

October 1991

Intercom, Volume 27, No. 5, September-October 1991

Lowell Burkhead

Follow this and additional works at: <https://digitalcommons.usf.edu/intercom>

Recommended Citation

Burkhead, Lowell, "Intercom, Volume 27, No. 5, September-October 1991" (1991). *Intercom*. 90.
<https://digitalcommons.usf.edu/intercom/90>

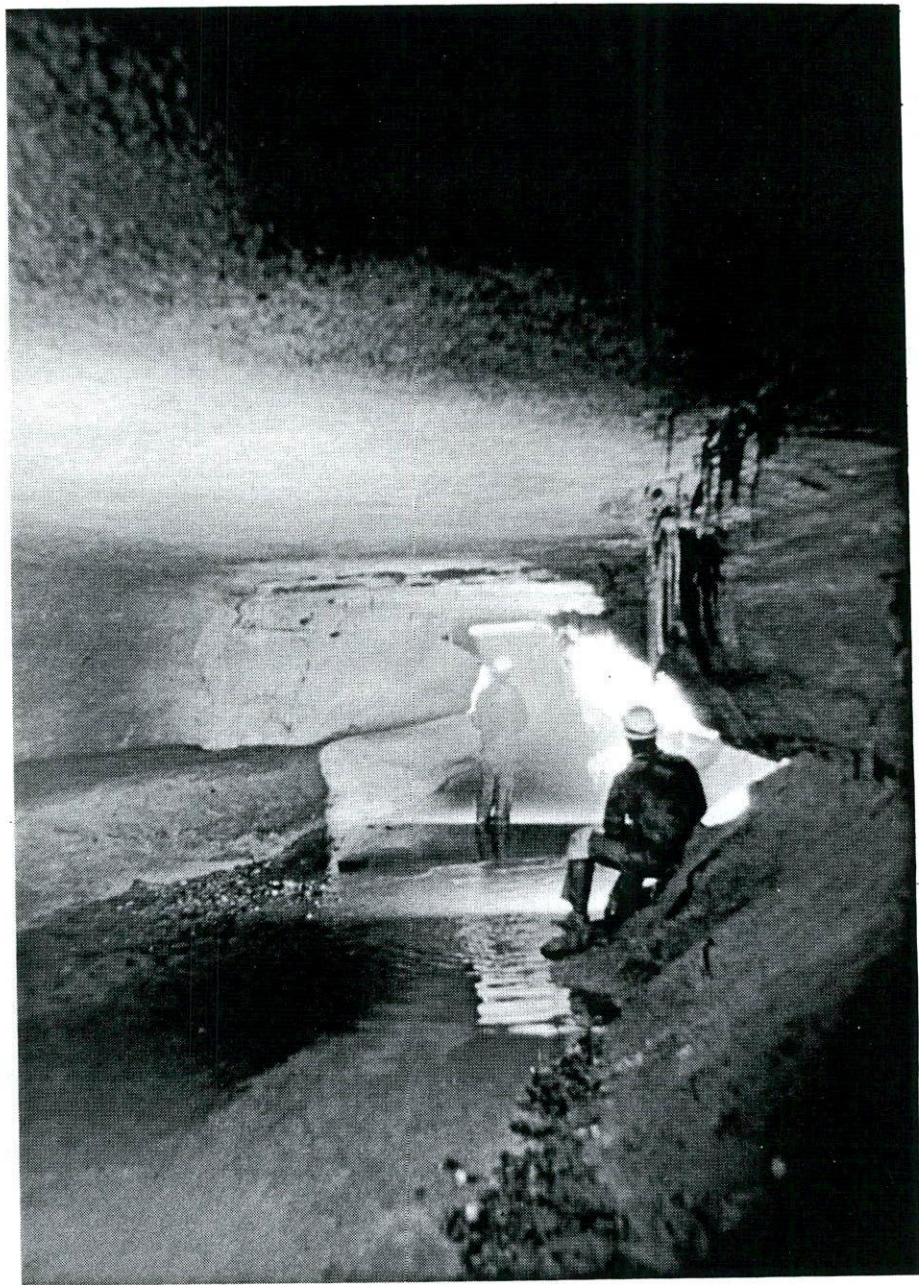
This Book is brought to you for free and open access by the Newsletters and Periodicals at Digital Commons @ University of South Florida. It has been accepted for inclusion in Intercom by an authorized administrator of Digital Commons @ University of South Florida. For more information, please contact digitalcommons@usf.edu.

