

hole. As the LIDAR rotates, a laser would pulse continually and collect 40 million data points. These data points would be processed into a 3D map. On the second day of drilling, as the team practiced, practiced, and practiced with the LIDAR, a driller strolled over and calmly, plainly, blandly, and with zero emotion said, "We hit a void."

Void meant cave.

This news confirmed the location of one of St. Louis's lost historical treasures, English Cave and a wave of jubilation consumed the crowd.

After hitting the void, the drill team shrugged their shoulders, and stepped back and allowed the LIDAR to be used. The team slowly, very slowly and very carefully lowered the LIDAR into the cave because LIDAR is an expensive toy.

With LIDAR lowered and secured, the scan could begin. With the click of a mouse, the LIDAR came to life and slowly rotated. As the LIDAR rotated, millions of laser pulses scanned the cave. The data was sent up a cable and into a laptop, and in real time, the outline of the cave slowly was built out.

Friday March 13th was not a day of bad luck, it was an incredibly lucky day. The LIDAR image had revealed that the drill

had barely struck the cave. If the drill hole had been two feet over, the drill would have missed the cave.

The second hole would be drilled on Monday, and the length of the weekend did not extinguish the energy. Over the weekend, caver Josh Hafner was challenged to create a remote camera that can be lowered down a 50 foot / two inch diameter hole. The camera needed to be self-powered and provide illumination.

For Josh Hafner, who designs robots for a living, takes three-day cave trips, and flies drones in caves, this was not a challenge. He built a housing to hold a Go Pro™ and several light sources. Josh had his camera and housing built and ready to go on Monday morning.

Monday morning March 16 had more drilling action. A second hole, based on the LIDAR scan, had been selected. As the drill chewed through the St. Louis earth on the second hole, Josh's camera was activated and lowered into the first hole.

The results of the camera rig showed the inky darkness and the pale St. Louis limestone. The void that is English Cave had finally been revealed. The camera revealed that we had hit a passage, a big passage

for the light on the camera rig could not penetrate it.

Within a short time of completing the videoing of the first hole, the driller at the second hole yelled out, "Void." This void was expected, for the location of the second hole was based on the LIDAR results of the first hole.

The second hole was scanned with the LIDAR and it showed a passage trailing off into the distance. Adrenaline induced motivation, allowed each hole to be LIDARed repeatedly with different LIDAR settings. If it was in a hole it was LIDARed several times.

The end of day three, the last day of drilling, lasted late into the night. Site maintenance had to be performed, from back filling around the holes, securing the holes, restoring the neighborhood garden to more of a garden state, and of course, celebrating.

Although drilling had ended, the discovery of English Cave and a new chapter in the history of the caves of St. Louis, had just begun.

This project is just starting and the expertise of NSS Cavers is needed! If you have any expertise that can benefit this project (drilling robots, donations), please contact Joe Light at Joe@JoeLight.com.

