

COG SQUEAKS

MARCH 1976

Volume 19 No. 3



SUCK-IN AVOIDANCE TECHNIQUE NO. 1

"HEAR NO EVIL"

[illegible]

The Bureau has many of the Central
 Office will be held at the home
 of Cheryl [redacted], 3994 Beech-
 [redacted] (a suburb of Columbus)
 on April 9. Al-
 though the Commission of the
 Civil Liberties Unit may well be the
 reason we were unable to show at Walden's.
 Access to Broad St.
 station is gained from I-270, but
 (seemingly on Stalder Rd.) might
 be convenient for those approaching
 by road.

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Print and Excerptation
Granted to all
Organizations of

... Lou Simpson,
... Dave Sorky, Con-
... and Bob Hamilton made
... About 500 feet of
... and at least one
... (across a hollow from Tarkiln)
... The cave was penetrated
... because of water, but
... reports that the cave
... heavily littered and
... The jeep-trail
... condition.

The Sloan's Valley Cave System Five-Year Update

by Lou Simpson

Mapping

Continuing a survey started by the Bluegrass Grotto (Lexington, KY) David Beiter (NSS9523) resided for several years in the town of Sloan's Valley, KY from 1968-1970. Since some Central Ohio Grotto members were at that time actively exploring the system, it was to be expected that they would be interested in the project. Beiter provided instruction in surveying and spent much time processing the data on UK's computer. Solo Dave did considerable solo mapping during the period of low lake elevation in late 1969. Major participants from COG included Lou Simpson, Ken Smith, Bill Walden, Jack Sigafos, and Tom Cottrell. Bluegrass Grotto members mapped passages in the Post Office section. Gradually the basic outline of the cave system took shape. Such a long-term project transformed the Central Ohio Grotto into a group with a purpose. Survey trips several times a month involved most grotto members.

Beiter temporarily lost interest in the project in late 1970 and turned all the data over to Lou Simpson, who quickly assembled a map from the hitherto inaccessible data and delivered a paper on the project at the 1971 NSS Convention. He was determined that future explorers would find it necessary to resurvey the cave simply because this work was not preserved. Beiter opposed the map's publication on conservation grounds.

General Outline of the System

Sloan's Valley Cave System consists of, like many systems, several discrete units which are connected together. A total of 17 entrances are known, including the River entrance, now submerged by man-made Lake Cumberland. (See appendix 1) The discussion of the cave will follow the following general outline:

- A. Minton Hollow
 - 1. Left Cave
 - 2. Middle Cave and Martin Creek
 - 3. Right Cave (The Big Passage)
- B. Railroad Tunnel

C. Grand Central Spaghetti

- 1. Screaming Willie
- 2. Scowling Tom
- 3. Garbage Pit

D. Eastern section

- 1. Big Room
- 2. Post Office
- 3. Great Rock Sink

History

The Great Rock Sink entrances were mined for saltpeter, if Jillson is correct.¹ Jillson records indirect evidence of these workings, as well as gravesites in the cave. Indians apparently made use of the shelters there. Some artifacts were discovered and removed by local artifact-hunters, notably Dallas Hammond, of Somerset, KY.² Their excavation pits occur inside the east entrance and under the rock shelter at the west entrance of Great Rock Sink.

At some time during the twenties or thirties, the eastern section of the cave was commercialized primitively under the name, Crystal Cave. Two pillars at the junction in the middle of the town of Sloan's Valley and old US 27 mark the former entrance road. Guides are supposed to have thrown visitors' hats through an opening called the "hathole" (see map) to be recovered when the party traversed the lower level later.

Al Geiser (NSS6369) and his associates mapped nearly sixteen miles of the cave system in 1964-1966, using relatively crude methods. Nevertheless the line map they produced closely resembles the map published here. It had no sketched outline. Geiser never published his work, planning for a time to try to purchase the cave and commercialize it.

¹Jillson, Willard, Geology of Crystal Cave, Frankfort, KY, 1954.

²Dallas Hammond, personal communication

Lake Cumberland was impounded following the completion of Wolfe Creek Dam in 1950. Its effect on the cave was devastating. The greater part of the cave from Garbage Pit to the lake is periodically flooded or inaccessible except during periods of low lake elevation. Lower levels in the Grand Central Spaghetti and even parts of Railroad Tunnel and the Big Passage are also affected in this way. During the fall, when the Army Corps of Engineers deliberately lowers the lake elevation, these flooded levels are accessible, but quite muddy and unattractive. Currently there is a project costing the taxpayer tens of millions of dollars to save the dam. In 1968, scarcely two decades since completion of the dam, there was a major leak. The method of constructing a 2000-foot overlapping concrete curtain along the earthen portion of the dam is experimental at best. The "normal" pool elevation is said to be 723 feet on the topographic maps. In practice, the level varies from 740 to 680. During the current construction, lower levels, in the 690's generally, have been maintained.