I N T E R C O M

Published Semi-spasmodically By

THE IOWA GROTTO

National Speleological Society



Volume XXVII Issue 5

September - October 1991

September - October 1991

Volume 27 No 5

The INTERCOM is published semi-spasmodically by the Iowa Grotto, P.O. Box 228, Iowa City, Iowa 52240. The Iowa Grotto is affiliated with the National Speleological Society, Cave Avenue, Huntsville, AL 35810, and is dedicated to the exploration and study of caves. We will exchange publications with other organizations with the same dedication. Membership to the Iowa Grotto is \$12.00 per year and INTERCOM subscriptions only, are \$10.00 per year. Reproduction of material appearing in the INTERCOM by other caving organizations is encouraged as long as credit is given the author and the INTERCOM and a copy of the publication is sent to the Iowa Grotto.

Material for the next issue of the INTERCOM is due in the hands of the Editor by January 14, 1992 and should include material covering November and December, 1991. Send articles, trip reports, photograph negatives, prints, or slides, artwork, cartoons, etc. for publication to:

Editor and Typist: Lowell Burkhead 319-854-6650
2511 Alderman Rd.
Springville, IA 52336

INTERCOM Staff: Logistics and Legwork: Mike Lace
Photo Processing: Jim Hannon

The Iowa Grotto meets at 7:30 p.m. on the fourth Wednesday of each month (Third Wed. in Dec.) in room 125 of Trowbridge Hall on the campus of the University of Iowa.

Air Force Rescue Coordination Center
NCRC
1-800-851-3051

Iowa County Emergency Management
1-319-642-3151

This number calls out Iowa Grotto rescue personnel

Cover: Mike Lace and Stacey Cyphert in one of the nicer sections of main passage of April Cave.
photo by Scott Dankof

Copyright 1991 by the Iowa Grotto of the National Speleological Society



IOWA GROTTO
National Speleological Society
P. O. Box 228
Iowa City, Iowa 52240

Chairman - - - - - Mike Lace
Vice Chairman - - - - - Marc Ohms
Secretary Treasurer - - Jay Wells

Volume Twenty-Seven	Issue Five
C O N T E N T S	
Iowa Grotto Meeting Minutes - - - - -	80
Letters - - - - -	80
Articles:	
Coldwater Air Flow Proposed Study - - - - -	81
The Longest Caves - - - - -	82
Speculation: Iowa Caves, The Cosmic Connection - - - - -	88
Trip Reports:	
Maze Cave Earns Its Name - - - - -	84
Caving in Highlandville - - - - -	84
The Maze Continues - - - - -	85
A Quick Trip to Mossy Glen - - - - -	86
Surveying On Sunday - - - - -	87
Cool Weather, Long Walks, and Great Caves - - - - -	87
Photo Album - - - - -	90
Maps:	
Thermal Cave - - - - -	92
Pine Cave - - - - -	93
Cross Cave and Annex - - - - -	94
Highlandville Cave #2 - - - - -	95
Highlandville Cave #4 - - - - -	95
Highlandville Cave #3 - - - - -	96
Highlandville Cave #5 - - - - -	97
Highlandville Cave #6 - - - - -	97
Highlandville Cave #7 - - - - -	98
Highlandville Cave #8 - - - - -	98
Becker Quarry Cave - - - - -	99