Johnny Depp's Secret Cave

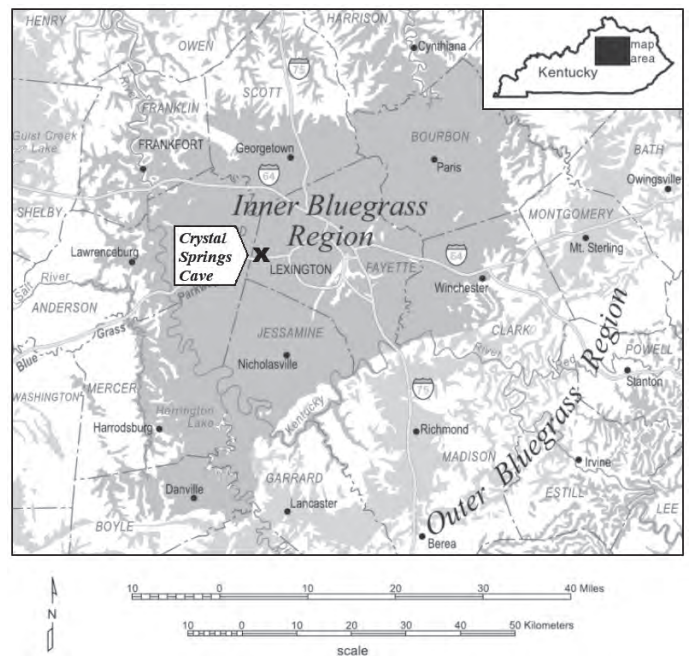
Gary A. O'Dell

For the last fifteen years, I have been sworn to secrecy, but the time has finally come when I can tell the story. It is a tale of a sealed and forgotten cave, a celebrity landowner, and an extraordinary act of generosity.

In the summer of 1968, when I was only sixteen years old, I embarked upon an ambitious undertaking: to visit every known cave in the vicinity of my hometown of Lexington, Kentucky. I had become a caver and joined the Blue Grass Grotto (BGG) only eighteen months before, but quickly became one of the organization's most active members and was designated as custodian of the grotto cave files. This consisted of a shoebox filled with about eight hundred 5 x 8-inch index cards which recorded the cave name, location, and a few words of description.¹ These had been compiled from a variety of sources ever since the founding of the BGG in 1962 by Thomas C. Barr, Jr., and a group of fellow biospeleologists; the list had greatly expanded after Bill Andrews took over as grotto chair circa 1965. Bill had a great interest in the caves of the Inner Bluegrass Karst Region and so he and members of his circle spent countless hours in the field, interviewing landowners, investigating apparent karst features shown on topographic maps, and exploring (and

often mapping) the caves they discovered. Because of my interest in regional caves, Bill entrusted me with not only the cave files, but also his collection of topographic field maps on which he had made various notes and jottings, including many leads which had yet to be investigated.

The Inner Bluegrass Karst Region has never been very popular with recreational cavers, and for good reason. In contrast to the massively-bedded Mississippian limestones of the surrounding region, in which complex multi-level caves of considerable length have developed, the Ordovician-age limestone in this part of the state is thinly bedded and most of the caves are low, short and wet. Mundy's Landing



Crystal Springs Cave is located in Ordovician-age limestone of the central part of the Inner Bluegrass Karst Region. Adapted from Currens and Paylor (2009), 103.

Cave in Woodford County, surveyed to a little more than 14,000 feet, is the longest cave in the region. The Royal Spring system in Scott County is potentially much longer,



Lewis Jones.

After Johnny Depp approved reopening the cave, the farm manager brought in a track-hoe excavator and crew to uncover the entrance.

but virtually the entire conduit is submerged or otherwise inaccessible. Fayette County, in which Lexington is located and the target of my ambition, was represented in the cave files by about fifty index cards. The larger caves of the county, such as Russell Cave (4,629 feet),² Crystal Cave (3,917 feet)³ and Phelps Cave (1,473 feet)⁴ had been mapped by Bill and his friends a few years before I joined the grotto, but many of the caves in or near Lexington remained simply names on file cards whose existence and nature were as yet unverified.⁵

I resolved to visit each and every cave on the cards, surveying any which had not yet been mapped, and to check out all of the leads Bill had circled in pencil on his topographic maps. Little did I realize that this was a process that would take decades, and that nearly fifty years would pass before I was able to check off the last names on the list.

The long, drawn-out process was the result of the nature of the landscape. Fayette County consists of an ever-expanding area of urban karst surrounded by Thoroughbred horse farms on the gently rolling plains of the Bluegrass region. Because horse farms often house livestock worth millions of dollars, with few exceptions owners and managers discourage casual visitors, let alone would-be cave explorers. Obtaining access to caves in such settings often took many years of patient negotiation to earn

the trust of the owners. In some cases, it was necessary to wait for decades until an uncooperative owner died or the property was sold and a new owner proved to be more agreeable. Exploring these caves has, in many cases, also been a race against time, because Lexington has been one of the most rapidly expanding cities in the country, with urban development threatening destruction of formerly rural caves.