Description of the Cave System

A. Minton Hollow

Entrances: The main entrance in Minton Hollow is ten feet wide and fifteen feet high. A small hole at the right corner of this entrance leads to a connection farther in. Five hundred feet down the hollow is a sinkhole which fills with water during flash floods. To the south of this is a narrow canyon entrance called Left Cave. An overflow tube connects the Left Cave complex with the large passages inside the main Minton entrance.

1. Left Cave

Two confusing mazes of passages are featured in Left Cave. While parts of this section indicate pooling during flood, there are definitely safe, dry levels throughout. Water has been observed standing in the overflow passage connecting to main Minton, and debris observed beyond this in Left Cave indicates this level can be reached by flood waters.

Pig's Doom Crawl got its name when Dave Beiter's pig exploded during the survey. The barrel-shaped cross section created the impression of a loud cannon. Dave recovered and solo mapped this watery belly-crawl, shouting back the data to the note-taker. He did not reach the end and neither has anyone else ever tried again.

The Cricket proto-entrance, an area reached by going through a pool with a foot of air, must be near the surface because Dave Beiter and Lou Simpson heard crickets chirping through the breakdown. Also found here was a dead snake. The surface above it is on the land of a hostile owner, however, so it was never checked.

Ewers' Loop is named for Ralph Ewers, Cincinnati speleologist who conducted biological studies there once.

In a remote corner of Left Cave, Ken Smith and Lou Simpson found a flash bulb in what was thought to be virgin cave. Perhaps it got there by means of an animal.

There is much surface debris, including large logs, at the ends of the large passages to the left of the sign in Minton. This must come in through Walden's Water Passage, which is thought to have a siphoned lead at its midpoint. The sign was installed by COG in 1972 to warn cavers of the danger of flooding and to teach conservation.

2. Middle Cave and Martin Creek

Middle Cave refers to two large loops. Bats are sometimes found in the right branch of the first loop. The second loop is accessible through a narrow, wet crevice called "The slot" or by a tricky breakdown route nearby. There is a large room called "Middle Cave Room" and a formation area which has a six-foot slender stalactite and a large white cone surrounded by a reflecting pool, called "The Great White Cone." Another speleothem featured is named "Snow White and the 24 Dwarves," a parody on the names of formations in commercial caves. The southwest side of the second loop is a very high canyon.

The connection between Middle Cave and Martin Creek is a low gravel belly crawl three hundred feet long. This leads to the Sandbar Room, beyond which it is only possible to go upstream when the weather has been very dry. All downstream leads seem to be permanent siphons. There are two places upstream where the air space is less than a foot at best and the depth of the water is six feet or more in these places. After this the cave opens up into a stream canyon with only a few deep spots. A side lead connects by a vertical route to the Dry Weather Entrance, mapped by Beiter in 1971. Its name is supposed to imply that the weather should be dry when one enters it.

The three Martin Creek entrances are all together at the end of a field. Flood water enters the left two. Five hundred feet upstream from the junction with the entrance passage is a twenty-foot deep pool. Beyond this a dry (flood overflow) passage continues for a considerable distance. Water sinks on the surface at a point near the right branch of this passage. The owner of the field near the Martin Creek entrances is hostile, but does not own the entrances. Best access is therefore to hike down from Alpine Recreation Area and avoid the open fields. The Martin Creek section floods rapidly following rain.

3. Right Cave

Duckunder: A lower level which begins before the first loop of Middle Cave goes to the rest of the system. This is known to flash flood to a siphon in a couple hours. A bypass that would help in such an emergency exists (marked on map), but this is a flood overflow route itself. The stoopwalks in this area are floored with large gravel and pebbles and carry much water at times. Water flows on various levels, depending on quantity. Normal flow in summer is zero. Normal in winter is 1 cfs.

Lost and Found Corner: Here the tube is 76" wide and rather low, making it very difficult to find the route when coming out the Minton entrance.