IOWA GROTTO MEETING MINUTES

Regular meeting September 25, 1991

The meeting was called to order by Chairman Mike Lace at 7:36 p.m. with 14 members attending. The August minutes were read and approved as read. The Treasurer's report listed \$482.00 in the club treasury. TRIP REPORTS: Marc Ohms reported on a CRF survey trip to the Hawken's River area of Mammoth Cave, Kentucky. He also reported on visiting Sand and Indian Cave while in Kentucky. Mike Lace reported on two Coldwater trips, a photo trip by Scott Dankof and a survey trip with Marc Ohms in the Toboggan Run Passage. A total of 400 feet were surveyed. Marc Ohms reported on a cave mapping trip with Pat Schenck. A total of eight caves were mapped in the Highlandville area. Marc also reported on a photo trip to April Cave with Scott Dankof. Jay Wells reported on the beginner vertical class held at the Indian Bluff Nature Preserve. A report on the rescue class at Pictured Rocks Park was discussed. Jay also reported on the Hodag Hunt in Wisconsin. Leslie reported on the NSS Convention geology trip in New York. FUTURE TRIPS: Marc Ohms plans a Jones County caving trip the last week of October. The hypothermia study at Coldwater Cave will be the first week of October. A November cave mapping trip will be announced. A Floyd County trip this winter will be announced. OLD BUSINESS: The new membership list will be in the next Hot-Line. The editorial in the Hot-Line was discussed at length. NEW BUSINESS: Grotto member and Grinnell College professor, Dr. Ken Christiansen, will loan the grotto maps from his library for the cave map book project. Chris Beck reported on the filling of mines in Galena, Ill. by the state. The mines are being completely filled with foam and a cement cap is placed over the top. The meeting was adjourned at 8:45 p.m.

Regular meeting October 23, 1991

The meeting was called to order by Chairman Mike Lace at 7:38 p.m. There was no minutes or Treasurer's report. TRIP REPORTS: Greg McCarty reported on a lead checking trip to Mossy Glen. Marc Ohms reported on a Coldwater Cave trip with Larry Welch, Chris Beck, and Stacey Cyphert. The group was able to make the connection of Piglet Passage at the end of Cascade and Frog Junction out in Wanda's Walkway. Mike Lace reported on the hypothermia study held at Coldwater. Mike also reported on a survey trip to Maze Cave with Doug Schmucker, Chris Beck and Jay Wells. The total surveyed footage is 1025 feet with several hundred feet left to survey. Mike also reported on the opening up of another cave which was called Bone Dry Cave. FUTURE TRIPS: A Jones County trip will be held October 23. Searryl'a Cave and Hatfield Cave will be visited. A cartography and surveying workshop will be held November 23. Call Marc Ohms if interested (no experience needed). A possible Floyd County trip is planned this winter. Intercom material is due November 14. OLD BUSINESS: The Iowa Map Book is near completion and will be out this winter. The 1992 Grotto Summer Picnic will be held in Winnebago County. NEW BUSINESS: Greg McCarty reported on soil survey books being completed for most of the Iowa cave counties. Grotto officer nominations are being accepted. The meeting adjourned at 8:35 p.m.

00

00

00

00

00

00

LETTERS

Dear Mike:

The hypothermia exercise was great. I appreciate your working out a ride for me which added greatly to my enjoyment to be relieved of the driving. I thank you personally for your consideration in staying over until Sunday.

I enclose a proposal which is mostly in the form of a wish list. I will send a copy to the Flatland's. You can put it in the INTERCOM if you wish. If you want to get comments from grotto members ahead of printing, you may do that. Any criticisms are welcome. It is going to have to undergo lots of changes before it can get underway. This is mostly off the top of my head.

Good Caving,
Warren C. Lewis, M.D.

ARTICLES

COLDWATER AIR FLOW PROPOSED STUDY

by Warren C. Lewis, M.D.

There should be two sensing and recording systems similar to those in the U.S. Government multiple arrays to record atmospheric waves. The sensor of one is to be a sensitive microphone as in the standard array. The other is to be a sensitive sensor or sensors of cave air movement. The output of each is to be passed through a set of four passband filters to eliminate unwanted waves and recorded on continuous strips at suitable speeds to separate the waves. Hopefully it could also be recorded in digital form for study and manipulation.

The purpose of the double array is to show not only that cave airflow corresponds to atmospheric waves but also to waves of all wavelength. The various bands will record waves of several origins. We hope to record solar and lunar tides, passing high and low pressure weather patterns, storm fronts, and even the flickers of the northern lights.

We need a sensor of surface winds with a similar recording device. We need to be able to subtract the surface wind effects from the other tracings. We might be able to determine whether or not our opening is responding to surface wind at other openings.