As I discovered, many caves within the city which had been known to residents during the nineteenth century were gone forever, destroyed or buried by urban development over the years. A few of the cards in the cave file referred to such long-lost caves, now known only by rumor or historical records. Digging through old newspaper accounts, property deeds, and local histories, I assembled as much information as possible on the lost caves, as well as those still in existence, and created file folders for each to contain my research results.

The rapid expansion of the city threatened many caves whose entrances were still accessible. From 1967, when I first became a resident of Lexington, the city had doubled in population from about 100,000 citizens to more than 200,000 by 1980, and the metro population would reach nearly 330,000 by 2020. The developed area expanded accordingly. In 1967, the city was engaged in constructing a beltway, New Circle Road, around the perimeter, which fostered suburban growth, and between 1983-1988 a second beltway was established a mile beyond New Circle, around the southern part of the city. Unlike New Circle Road, a limited access highway for most of its length, Man-O-War was designed as a surface street with numerous connections to suburban housing tracts. The arc of land thus bounded between the New Circle and Man-O-War beltways, averaging 5,000 to 8,000 feet in width and 15 miles long, formerly occupied by horse farms, constituted a huge area ripe for suburban development. This zone saw

explosive suburban growth and was rapidly filled in by housing projects and shopping malls. As a consequence, many caves whose entrances had been scenic features of the rural landscape were now considered nuisances by developers and often sealed or buried when the land was graded for housing projects.

Although some caves were lost during this process others were exposed by construction. Merrick Place Cave was one striking example. During a grotto meeting on a summer evening in 1968, chair Bill Andrews announced that a cave entrance had been exposed in a road cut during widening of the Tates Creek Road in south Lexington, and suggested that we might visit and survey the cave immediately after the meeting. At about ten p.m., several grotto members, myself included, accompanied Bill to the location where we were astonished to discover a short dry cave of walking height that was floored by plush wall-to-wall carpeting. Apparently, once exposed, the new cave had been immediately adopted by the more adventurous of the neighborhood children as a new and exciting clubhouse. On ledges and in crevices were found comic books, empty soda bottles, candles, and the first fifty feet of the pleasantly dry cavern had been completely carpeted with scrap pieces evidently scavenged from a nearby house construction site. The cave, surveyed to 111 feet, was sealed after road construction was completed. Other caves would be briefly opened by construction activity during the following decades, all short in length and none as memorable as that of Merrick Place.

Over the years, some caves were thus added to my list and some removed, either destroyed, sealed, or determined to be no more than unsubstantiated rumor. Most of my efforts were focused on gaining access to the caves located on the farms surrounding Lexington, and by patient negotiation over many years I was able to establish cordial relations with the landowners so that, by



Lewis Jones.



Gary O'Dell

Left: After the track-hoe removed the greater part of the soil and rock over the entrance, the work crew cleaned out the entrance with hand tools. Above: view of the sink after excavation



Royal Berglee

Alternating offsets in the narrow vadose canyon added to the difficulty of navigating the passage.



Royal Berglee

Perched above the canyon, Gary O'Dell inspects the flat ceiling which indicates the cave's development along a bedding plane.

2006, there were only two caves on my Fayette County list that I had not yet been able to visit, the Carl Houston Cave known only by rumor and a cave with the intriguing name of Crystal Springs Cave. During the next year, having obtained the cooperation of the farm manager, with the aid of some of my students from Morehead State University I was able to dig at the sinkhole location of Carl Houston to discover a small cave consisting of a single chamber fifteen feet high and ten wide, but only about forty feet long. In the meantime, however, there was Crystal Springs Cave.