Round Room Falls: This is dry in summer, a modest falls in winter, and a niagara during flash flood. This drain seems to be the key to backflooding of this section. When the flow rate exceeds the capacity of this drain, overflow and backup occur, apparently. The Round Room is just a circular room near the falls.

Spitting Rock: Beyond the Round Room a passage to the left goes to the Spitting Rock section while a passage that seems to be a come-around to the right goes to the Big Passage and the rest of the system. Spitting Rock got its name from an act of vandalism. It once had a target smoked on a rock. The words "Spitting Rock" were also there, inviting the caver to expectorate at the bullseye in which the initials "LEJ" were written. A low crawl beyond this room opens up and it is possible to climb into a very much higher level with gypsum. A remote section features waterfalls and fifty-foot canyons. Considerable mapping and exploring took place here since the publication of the system map in 1971.

Dread Pool: The cave crosses surface Minton Hollow with breakdown on the left at the corner. After 400 feet of stoopwalks, there is a section of canyon with a pool in the bottom. This is Dread Pool. Normally it is possible to pass this on the right without getting wet feet, but during higher flow it may be knee deep. During flood conditions it will rise rapidly to six feet deep on the shallow side. Debris high above suggest even higher levels can occur! A parallel passage has a similar deep pool, called "Little Dread Pool," near which a narrow canyon leads upstream to Cosmic Dome, sixty feet high, and other domes. There is some potential here for an unexplored upper level.

The Big Passage: Not to be confused with the Big Room, the Big Passage is a three thousand foot long passage with dimensions usually seventy feet wide and fifty feet high, with breakdown throughout. One large chamber with a gravel floor has been observed to have flowing water during flash flooding. Debris high above

proves the Big Passage can flood to within ten or twenty feet of the ceiling. A high dry level on the east side features helictites and other speleothems. One access to this level is called the "corkscrew" because it spirals upward. A hundred foot belly crawl extends beyond the Fountain Room to larger passages beyond. This section crosses over but does not presently connect with lower levels nearer the Garbage Pit entrance.

The stream, having come all the way from Martin Creek, sinks at Round Room Falls or earlier, and it finally reappears halfway down the Big Passage. Finally it flows on a lower level to the Grand Central Spaghetti confluence. An intermediate level, above the stream level but below the floor of the Big Passage features caramel-colored stalactites that look good enough to eat.

B. Railroad Tunnel

Entrances: These two entrances are so named because of a nearby abandoned Southern Railroad tunnel under US 27. The cave is complex and multilevel canyon in the vicinity of the entrances. Both entrances take water in very wet weather, by separate streams. The southeastern Railroad Tunnel entrance has brought in some trash. A stream always flows in the lowest level near the entrance, but this cannot be followed past a four-inch gravel-choked crack. Presumably this somehow reaches the passage with a stream beyond Martin's Squeeze.

The route into the rest of the system is long and tedious, involving a thousand feet of crawling and stoop-walk, followed by a rapidly descending series of narrow canyons and floorless traverses. Martin's Squeeze is a very unobvious side lead trunking into the main Railroad Tunnel River passage. Upstream from this point the River Passage is low and wet, with several pots and pans wedged between floor and ceiling. Hence the name, Pots and Pans. Apparently an undiscovered east-west passage must extend toward the entrance stream, unless the streams aren't the same, which is unlikely since both have surface trash.

Railroad Tunnel River Passage:

Now the stream flows through a spacious trunk, falling tens of feet to an impressive section of canyon near Satan's Pit. Here, domes intersect many levels in a complex pattern. The most straightforward route to follow is the stream level, although this may be impassable during high water. Other routes involve a tight crack or a dangerous climb.

A very high dome room soars to 100 feet. There are twin 50-foot waterfalls in series and a flowstone slope said to be coated with cement from a train wreck, or, more likely, grouting. A region of domes, pits, and short passages extends southeast in this section.

The stream continues through a 10 to 25 foot high trunk until Erisman's Ledge, where it sinks. An overflow route leads to the confluence of Martin Creek and Lost Creek. This route gets blocked with gravel when Lake Cumberland is high for a while, and it must be dug out again. Erisman's Ledge is a dangerous traverse along the side of the canyon that one may climb to reach Grand Central Station when the lake is high. During lower lake level, one may continue on an intermediate level. A narrow ledge on this intermediate level no longer is an obstacle due to a recent hammer connection to the Erisman's Ledge crawlway.

An extension of Railroad Tunnel section to the northwest via a narrow canyon was discovered in 1973 by Lou Simpson and Mark Stock. There are still some low crawls at the end of this which are unexplored.