We need sensors of virtual temperature, (temperature plus water content) of the outside air and the cave air to know the weight of the air. We need to know the degree of correlation of true weights of air and air flow.

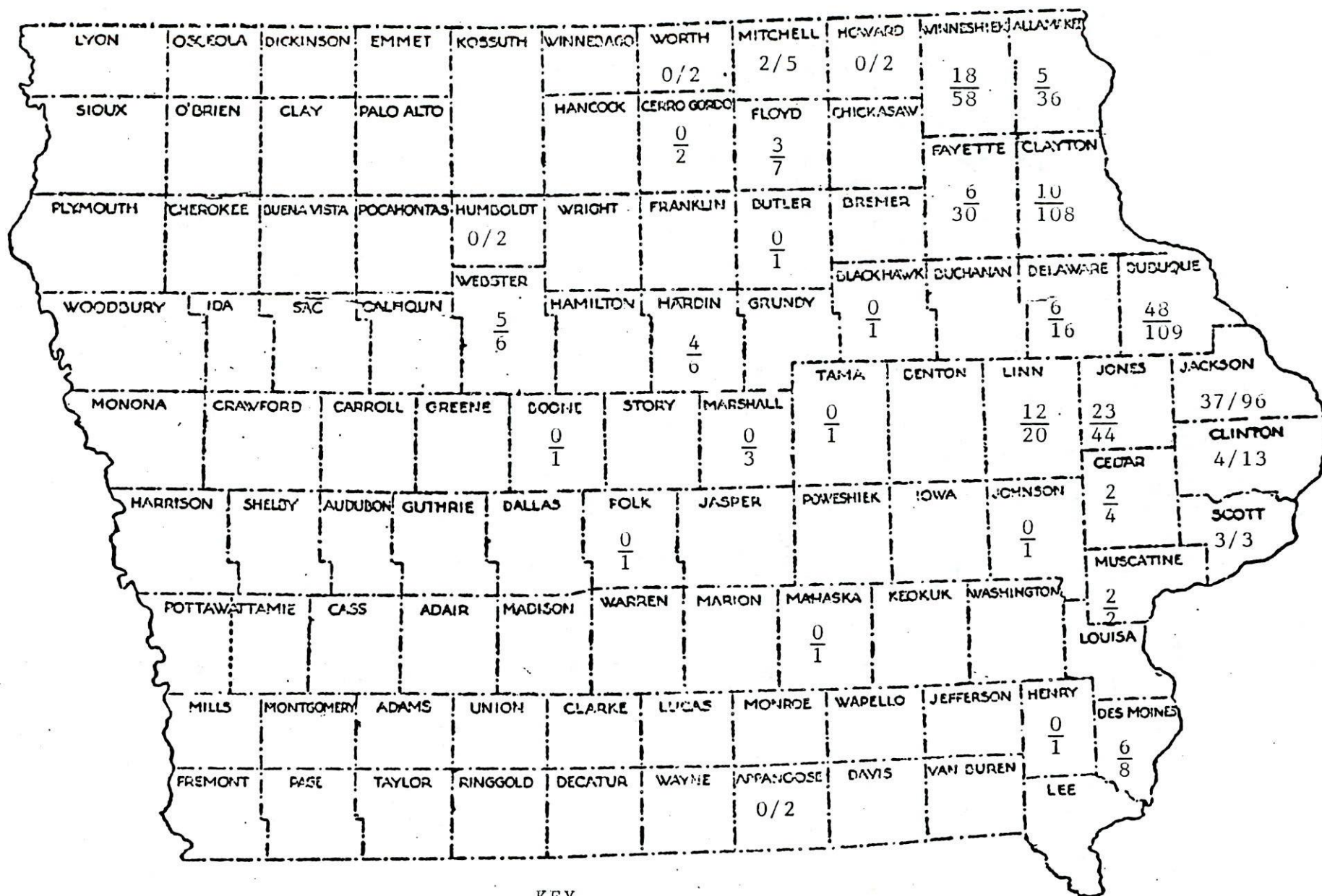
We need a record of variations of water level. We expect to see airflow in response to the corresponding change of air volume in the cave. From these figures we can compute the surface area of cave water served by this cave opening. Hopefully, we can estimate the length of the cave stream that is so served. We can also estimate the cave volume.