The name conjured up visions of a sparkling wonderland, though tempered by the knowledge that few caves in the Inner Bluegrass Karst Region exhibit much in the way of mineral decoration. Much earlier, in February 1989, accompanied by Bill Andrews, I had made a visit to the 42-acre farm at 5493 Versailles Road, two miles west of Keeneland race course, on which the cave was reportedly located. Bill had never visited the site and was unable to recall the source for the name and location or any description of the cave. At the western side of a shallow tree-lined sink, approximately one hundred feet in diameter, we found the entrance to a cave. The entrance was located in a small bluff of limestone, where two sides of the outcrop converged to form a corner. A shallow channel of evidently intermittent flow meandered across the bottom of the sink toward the cave. Sometime in the past, a brick wall about six feet high and three feet wide had been built across the entrance, the upper half of which had collapsed or been knocked down. Through the dark opening above the remaining part of the wall, we could see a passage five or six feet tall that was, on this winter day, blowing warm air into our faces. At this time, we were unable to obtain permission to enter the

cave, but were satisfied to have, at least, confirmed the existence of a cave here.

In late summer 2005, hoping to clear up some "loose ends," I contacted the farm manager, Lewis Jones, and learned that the property had been sold several times since 1989 and that the cave entrance had, unfortunately, been covered with soil and rock a few years before. This was, of course, a disappointment; I had delayed just a little too long. Upon learning that my intended purpose, to explore and survey the cave, was part of a larger project of scientific investigation of the caves of the region, Lewis unexpectedly volunteered to contact the absentee property owner to determine if there would be any interest in re-opening the cave to allow a map to be made. I sent Lewis, to be forwarded to the owner, a cover letter outlining my interest and intentions and a copy of the Kentucky Cave Protection Act, which exempts the cave owner from liability for injuries sustained by cave explorers provided no entry fee has been charged.

Early in April, 2006, I received a call from Lewis Jones and was informed that permission had been granted to temporarily unseal the entrance, which would be undertaken at the owner's expense. Before this would be done, however, the mother of the landowner, who lived on the farm, wished to interview me. It was at this time that I learned that the farm belonged to film star Johnny Depp, and that I would be speaking with Betty Sue Palmer, his mother, who would have the final say on whether I would be granted access to the cave. Johnny was, at this time finishing up the filming of *Pirates of the Caribbean: Dead Man's Chest* and within weeks would embark on the next installment in the series, *Pirates of the Caribbean: At World's End*. I very much regret that his busy schedule kept him away from the Bluegrass during this period so that

I never had a chance to meet him in person. I was, however, in indirect communication with Johnny through the farm manager and his mother.

Johnny had purchased the small hobby horse farm in 1995 from Herman Van Den Broeck for \$950,000, then sold it for \$1 million in 2001. A few years later, in 2005, he bought it back for \$2 million to provide a comfortable home for his mother, Betty Sue. Johnny was famously very fond of his mother, who often accompanied him to Hollywood events, and had her name tattooed inside a heart on his left arm. Johnny was a Kentucky native, born in Owensboro in 1963, and described his mother as "having come from nothing but hillbillies," having grown up in poverty in the mountains of eastern Kentucky. The attractive mini-farm in the heart of Bluegrass horse country, which became known as "Betty Sue's Family Farm," would allow her a luxurious lifestyle. The 6,635 square-foot ranch-style house at the end of a long driveway possessed six bedrooms and six bathrooms, a carpeted kitchen, an in-ground pool behind the house, and a four-car garage. A separate guest house provided quarters for the farm manager. The farm was divided into a number of horse paddocks, each with an automatic watering system, and contained three barns housing a total of fifteen horse stalls.