C. Grand Central Spaghetti

1. Screaming Willie Entrance

A maze of monstrous proportions, the Grand Central Spaghetti must be penetrated in order to connect from Minton to the rest of the system. A relatively straightforward connection is possible when the lake elevation is below 690, by following the stream to the confluence. At other times, however, it has been necessary to go through a canyon/crawl called "The Crevice." A difficult chimney branching from near the end of the Big

Passage, The Crevice gradually lowers in height until it leads under an obscure rock into the Lunch Room. Intersecting the crevice crawlway is a lower level called Cross Canyon. It goes to a seldom visited area with a stream, Lost Creek, and two rooms with very unstable breakdown, the Suicide Rooms. The right turn in Cross Canyon goes several hundred feet and ends in fill. A voice connection was made from this passage and a lower level.

At the Lunch Room one may see light coming in from the Screaming Willie Entrance, a vertical entrance discovered in the summer of 1971 when Tom Cottrell climbed the dome and saw a glimmer of light. COG cavers subsequently dug the entrance out. A perennial waterfall flows out of a narrow passage (pushed very hard by Jim Sharpe) and works its way down to lake level. By following some of these waterfall drops it is possible, if one is persistent, to find the way to Grand Central Station, where COG has placed a register.

By following the Lunch Room level to the east, one comes to the White Grotto, a formation area with a large formerly white flowstone display and some corkscrew stalactites. A precipitous dirt and breakdown slope leads from the White Grotto to the Grand Central confluence, where the more straightforward route from the Big Passage comes in. A sloppy canyon at this point, called The Sauce, leads to Grand Central Station, joining the route discussed in the previous paragraph en route. A new connection directly from White Grotto Hill to the Caramel Passage was recently discovered (not virgin) by COG.

Three streams join at the confluence: Martin Creek, which is the stream from the Big Passage, Railroad Tunnel (overflow), and Lost Creek from the Cross Canyon section. Soon after some impressive white water rapids, all the water disappears into a low bedding plane and has never been found free-flowing beyond this point.

From Grand Central Station it is possible to go to Railroad Tunnel, Scowling Tom's Entrance, or Garbage

Pit Entrance by several routes. The most obvious passage leading from Grand Central Station is a stoopwalk, then a fifty-foot belly crawl to Scowling Tom Junction, at which one decides whether to head for that entrance or for Garbage Pit.

Between Scowling Tom's Junction and Garbage Pit are several features worthy of note: the crayfish pool (blind crayfish), Insanity Dome (an upper level reached by a confusing route to the mouth of the crayfish pool), the Music Room (musical stalactites), and Sinking Creek (enters a passage by an impressive eight foot falls out of a small opening, flows west several hundred feet and sinks into breakdown). Insanity Dome is so named because it has so many over-looks and come-arounds that one can have a crazy time peeking out them one after the other. A breakdown room near the sinking point of Sinking Creek is the likely place to look for a connection to the section of cave beyond the Fountain Room in Minton. The northeast passage from X-Corner is not completely explored.

Grand Central Station is so named for its abundance of leads, rather than its size. Most of the routes are not obvious, however. Other routes northeast from Grand Central Station involve more sublake levels, sometimes flooded for months, including a section called "The Maze" with its Octopus Room (at least 8 leads) and Dave's Lost Passage, a section of large passage leading to Paul's Passage (named for Paul Hohweiler). Paul's Passage comes out in a trunk near the Garbage Pit. One can also follow The Catacombs, muddy and wet and loaded with crayfish.

A level two levels below Grand Central Station has a passage which goes below elevation 680 and cannot be further explored until such time as Lake Cumberland is lowered even further.

2. Scowling Tom's Entrance

Located near the COG fieldhouse, this entrance recently suffered partial collapse due to the action of roots and weathering. Three passages lead from the entrance room. One is a low-

ceilinged high level that ends over Scowling Tom's Junction. A wet, unsurveyed crawl connects back to a lower level, the usual route to the Junction. The third passage from the entrance room connects with the Appalachian Trail at the Oasis. One very low, wide, dry crawlway, Mmo. F.'s Nude Crawl, is difficult to find the route through. Scowling Tom's Entrance is named for Tom Kkakamp, an associate of Al Geiser.