We need to know whether or not there are waves in the cave from other sources such as the waterfalls, or external waves entering through multiple openings. We look for direct effects (pressure), and grazing effects (suction), of surface winds. Waves at multiple openings may be cumulative. If air of markedly different temperature and water content enters the cave, we can look for volume changes as that air is brought to cave temperature and moisturized. We also should be able to derive a choke factor, or ratio of cave volume served by this opening to the size of the cave opening.

This type of manipulation of data is made easier by digital rather than analog recording. However, many of the standard instruments are of analog type. It might be well to look for guidance to the instruments used in the array at Boulder, Colorado, with their special sensing capacities.

Coldwater Cave has the physical attributes suitable for such a project. The cave building with multiple drill holes entering the cave is ideal for such study. One might also consider setting other sensors at the windmill drill hole on Burr Oak Road. The two main problems, as I see them, are (1), initial financing of equipment and building the units, and (2), manpower to process the data. The potential for acquiring valuable information is very great.

DISTRIBUTION MAP OF IOWA'S CAVES AND MAPPED CAVES



KEY

of mapped caves
of caves in county

THE LONGEST CAVES

by Marc Ohms

The following is a list of the three longest caves in each county. A cave must be surveyed to be included, otherwise it is hard to determine the true length. The sources were the Iowa Cave Index, Iowa cave maps, and Larry Welch's lists on surveyed Iowa caves.

ALLAMAKEE COUNTY

Fiet Cave - 400 feet
Wet Rebock Cave - 78 feet (no map)
Wehran's Mill Cave - 60 feet

CEDAR COUNTY

Massilon Park Cave #2 - 35 feet
Massilon Park Cave #1 - 32 feet

CLAYTON COUNTY

Fence Cave - 299 feet
Thurn Cave - 250 feet
Baade Pit - 185 feet (no map)

CLINTON COUNTY

Flat Tire Cave - 52 feet
Inspiration Cave - 45 feet
Upper Room Cave - 45 feet

DELAWARE COUNTY

Hunt's Cave - 343 feet
Backbone Cave - 275 feet
Route Three Cave - 174 feet

DES MOINES COUNTY

Starr's Cave - 400 feet
Blackhawk Cave - 146 feet
Lookout Cave - 53 feet

DUBUQUE COUNTY

Crystal Lake Cave - 8000 feet
Becker Quarry Cave - 4531 feet
Weber's Cave - 2650 feet

FAYETTE COUNTY

Soward's Cave - 500 feet
Wagon Wheel Cave - 471 feet (no map)
Wet Cave - 440 feet

FLOYD COUNTY

Jesse James Cave - 603 feet
Wilson Cave - 218 feet
Hemp Hole - 54 feet

HARDEN COUNTY

Power Plant Cave - 45 feet
Wildcat Cave - 45 feet
City Park Cave - 20 feet

JACKSON COUNTY

Hunter's Cave - 2300 feet
Dancehall Cave - 1389 feet
Worden's Cave - 700 feet

JONES COUNTY

Doll Cave - 575 feet
Searryl's Cave - 565 feet
Indian Bluff Cave - 525 feet

LINN COUNTY

Horsethief Cave - 210 feet
Pavillion Cave - 150 feet
Spider Cave - 91 feet

MITCHELL COUNTY

Horseshoe Cave - 52 feet
Hungate Cave - 30 feet
T-28 Cave - 91 feet (no map)

MUSCATINE COUNTY

Wildcat Den - 58 feet
Bobcat Den - 25 feet

SCOTT COUNTY

Hart Cave - 40 feet
Almosta Cave - 35 feet
Sparrow Cave - 22 feet

WEBSTER COUNTY

Smith's Cave - 25 feet
1881 Shelter - 20 feet
Wildcat Cave - 18 feet

WINNESHIEK COUNTY

Coldwater Cave - 14.09 miles
April Cave - 8635 feet
Glenwood Cave - 2085 feet
All three are not completely surveyed.

