boss boiler	Big Spring (October-November, 1862)
	asst. foreman	Big Spring (December, 1862)

W. B. Harris	laborer	Cave Spring (June, October, 1862)
J. L. Hembree	laborer foreman	Parten (May-June, 1862) Lookout (August-September, 1862)
James S. Howell	laborer	Ringgold (June, 1862), Cave Spring (June, 1862, March, 1863), Bartow (July, 1862, April, July-August, 1863), Cherokee Potash Works, (Cherokee County, Georgia) (August-September, 1862)
Thomas Jackson	laborer boss boiler boiler	Bartow (June, 1862) Bartow (July, September-October, 1862) Bartow (November-December, 1862, April-May, July-September, 1863)
John O. James	laborer carpenter	Parten (May-June, 1862), Cave Spring (June, 1862) Big Spring (September-November, 1862, May, 1864), Sauta (November, 1862-July, 1863), Town Creek Potash Works [Marshall County, Alabama] (August, 1863), Blue Mountain (January, March-April, June, 1864), Long Hollow (April, 1864)
Thomas S. Kerlin	laborer	Ringgold (May, 1862), Chattanooga Potash Works (June, 1862), Lookout (August-October, 1862, March, 1863)
James N? Poss	laborer	Cave Spring (June, October, 1862, March, 1863), Bartow (April-May, July, 1863)
Charles J. Robinson	laborer	Bartow (July, 1862), Cherokee Potash Works (July-August, 1862), Chattanooga Potash Works (September-November, 1862, January, May-July, 1863), Camp near Kingston (October, 1863), Blue Mountain (January, 1864), Big Spring (March-June, 1864), Little Warrior (July, 1864)
Samuel M. Rowan	laborer	Ringgold (May, 1862),

		Bartow (July, September, 1862), Chattanooga Potash Works (October-November, 1862, January-March, May-August, 1863), Camp near Kingston (October, 1863), Fort Payne (November, 1863-January, 1864), Cedar Mountain (February-April, 1864), Long Hollow (April-May, 1864)
F. M. Swords	laborer	Parten (May-June, 1862)
Henry W. Walker	laborer	Parten (May-June, 1862), Bartow (July, 1862), Cherokee Potash Works (July-August, 1862), Chattanooga Potash Works (September, November, 1862, January-March, May, 1863), Lookout (May, July, 1863), Nickajack (July, 1863), Camp near Kingston (October, 1863), Big Spring (January, June, 1864), Blue Mountain (February, 1864), Cedar Mountain (February-April, 1864), Long Hollow (April, 1864)
	boiler	Big Spring (November, 1863)
	night watch	Big Spring (May, 1864)
Wade H. Wallace	laborer	Parten (May-June, 1862), Cave Spring (June, 1862), Big Spring (September, 1862-April, June-November, 1863)
William L. Wallace	laborer	Parten (May-June, 1862), Cave Spring (June, 1862), Big Spring (September, 1862-November, 1863) ⁹