3. Garbage Pit Entrance

Long a popular entrance, this one is now posted with a "Keep Out" sign. Ownership is nebulous, the property having belonged to an owner (Deegan?) who is now deceased. As is often the case, the heirs own the land jointly and control is dispersed. Nevertheless, some local persons have harrassed cavers in the area and the cave should be considered closed. Debris is periodically dumped into it, including the classic stove, refrigerator, and washer, which are now all inside the entrance room--remarkable since the entrance is only 2½ by 3 feet.

Fifty feet down a breakdown hill there are three important routes. To the left, behind a large boulder, is the route to the Music Room, X-Corner, the Crayfish Pool, Scowling Tom's Junction, and Grand Central Station. Straight ahead from the Garbage Pit Hill the Appalachian Trail remains a large breakdown trunk for two thousand feet. To the right is a lower level which parallels the Appalachian Trail. This level is preferred as a route to the Big Room because the Appalachian Trail has to cross the First Lake Room.

The Catacombs connects to the passage just discussed, at a point near the bottom of Garbage Pit Hill. Where the two parallel levels join is called Echo Junction because of the long echo. Here the cross section is 80 feet wide and a hundred feet high. To the east is the Hogback, a ridge of breakdown. At the east end of the Hogback an upper level, easily reached by a crawlway instead of climbing the exposed cliff, leads to the Big Room by three routes. Another route from

the Hogback to the Big Room is the Second Lake Room, a huge lower level that is usually below lake level. It is only dry when Lake Cumberland is below 685.

D. Eastern section

1. Big Room

The largest single chamber in the cave, but not the only impressive one, its dimensions are 600 feet long, 100 feet high, and 100 feet wide. Floored with breakdown and spent carbide, a caver in its center cannot see much around him except the rock he sits on. Three significant passages take off from this room besides the four which enter it from the Garbage Pit. Two are overlooks accessible from the Big Room Extension. The third, also known as the Third Lake Room (dry along east edge when lake is below 695) leads to the Fountain of Youth, the Big Room Extension, and Great Rock Sink.

The Fountain of Youth is a two-story flowstone formation with a waterfall. The water flows down the rimstone passage toward Great Rock Sink. The Big Room Extension is a bowl-shaped breakdown room 150 feet in diameter. The U.S. Army Corps of Engineers Passage is a rimstone passage that is very tedious to negotiate, but it features some fine speleothems in its remote part. Several pools may be over six feet deep. Access to this passage requires a handline; although it is possible to climb without one, it is dangerous.

2. Post Office

A separate cave until a Cincinnati party surveyed it and moved breakdown to connect it near the Fountain of Youth, this part of Sloan's Valley is very well-decorated in a few spots. The owner of the Post Office entrance has built a cement block building over the entrance to protect it from being filled when he extended his parking lot. The Hughes entrance has been closed by its owner, who didn't want to be bothered and was aware that he was not denying access to the cave by this anyway. The Well Room, under the gas station and post office, has a well pipe penetrating

the floor and ceiling at one edge of the room. This well was drilled by the owner and is located just to the west of the U.S. Post Office. There was never a very good supply of water from this well.

3. Great Rock Sink

Water from the Fountain of Youth flows down rimstone and exits into a lower level where it reaches lake level at Buffalo Falls. One may continue in a trunk that is sometimes extremely muddy (due to Lake Cumberland) for 2000 feet to the western Great Rock Sink Entrance. The trunk continues around the sink, splitting into several levels in the Hathole area. The section of Great Rock Sink cave toward the lake features an enormous room with a very deep pool (sometimes 60 feet deep). The northeastern passage is usually quite humid and muddy, having restricted airflow, evidently. Jillson rapidly mapped 600 feet of cave connecting to Lake Cumberland in 1952, but this has not been unflooded since. There are shallow depressions in this northeastern section that might have been saltpeter diggings. There is an obvious ramp leading down into the last chamber that can be visited toward the lake.

Other Nearby Caves

1. Smiling John's Children's Cave: appears to be a remnant of a missing parallel passage extending from the west end of the Big Room. Attempts have been made to dig out the end.
2. Crawling Paul's Cave: an insurgence in the sink near Smiling John's Children's Cave, this might be pushed by moving rocks in a low belly crawl in water. A dye trace might prove interesting, since the water could appear in Sinking Creek or Beyond-the-Fountain.
3. Other caves less likely to be relevant to Sloan's Valley are Palace Pit, Lost Dog Cave, Moon River, Marie Hollow, Neely's Creek System, and a vertical cave located on a ridge north of the Big Room.