The editor takes no responsibility for the errors in the above article. (Such as, where is Wild Well - 1500 feet?) Send all comments and corrections directly to Marc to save time and shipping costs.

TRIP REPORTS

MAZE CAVE EARNS ITS NAME

Maze Cave, Dubuque County, Iowa

June 30, 1991

by Mike Lace

Mike Lace, Jay Wells, Doug Schmuecker, and Larry Welch

The longest cave on the property left to be mapped was Maze Cave. The old caving trip reports had described 400 feet of horizontal passage off the bottom of a 90 foot entrance shaft. The eight foot diameter shaft makes for a scenic and comfortable descent. The mound of surface debris at the bottom slopes quickly down into a stoopway with three distinct passages to follow. We mapped the smaller of the three which soon ended, then continued the survey west along the largest passage.

The cave rapidly became more complex with multiple intersections of 3 to 5 different passages. We had no clue as to where they all went or how long they were. We knew they called it "Maze" Cave but this was getting ridiculous. Jay, Larry, and I finished mopping up some of the loose ends while Doug went on ahead to give us an idea of what to expect. We didn't think too much of it when we heard distant and unintelligible exclamations from up ahead. When we finally came within voice contact, he called back saying that he really wasn't sure how to get back to where we were. He was only "temporarily" lost but put up with plenty of ribbing from the rest of us all day. This portion of the cave was later commemorated as "Doug's Dilemma".

We eventually emerged in a large linear passage 5-12 feet high and 8 feet wide that led to a debris fill, "The Big Drift". A collapsed shaft or adit perhaps? While backtracking from the "Big Drift", Jay slid into a small side lead. The rest of us waited as the sound of scuffling boots died off until we barely heard him holler back that the passage had opened up and taken off to parts unknown. There were still several side leads that hadn't even been entered yet so we knew they would have to wait for a second mapping trip. A few pictures were taken on the way out but the many samples of Galena (lead ore) we encountered were left in place as they should be.

CAVING IN HIGHLANDVILLE

Highlandville Caves, Winneshiek County, Iowa

September 15, 1991

by Marc Ohms

Marc Ohms and Pat Schenck

Our first stop was Mestad Spring which is close to Highlandville. It puts out a fair amount of water but is very alluviated. We then found the Highlandville Caves. There are nine caves listed in the index and are called Highlandville Caves 1 through 9. The first and largest cave has already been surveyed so that left us with eight to survey. We surveyed every cave that we found but only came up with eight including the large surveyed cave. One cave has two entrances (#3) connected by a very tight flat slot that possibly was considered two caves or maybe we simply missed one. A lot of the caves contained nice speleothems and most had large, wide entrances. After finishing here, we drove to Siewers Spring to show Pat. It had rained recently and the spring was rushing.

This was Pat's last trip before he left for school in Wyoming. He is taking a mountaineering course which consists of backpacking, rock climbing, and caving in the Rockies and Guadalupes. I wish him the best of luck in his adventures.

THE MAZE CONTINUES

Maze Cave and Bone Dry Cave, Dubuque County, Iowa

October 12, 1991

by Mike Lace

Mike Lace, Chris Beck, Jay Wells, and the ghost of Doug Schmuecker

The four of us gathered at the Timber Range to continue mapping the complex set of passages that form Maze Cave. Jay, Chris, and I rigged and dropped the entrance shaft while Schmuecker opted to do a little ridgewalking in hopes of driving away the remnants of last night's birthday excesses. We moved out toward the end of our previous survey in the "Big Drift Passage" where two going side leads remained. Several clusters of bats were seen in this area and the cave must offer an excellent hibernation spot.

The first side passage we surveyed ended shortly in rock fill but the second passage became a bit more unpredictable. The passage is entered by walking down a steep rubble slope and into a wide, standing height passage. We soon found a crawlway that looped back to the passage entrance. Great! Another loop! The rest of the passage continued with alternating crawling and stoopwalking until Chris popped up into a room that was already connected to the existing survey and the route we had initially followed into the cave (yet another loop). Jay also recognized the place where Chris emerged as a hole he had crawled into on our last trip and remembered reporting "going passage".