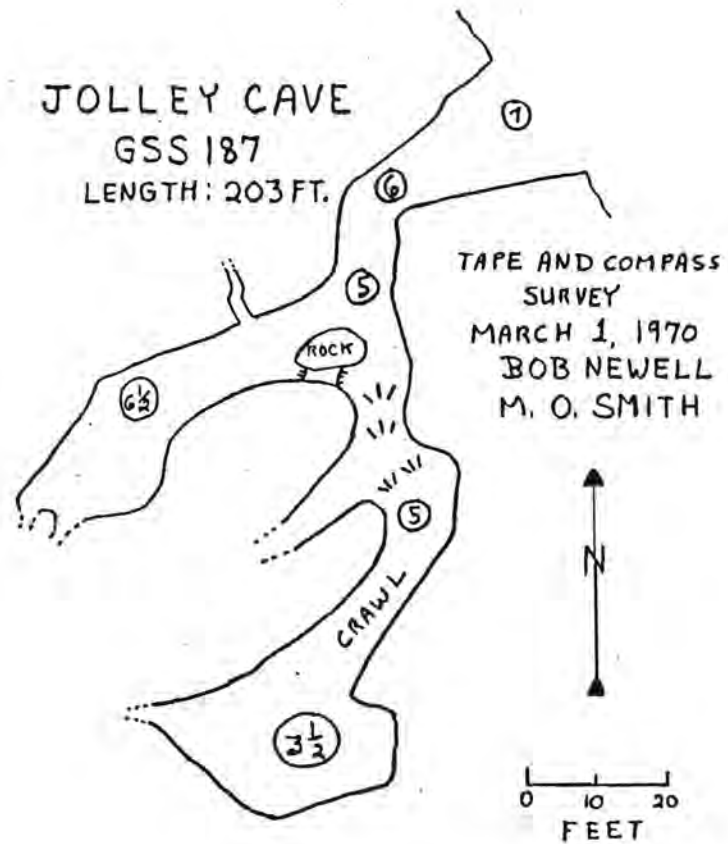
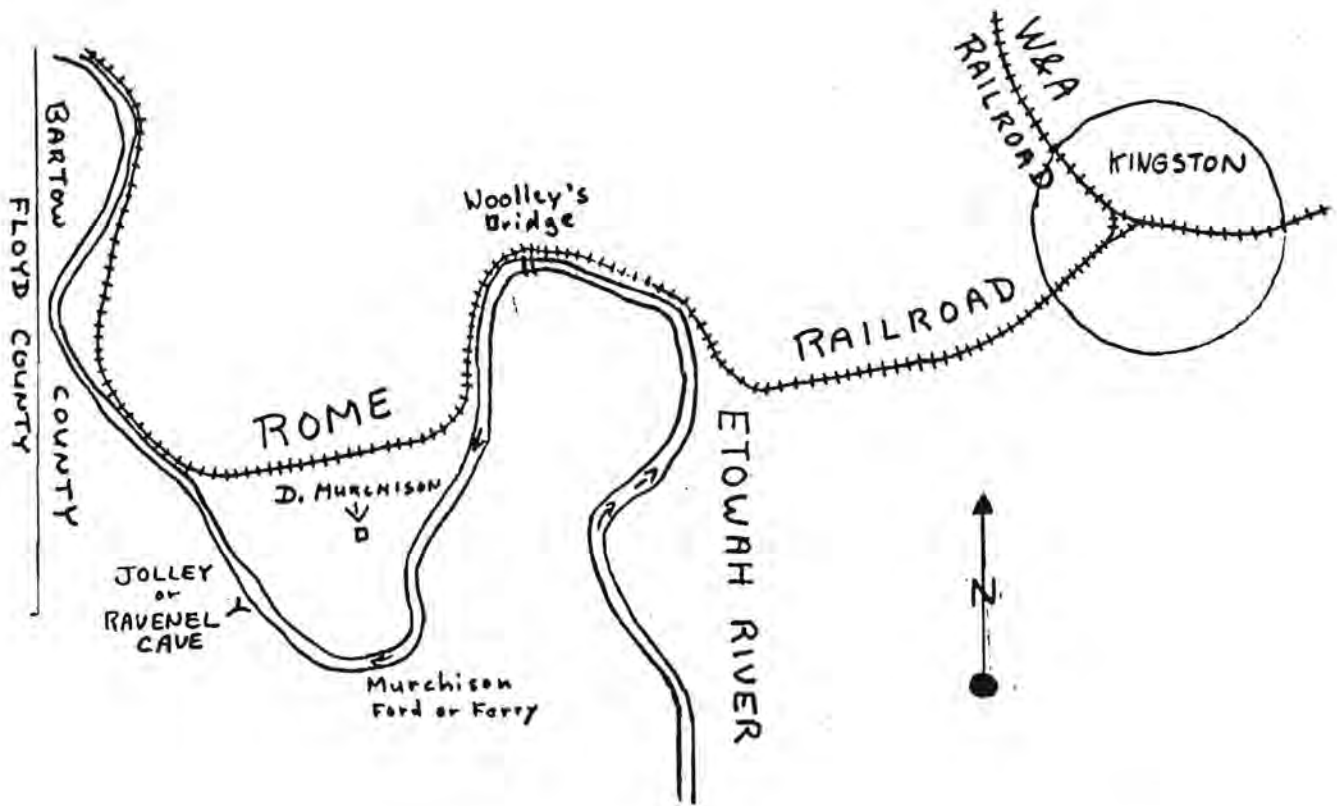
Little is known about the activities at Ravenel Cave. Consequently, the daily record of John R. Hopkins is important because it reveals the routine of a typical laborer at the cave:

June 26	in woods
June 27	in woods and at wheelbarrow
June 28	at wheelbarrow
June 30	at wheelbarrow and water works
July 1	at water works
July 2	at water works and ash hopper

July 3-4	chopping & rolling logs
July 5	chopping & rolling logs and watering dirt vats
July 7	at watering dirt & ashes; setting up Till 12 o'clock night gaining 6 hours by midnight at hoppers & furnace
July 8-11	Lost the day going to Rome
July 12	at furnaces repairing & making Nitre
July 14	Attention to works & went to Kingston
July 15	Attention to works
July 16-18	gone to ringgold lost 1 day
July 19	at making Nitre
July 21-25	hired swords 6 hours at night
July 26	sick and lost time
July 27 (Sun)	sick
July 28	got able to work making Nitre
July 29	at making Nitre
July 30-Aug 1	Attention to works ¹⁰
Aug 2-7	

Hopkin's itinerary shows that at first the workers had a six day week then moved to a seven day week.