Potential for Extending the Cave System

A. Minton Hollow

1. Left Cave: side leads off the Left Cave Entrance canyon; a high lead off a lower level canyon in the north-east maze; any lower levels involved in flooding this section.

2. Middle Cave and Martin Creek: the drain in the Middle Cave Room; high levels in Loop Two; passages near the Martin Creek entrance; overflow routes unaccounted for between the Sandbar Room and Lost and Found Corner.

3. Right Cave: high levels in remote Spitting Rock; overflow routes north from Round Room; stream levels along west side of Big Passage; upper levels in Little Dread Pool area; connection between Beyond-the-Fountain and breakdown near X-Corner.

B. Railroad Tunnel: water route upstream from Pots and Pans; Obscenity Dome area; intermediate levels near entrances; belly crawls in northwest extension; high levels in dome area; rimstone leads to east upstream from Erisman's Ledge.

C. Grand Central Spaghetti

1. Screaming Willie: a high lead off Lost Creek; 680 (lowest) level when lake drains; map a route between Paul's Passage and Music Room; find a route from Grand Central Station directly to Minton through breakdown; upstream Sinking Creek; upstream northeast from X-Corner; Insanity Dome, possible entrance; possible upper level through a low, muddy dig in a small dome west of X-Corner before Crayfish Pool; lower levels north side of Dave's Lost Passage; map section of Sinking Creek below breakdown sinking point accessible from Dave's Lost Passage; map rooms west of waterfall below Connection Dome.

2. Scowling Tom's: map route between lower and upper level (K-Zero) which is quite wet and low.

3. Garbage Pit: resurvey low levels entering Appalachian Trail in First Lake Room (low lake, 680); east passages and loops near bottom of Garbage Pit Hill may have some potential; minor surveying cleanup along routes between Hogback and Big Room.

D. Eastern Section

1. Big Room: survey come arounds near upper level of Fountain of Youth.
2. Post Office: some potential in breakdown around Well Room, possibly.
3. Great Rock Sink: very deep sub-lake levels toward lake and at Buffalo Falls (Jillson reported a large trunk below Buffalo Falls, down another waterfall called Cascade Falls.)¹; a sometimes sump lead to the north just inside the west Great Rock Sink Entrance; a narrow, low crack that goes beyond the northeast end of the cave along flowstone.

Appendix I: Entrances

1. Martin Creek (3) (floods)
2. Dry Weather
3. Minton (2)
4. Left Cave
5. Screaming Willie (50' pit)
6. Railroad Tunnel (2)
7. Scowling Tom's (entrance unstable)
8. Garbage Pit (entrance disputed)
9. Hughes (closed)
10. Post Office (20' chimney)
11. Great Rock Sink (2)
12. River (submerged by lake)

Total = 17 entrances, 118,404 feet
(22.425 miles)

Associated entrances:

1. Smiling John's Children's Cave 433'
2. Crawling Paul's Cave 187'
3. Passalid Hole (small)
4. Richard's Pit (small)
5. Still Cave (small, 2 domes)

Appendix II: Organization of Data

Survey stations were numbered with unique four-digit numbers. The first two digits served the purpose of classifying the segment of the cave in a "series," which might be a single day's work or sometimes several days' efforts. Usually the stations in a series were continuous; that is, they all reference another station in the series except the initial station. Series numbers 00 through 99 were used, followed by A0-A9, B0-B9, etc. The most recent series used was Q4. Since the cave was mapped in haphazard order, there is no logic to the

assignment of series designations and a catalog of these is necessary to organize the cartographical work.

Appendix III: Survey Techniques

Silva compasses were almost exclusively used. They are durable, inexpensive, and accurate to $\frac{1}{2}\%$. Smallest mark is 20. Usually two compasses were used, one on each end of the survey. Two degree agreement was demanded.

Tapes varied; some steel and fiberglass tapes were used, but much of the work was done with home-made TV-lead-in wire tapes graduated in feet.

Elevations were measured with Abney levels. Survey stations were generally located on a level surface, usually the "floor," so two additional data, HF (height from floor or station to eye of cinometer reader) and HT (height from floor or station to lamp of target surveyor). These were often estimated rather than measured. Elevations could also be correlated with lake elevations in the cave, with consistent results.