Upon receiving the call, Royal and I hastened out to the farm, and sitting at the kitchen table, were questioned by Betty Sue. Apparently, we made a favorable impression, because on April 11 farm personnel uncovered the entrance using a track-hoe to remove the soil and rock with which it had been sealed, shoveling away loose materials by hand from within the entrance zone. I was amazed that Johnny had given the go-ahead to expend several thousand

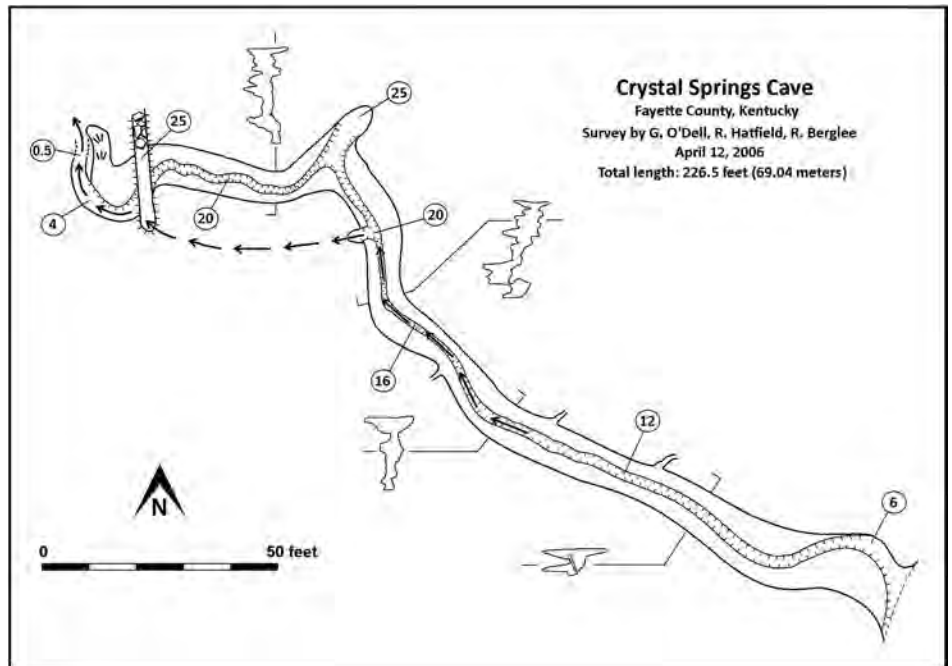
dollars simply to allow us to investigate this cave. He imposed one condition upon us, however, asking that the existence of the cave and his connection to it be kept secret for the time being, so that his mother would not be troubled by would-be visitors. I readily agreed to this restriction. Uncertain as to the stability of the cave, at this time none of the farm personnel entered the cave beyond the immediate entrance area.

On the following day, with the assistance of Royal Berglee and Rollie Hatfield, a MSU student and experienced cave explorer, I began the survey of Crystal Springs Cave, which proved disappointingly short and cramped. A second mapping trip took place on April 18, and was pursued to the explorable end of the cave, accumulating a surveyed length of 226.5 feet. The entrance was resealed with earth and rock on the next day, although a 20-foot length of 2-inch diameter PVC pipe was placed so as to extend through the fill from the surface to the interior, to facilitate a dye trace of the cave stream at some future date. A reconnaissance of the property immediately to the west of the cave revealed a spring about 1,000 feet northwest, discharging to Shannon Run, with a similar volume of flow as the cave stream. I had intended to carry out the dye trace at this time, believing this spring to be the likely discharge point, but was unable to gain permission to monitor the spring.

During the 1930s, the farm had been known as "Crystal Springs Farm," presumably referring to the water in the cave since there are no other natural springs on the property. Seldom has a cave name been less appropriate. There are no crystalline formations; in fact, the cave is devoid of any sort of decoration except small coraloid growths and a few vestigial stalactites, all muddy brown in color. Springs of a sort are present, however, since there are several locations where minor rivulets enter the main and only passage through tributaries too small to investigate. The cave consists of a single vadose canyon passage developed from an initial bedding plane that extends



The former Depp Farm



northwestward for 160 feet, and then bears to the west for about 60 additional feet. A stream, not present near the entrance, flows out from loose rock in the bottom of the passage about 75 feet in, and is then more or less continuous until the last section of the cave. The explorable part of the cave ends where the canyon is filled from top to bottom with old sediment and the cave stream flows beyond in a conduit mere inches in height.