Local residents helped supply items to the Ravenel Cave operation. Duncan Murchison on June 28 sold to the works 600 bundles of fodder at \$2.25 per hundred and 30 bushels of corn at \$1.10. Twelve days later he sold two more batches of corn, $54\frac{2}{3}$ bushels at \$1.40 and 15 bushels and three pecks at \$1.25, plus 284 more bundles of fodder at $2\frac{1}{10}$ cent and 14 bushels of meal at \$1.50. On the latter day he also sold 18 sacks at 10 cents each, and boarded "16 Hands--one meal each--25 cts" for a total of \$5.80. The sacks were "for carrying dirt from Ravanelle Cave." Andrew F. Woolley lived near the Etowah River at the northern turn of the next meander east from Murchison's Bend. At various times in June he sold a large amount of one and two inch plank, scantling, weather boarding, and sheeting to the Nitre Bureau, and had a "man & 2 horse wagon" haul it "from mill to Ravennell Cave." The lumber was to be used "in building hoppers & houses at Ravennell & Bartow Caves."¹¹



Salt peter production at Ravenel Cave was necessarily small, considering its size and the short time it was worked. The only figures are from notes in Hopkin's "diary":

DATE	POUNDS
July 12	55
July 14	31 ³ / ₄
July 19	74
July 23	50
July 25 about	55
July 27 sunday morning	18
July 29 Kerlins run for first	15
Aug 1	<u>12</u>
	310 ³ / ₄ 12

In the absence of any evidence to the contrary, Ravenel Cave appears to have been worked by the Confederate Nitre Bureau for just a few months. The Bureau, only created in April, 1862, was in the process of getting organized during the time Ravenel was in operation, and it may not have been apparent which caves would be good ones to mine. Also, some of the more workable caves were not yet known to Bureau agents. At any rate, work ceased at Ravenel in August, 1862, when all eleven workers were transferred to Lookout Cave at Chattanooga. The latest known wartime mention of the cave was on August 18 by J. R. Hopkins, when he wrote the local nitre district superintendent that "our furlough men, C. C. Caldwell, H. W. Minor & myself, were delayed in Atlanta on account of a change of schedule & arrived at your office this evening and are gone to the our [sic] works at Ravenel." But the next day they continued toward Lookout Cave.¹³

Why the Nitre Bureau used the name Ravenel for today's Jolley [sometimes Murchison's] Cave has never been determined. However, the foregoing documentation will rescue from total darkness another small effort by Confederate authorities to produce war material in Bartow [Cass] County, Georgia, an episode heretofore unrecorded by historians.

ACKNOWLEDGEMENT

The writer is deeply indebted to Mrs. Marilyn Blanton Campbell, a Rome native and Atlanta resident, for her untiring efforts to uncover evidence regarding the location of Ravenel Cave and the information about the Jolley and Murchison families.

FOOTNOTES

1. Payrolls, June-July, 1862, Ravenel Cave, Record Group 109, National Archives. For a detailed account of Kingston Salt peter Cave during the Civil War, see Ralph W. Donnelly, "The Bartow County Confederate Salt petre Works," *Georgia Historical Quarterly*, LIV

(Fall, 1970), 305-19.