Appendix IV: personnel

rank	name	no. survey stations
1.	Beiter, Dave	3457
2.	Simpson, Lou	3140
3.	Smith, Ken	916
4.	Beiter, Jo	368
5.	Walden, Bill	333
6.	Sigafoos, Jack	283
7.	Cottrell, Tom	264
8.	Sperka, Roger	258
9.	Sharpe, Jim	206
10.	Hand, Richard	174
11.	Conaway, John	170
	Eidson, Bill, Jr.	170
	Eidson, Nancye	170
	Schmidt, Dennis	170
15.	Wood, Bob	139
16.	Henning, Alan	123
17.	Reid, Frank	115
18.	West, Paul	114
19.	Walden, Karen	113
20.	Day, Kenrick	100

¹Jillson, op. cit.

21. Snider, Bob	96
22. Ramsey, Tom	85
23. Stock, Mark	67
24. Kelley, Dave	61
25. Bishop, Charles	55
Hickman, Dan	55
Unger, Barbie	55
28. Martin, Joe	53
29. Wieman, Carl	51
30. Karolin, Andy	47
31. Brookings, Robert	46
32. Flarida, Mark	44
Ott, Jim	44
34. Delape, Linda	40
Mound Caving Club	40
Pontious, Robert	40
37. O'Dell, Gary	37
38. Rowley, Paul	36
39. Haass, Fred	35
Herel, Carolyn	35
41. Herel, Ed	33
42. Day, Judy	32
Helmbold, Jim	32
44. Chima, Rod	28
Fisher, Dan	28
Pound, Arlin	28
Walent, Wayne	28
48. Redshaw, Dean	25
Redshaw, Phyllis	25
Wright, Ken	25
51. Miller, Linda	24
52. Vogel, Dave	23
Voigt, Joe	23
Yost, Fred	23
55. Dickey, Fred	21
56. Watson, Lee	20
57. Erisman, Phil	19
Inabnitt, Gary	19
Rowley, Mike	19
60. Rowe, Jim	17
Urbani, Franco	17
62. Mays, Hartley	16
63. Fritz, Bill	15
Simpson, Larry	15
Zucker, Steve	15
66. McMahon, Doug	13
Peduzzi, John	13
68. O'Dell, Kitty	12
69. Socky, Dave	11
70. Dyas, Mike	9
Janiak, Andy	9
Murgatroyd, Keith	9
Neichter, Buz	9
Shifflett, Tom	9
75. Kupferman, Peter	2

ZARATHUSTRA'S CAVE REVISITED

by Bruce Warthman

Presidents' Day offered another three day weekend to be taken advantage of by COG members on a trip down south to visit the wonder of Tennessee caving, Zarathustra's Cave.

I travelled there with Jake Elberfeld and met Lou Simpson and Barb Unger, along with 12 other cavers from COG, Dayton, and Cleveland Grottoes at the field house. On Saturday morning, February 14, we all drove into Tennessee's rural remoteness and took the grueling backpack hike to the cave. The weather was unseasonably warm, really nice, and sweating was more of a problem than freezing. In the cave we backpacked with some difficulty over the deep pit and made our camp at the usual place. Then we immediately prepared for our caving activities.

First we had a sightseeing tour in which Lou led us to the sights in the Elephant Walk, the waterfall (Batman's Pit), and Heaven. It was a sight to behold; and it was a sight never to be forgotten! A very long passage with two straight stretches, one 600 feet long, was a thrill to walk through. Imagine the expression of the first caver to walk through this big passage.

While the other cavers went on their own or back to camp, Lou, Barb, Larry Simpson and I took the side passage from Heaven to the blocked passage where Lou on a previous trip has reported an audible waterfall (See January Squeaks). Lou wanted to open a very tight impassable passage between two breakdown blocks with hammer and chisel. The hammering proved to be futile since the limestone was hard and the passage was too low to pass through. But a considerable amount of searching in the breakdown finally revealed a way into the virgin area beyond. It was also impassable until much hammering was done to widen it and only after Lou found another way which was harder still. Our reward was virgin all right, but not big. This section turned out to be a room with no side passages except two dead end leads in the breakdown. Neither was the waterfall spectacular. Half the day spent on the task of getting in and out of this room did not yield even enough for mapping, but sometimes scooping leads to the big jackpot

ZARATHUSTRA (cont.)

and sometimes not.