The ceiling of the canyon is flat and remains at a nearly constant elevation through the length of the cave. The passage is widest in the upper part, ranging from six to twelve feet wide, and is occasionally tall enough to briefly allow an upright position. Beginning a short distance from the entrance, the floor is deeply entrenched, sloping steeply from the entrance area until the bottom of the canyon is soon nearly twenty feet lower than the ceiling. The entrenched canyon is very jagged and convoluted and ranges from one and one-half to four feet in width. From the viewpoint of upper, wider part of the passage, the canyon appears

as a deep trench that runs approximately through the center of the upper passage, winding back and forth from side to side in broad curves. The vertical meandering of the canyon is such that it is seldom possible to view the ceiling from the bottom of the trench. Here and there along the length of the canyon in the upper part, thin slabs

of breakdown are perched somewhat precariously overhanging the trench.

At approximately 150 feet from the entrance, the cave stream diverts to the left, into the bottom of a small dome, and disappears through a low bedding-plane passage. Beyond this point, the original canyon passage continues for another twelve feet to intersect, at a right angle, a slightly larger dome to the right. From this intersection, the canyon bears sharply to the west and continues for sixty more feet to the end of the negotiable passage. About ten feet before the end, the passage is intersected by a joint perpendicular to the passage and enlarged by dissolution to a width of about three feet. The canyon, at this intersection, is still about twenty feet in height, but the cross-passage joint extends upward through the ceiling about another three to five feet. To the north of the canyon, the joint passage is filled with breakdown slabs and rubble and is present only above the canyon, not incised into the canyon wall below the wide area typical of the canyon cross-section. To the south, however, the joint widens slightly and is developed as a recessional waterfall, although there was no more than drippings present on this visit. The cave stream reappears at this point, flowing out from a horizontal slot at floor level and continuing on past the end of the cave.

Betty Sue Palmer passed away on May 20, 2016, at the age of 81 years, and Johnny put the farm up for sale during the next year, listing it with a local realtor for \$3.4 million which was subsequently dropped to \$2.9 million. The property had been assessed by the Fayette County Property Valuation Administrator at \$2.33 million. An auction was held at the farm on September 15,

Yellowjacket Cave

Mark Fritzke

2017, the property offered up with an undisclosed reserve price, this being the lowest amount the seller is willing to accept. The top bid at the auction was \$1.4 million, provided by radio personality Rick Dees, a resident of California and host of the internationally syndicated radio show, “Rick Dees Weekly Top 40 Countdown.” Dees already owned a large property, Sweetbriar Farm, located near Danville, Kentucky. The offer did not meet the minimum and was refused, and after consultation with Depp, the auction was halted. Afterward, the list price on the farm was dropped to \$1.6 million, and on March 5, 2020, was sold for \$1,350,000 to an undisclosed owner. A recent search of the Fayette County PVA website lists the property owner as “Edward White & Co.,” a high-end accounting firm which may represent a front for the actual owner. The farm is now designated as “Versailles Road Farm, LLC.”

With the transfer of ownership, I was released from my promise of secrecy. Through the generosity of Johnny Depp, the mystery of Crystal Springs Cave was finally resolved. Few landowners would be willing, as he was, to expend the money and effort simply to allow a couple of cave scientists an opportunity to satisfy their curiosity, and his kind gesture was greatly appreciated. We were also grateful for the support of the late Betty Sue Palmer, a delightful woman, and the farm manager, Lewis Jones.

Alas, there was no pirate treasure hidden within the cave.

Citations

Currens, J.C., and Paylor, R.L. (2009) “The Bluegrass Region, Central Kentucky,” in Palmer, A.N., and Palmer, M.V., eds., *Caves and Karst of the USA* (Huntsville, Alabama: National Speleological Society), p. 103–107.