2. Lucy Josephine Cunyus, *The History of Bartow County Formerly Cass* (Easley, S. C.: Georgia Genealogical Reprints, 1971-1933), 288-90; Henry Edmund Ravenel, *Ravenel Records* (Atlanta: The Franklin Printing and Publishing Company, 1898), 146, 147, 169.
3. *Cartersville American*, October 21, 1884, p. 3, c. 6; *Cartersville Express*, September 2, 1869, p. 2, c. 2; 1880 Census, Ga., Bartow, Kingston or 952nd G. M. District, 5th Enumeration District, 38.
4. Payrolls for Ravenel Cave (June-August, 1862), RG109, NA; J. R. Hopkins Papers, Georgia Department of Archives and History, Atlanta; *Atlas to Accompany the Official Records of the Union and Confederate Armies* (Washington: Government Printing Office, 1891-95), Plates LVIII, LIX; Jolley Cave report, Georgia Speleological survey files; Thomas M. Clarke file, Confederate Papers Relating to Citizens of Business Firms, Record Group 109, National Archives. Clarke (born ca. 1829 and still alive 1901), a native Georgian, was a longtime hardware merchant on Peachtree Street in Atlanta. In August, 1862, he sold four well buckets to the Nitre Bureau "for raising water with double buckets at Cave Spring and McDurmott [Big Spring] caves, and in February, 1863, four padlocks "for locking doors at Nickajack Cave." 1860 Census, Ga., Fulton, Atlanta, Ward 1, p. 37; Atlanta city directories (1859-1901); Thomas M. Clarke file, Citizens Papers.
5. Jolley Cave report, GSS files; Diaries of Marion O. Smith, March 1, 1970, May 31, 1987.
6. Payrolls for Ravenel and Cave Spring caves, RG109, NA.
7. 1860 Census, Ga., Gwinnett, 406th District, 178; Floyd, Flat Woods District, 204, Barkers District, 116; Muscogee, Columbus, 52; Cobb, Merritts District, 215, Powder Springs, 93, 95; Fayette, 127; DeKalb, Panthersville District, 111; (1850), Ga., Cass, The 12 Division, 282; (1870), Bartow, 5th Subdivision, 213; (1880), Kingston or 952nd G. M. District, 11; Payrolls for Ringgold, Lookout, Pack, Nickajack, Blue Mountain, Fort Payne, Parten, Big Spring, and Cave Spring caves, RG109, NA; Time Sheets for Cedar Mountain Nitre Works and "Diary", p. 157 (Parten Cave), J. R. Hopkins Papers, Georgia Archives; Z. H. Clardy, Duncan Murchison, Richard J. White, and M. M. Woodruff files, Citizens Papers; Ann Bishop Seymour, ed., *Cobb County Cemeteries* (Marietta, Ga.: G. W. Publications, 1984), I, 531; Lillian Henderson, compiler, *Roster of the Confederate Soldiers of Georgia 1861-1865* (6 vols., Hapeville, Ga.: Longino & Porter, 1959-64), III, 536; Cunyus, *History of Bartow County*, 86; Shirley Kinney, Madge Tate, and Sandra Junkins, eds., *Floyd County Georgia Cemeteries* (Cave Spring, Ga.: Georgia School for the Deaf, 1985), I, 570.
8. 1860 Census, Ga., Gwinnett, 406th District, 177; Alice Smythe McCabe, ed., *Gwinnett County Georgia Families 1818-1968* (Atlanta: Cherokee Publishing Company, 1980), 241-42; Time Sheets for Cedar Mountain and Blountville Nitre Works and for Ringgold, Ravenel, Lookout, Nickajack, Big Spring, Blue Mountain, and Long Hollow caves, RG109, NA.

9. Payrolls for Ravenel, Parten, Cave Spring, Sauta, Nickajack, Blue Mountain, Lookout, Cedar Mountain, Long Hollow, Fort Payne, Bartow, Big Spring, Little Warrior, and Ringgold caves, Chattanooga, Cherokee, and Town Creek Potash Works, and Camp near Kingston; Time Sheets for Cedar Mountain Nitre Works, J. R. Hopkins Papers, Georgia Archives; John O. James file, Citizens Papers. In February, 1864, Robert Goddard was at Big Spring fourteen days and Blue Mountain twelve and a half days.
10. "Diary", pp. 146-48, J. R. Hopkins Papers, Georgia Archives.
11. Duncan Murchison and Andrew F. Woolley files, Citizens Papers. Woolley (November 29, 1801-December 12, 1865), a native of Fairfield District, South Carolina, moved to Cass County in 1836 and became a planter, militia major, legislator (1839), and owner of a covered toll bridge across the Etowah. During 1863 and 1864 he sold large amounts of fodder, corn, oats, and hay, plus four beef cattle to various Confederate quartermasters, including Captain C. A. Bridewell of General Daniel C. Govan's brigade. On April 4, 1863, he supplied 2,000 pounds of straw for the Confederate hospital at Kingston. In spring and fall, 1864, the Union Army occupied his plantation, and he refugeed to Macon County, Alabama, where about August 3, 1865, he applied to President Andrew Johnson for special pardon because the value of his property was estimated at "about \$40,000." Cunyus, *History of Bartow County*, 104-5; "Woolley's Bridge", Georgia Historical Marker; Andrew F. Woolley file, Citizens Papers; Case Files of Applications From Former Confederates For Presidential Pardons ("Amnesty Papers") 1865-1867, Record Group 94, Microcopy 1003, Roll 12, National Archives.
12. "Diary", p. 151, J. R. Hopkins Papers, Georgia Archives.
13. Payroll of Lookout Cave (August, 1862), RG109, NA; "Diary", p. 163, J. R. Hopkins Papers, Georgia Archives.