A good night's rest in the "Speleo Hilton" and breakfast made us ready for next day's caving. While the people of the other grottoes did some exploring on their own, Lou, Jake, Mary, Barb, Greg, and I took a long hike to the back section of the cave to survey some side passages there. One feature of the way there was a tight crawl through the Filter, a very low crawl through a flowstone blockage. Ken Smith was filtered out on a previous trip, and Jake made it through only after some hammering was done on the passage. Then came some more crawling and walking through dry gypsum passages. We finally came to the junction where two passages needing mapping started. Here we split into two parties to do both. Lou's passage ended at a breakdown blockage after he surveyed 400 feet. Mine went for 300 feet and the survey stopped at a very low squeeze that only Greg could go through.

Our next job was a virgin passage leading from station U-58 for at least 50 feet. The survey of this lead revealed 150 feet of passage until the mapping stopped at a very low crawlway that Barb did not care to go in. I volunteered to go in to investigate it. I worked my way through this dry crawlway past the point where Barb had stopped and came to a small room where a strong breeze was blowing. Continuing on, I came to a second room that required digging into the sandy floor to get in. The passage continued through another tight place but quickly became larger until it was walking passage! And I hit the jackpot!! It wound on and on and on and it was all virgin! I was moving quickly and wondered when the passage would end or enter into something big. I still did not come to the end when I turned back to report it to the others, and I met Barb on the way back. The two of us explored this passage to where it ended as a mudfill where two tight leads were. On the way back we met Lou and all three of us went to the mud fill where I checked the two

leads. One did not go and the other ended past a mud slope that was hard to climb back up. On the way back Lou pushed a tight side lead for fifty feet. Obviously the newly found passage was too much for us to survey in the limited amount of time we had. We estimated it to be about one thousand feet long. It was my first big scoop as a relatively new NSS member, and how great it is to be the first person ever to go through there and report my findings to fellow cavers.

Monday, before departure, Lou, Barb, and I went on a short mapping session in the Maze section not far from camp. We mapped a few short leads including one that required a climb up ten feet of vertical wall. It ended as a mud fill, but the presence of thick tree roots indicates that this passage may hold promise of another entrance if some digging is done. Lou also scooped a lead at the top of a chimney climb up a crevice and found 400 feet of virgin passage that may still go for some distance if a mud blockage in it is dug out.

In the meantime, the other cavers engaged in some photography, and one party had explored a section with many rooms that had two feet of bat guano. Jake set up a makeshift bridge by placing a 2x6 board over this dangerous obstacle.

In conclusion, the exploration and mapping of Zarathustra's Cave is still far from complete, and it is hoped that further exploration will yield several more miles of virgin cave. Our expedition found about a mile of virgin cave and mapped 1000 feet. Further exploration may reveal a few more surprises.

GROTTO PATCHES ? ?

We would like to know how many people would be interested in purchasing Grotto patches if these were re-ordered. The cost would be approximately 75¢ each.

Please give Ken Smith some indication of the number of patches you might want if they are made available.

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• SPRING C.O.G. FROLIC

Due to the series of blasts at the Fall Frolic and the subsequent requests for a 21-gun repeat, a Spring Frolic will be held the weekend of May 15 in and around the Gem City.

The regular meeting is to be held at SpelUnger's 2629 Clifty Falls Road, West Carrollton, Ohio (513-434-0133) on Friday, May 14, at 8:00 p.m., with all the usual trappings. Some culinary delights that will be a challenge even to Phyllis Redshaw, will be supplied by the "Mountain Mama," (CB handle for Mom Unger). Nick Noe, NSS Conservation Chairman, will be speaker.

Saturday morning those who are able will "take off" for the Air Force Museum in Fairborne. This museum presents the history of aviation through exhibits, demonstrations, audio-visual displays, animation, etc. Many planes, both old and modern, have been restored to working condition, and the personal effects of those who flew them collected for display.

There are two items of special appeal to cavers: 1) equipment used by Amer-

ican WWII POW aviators to dig tunnels out of prison camps, and 2) free admission.

The activities that follow will be limited only by the imagination of the participants, but will be along these lines: a canoe trip down raging (if it rains) Twin Creek. Even in low water the Funnel and ensuing 1 mile of white water is exciting. Permission has been secured for camping along Twin Creek, near an "Ohio Cave". No need to bring caving equipment, as it's a dry cave with lights provided. Access by vehicle to the camp site is possible and this can also serve as an escape route for fair-weather campers. If inclement weather is imminent, a pizza party will be organized for Saturday night. Sunday, for the vertical freaks, Dad Unger has a very tall elm tree that needs pruning. Others may be taking a bike trip.

Come one- come all. Bring your sleeping bags, canoes, kayaks, rubber ducks and tricycles for a weekend in the sun (we hope) and fresh air.

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