Footnotes

1 The state tally of known caves now exceeds 5,000, according to records of the Kentucky Cave Survey.

2 O’Dell, G.A. (1985) “History and Description of Russell Cave,” *Journal of Spelean History* 19(3):64-73. The passage length given for Russell Cave is from a 1994 resurvey of the cave by the author.

3 The early BGG survey of Crystal Cave accumulated a length of 3,468 feet; a 1990 resurvey by the author totaled 3,917 feet.

4 O’Dell, G.A. (1989) “Phelps Cave,” *NSS News* 47(12):296-299.

5 For an account of a fairly typical Bluegrass cave, see O’Dell, G.A. (1993) “Cave Spring Farm: Karst Springs and the Settlement of Kentucky,” *NSS News* 51(12):323-327. Described in this article, Boggs Cave, located near Lexington, is a wet bedding-plane crawlway about 800 feet long.

1985: I heard about the blowing hole from Bob Richardson and Dan Clardy, who attempted to get into the cave in 1982, but this was my first visit... solo. Perched high above Little Marble Valley in northern California is a 200-foot-deep, quarter-mile diameter basin; an “empty lake” with all the water draining out a hole in the bottom. They hauled up a bag of cement to brace a 500-pound slab hovering over the chest-compressor squeeze but never used it; no wonder they never went back.

The entrance is a vertical squeeze between massive blocks of schist. Wearing a t-shirt, shorts, and ball cap with a 2-AA headlamp against ice cold and foreboding 37°F airflow, I squeezed down the slot while my feet blindly felt for void, and curled into a tiny pocket to study the “killer slab”. I exhaled and very carefully slithered through the gap under the slab and over loose blocks as they shifted from my body weight. Beyond the squeeze, I was relieved to find a stable ceiling and crawled over loose slabs to a terminal funnel lined with collapsing blocks. Cold air rising through the rocks indicated cave below, but a 3-foot-long tilting block threatened to tumble and trap anyone who messed with it. I emerged from my solo trip feeling intimidated and overwhelmed; I had visited a giant hair-triggered monster and tiptoed away. Nightmare memories of shifting blocks and the sheer volume of rock to be removed kept me busy on other projects for 24 years.

2009: I returned with Rich Sundquist and Jim Hildebrand to surface survey into the valley and map two small caves. This



Yellowjacket ridge at sunset (named after the marble stripe at the end of the ridge)

trip prompted me to crawl into Yellowjacket, where I now had enough experience to stabilize the huge slab before I gingerly entered the cave, examined the funnel, and began to probe. Blocks arrayed around the funnel resembled a stack of melting ice cubes, as acidic water from the schist dissolves and erodes the marble every spring when snow-melt floods into the cave.

The potential for a cave system to drain south and penetrate the mountain drove me to dig for 9 years and dozens of trips, often solo, but sometimes with teams of 4-5 cavers working in line to pass rock out to the entrance. I got rid of the huge “hovering slab” and gradually opened up a 15-foot crawlway and dug down 12 feet. We moved at least a ton of rock on every trip, using a pry bar and sledge hammers to break rotten marble blocks into chunks small enough to haul out. A sinkhole just above the entrance provided a natural-looking location so our diggings didn’t look like mine tailings. Initially, every wall was covered by loose blocks looming over the funnel, but I carefully cleared them or wedged chockstones to lock down each one. Digging down through loose sediment was spooky, as pebbles tumbled down between blocks and cold air blew from each new hole. I did not want anyone else risking collapse and entrapment so I insisted on being at the front of the dig. Peering down cracks between blocks, I couldn’t discern where “the cave” was or whether I was about to pop through the ceiling of a giant shaft. I carefully braced across stable walls and dug endlessly down, listening for void by rolling pebbles. Every trip made a couple feet of progress, creating void and tumbling large blocks to the side. I bear-hugged and grunted several mega-blocks to pivot, spin and roll them to a stable configuration. As I dug down and created more void, cavers at the surface felt more air flow, so we knew



Yellowjacket Cave sink view looking south

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