All three of us realized that there was no way we could finish the cave survey that day. There were two passages left in the main drag that not only formed a loop with each other but also with another parallel passage. So we set a more realistic goal of finishing off the last open side lead. None of us had ventured into this crawlway before but we thought it would end quickly ... wrong! We eventually tied off the survey for the day when Jay reported continuing passage with intersections ahead.

Frustrated as we were at not completing the survey, we consoled ourselves by crawling ahead to see if the end was anywhere in sight. Well, we couldn't even do that right as we hit junction after junction through several hundred feet of passage. Some of the forks ended in fill but at least one of them continues beyond where we turned around. Having seen the passages beyond our last survey station, we accept the responsibility of returning to survey what we've found.

We weren't the first ones to visit this maze. The miners must have extracted a lot of ore if they left behind such an extensive system. They no doubt had several shaft entrances for ore removal and at least one adit. It will take a surface survey to correlate the cave to the obvious surface features and this should tell us more about how the mining of this cave was carried out. The details of mining efforts in this particular cave are scant and earlier descriptions of the cave hardly do it justice. For a "400 foot long cave", it's doing a good job of climbing into the top ten of Iowa's longest surveyed caves.

Epilogue:

On the way back to the car, we checked a small hole in a nearby revine. Doug and I had both spotted it on our way up to Maze Cave but it had looked a little small to really go anywhere. I crawled into the entrance and, after moving a few rocks, slid into a wide, roomy crawlway. Jay followed me in and we crawled the 100 feet or so to a dead end. The dry, dusty floor had lain undisturbed for many years and a few rusted mining tools were seen along the way. The cave was definitely not described in any of the old published caving reports or in the old mining documentation. The cave is named "Bone Dry Cave" and brings the total known number of caves on the property to nine. Who knows how many more we might come up with?

A QUICK TRIP TO MOSSY GLEN

Mossy Glen Nature Preserve, Clayton County, Iowa
October 18, 1991
John Fuhrman and Greg McCarty

by Greg McCarty

I had just returned from two days of snake hunting (and other "Herp" doings) down in Des Moines only a few hours before I was to meet John. Since I had gotten less than eight hours sleep total during the previous four nights, I suggested a later starting time. John had to be back in Manchester to pick up his daughters from school at 3:00, so this was going to be a short trip. But not so short that we couldn't appreciate hiking into such a neat area as Mossy Glen, though. I had been to Mossy Glen a couple of times during the 70's, but felt a little rechecking couldn't hurt. John had never seen the area before, so this was a good time to head over there and get some pictures.

After linking up we proceeded to a farm near Mossy Glen owned by one of John's relatives. He had a couple of sinkholes in a field that he had never looked at, so we were going to do it for him. It turns out, though, that a quick look was all that was needed. The previous owner had added enough trash and dirt to the sinks so that they were worthless. Our next stop was the parking area along the lane that leads down into Mossy Glen. A sign is there now marking the nature preserve. The day was a little brisk with a biting wind up on the ridge, but down in the valley, it would be a good day to wear coveralls and tramp through the brush.

We walked down into the valley branch that is above the smaller of the two springs (the NW one), and then climbed down into the gorge itself by way of the waterfall. It's a simple climb if you pay attention to the loose stuff. After taking some pictures, we tried poking into a little overflow near the spring. Five minutes of digging didn't cause a surge of optimism, so we packed up and headed for the other branch. This branch has a larger valley coming into it, a larger gorge and waterfall near the spring, and even a larger spring. It had a dead raccoon also, but we found only one piece of man-made debris. We spent some time poking into a hole in the rubble beneath the waterfall and also in one of the spring outlets. Neither got us anywhere other than finding some space under slabs of rock. It is interesting to see how the layers of dolomite are splitting off the base of the waterfall. You can get long rectangular "posts" of rock.

After more picture taking we headed back to the first branch and managed to locate a small overflow in between the two branches. A little digging here showed this one to be pretty hopeless as well. All of the overflows (and springs) have the same problem. As is typical of the Silurian Escarpment area, they all suffer from the slumping of the bedrock into the valleys where the springs come out. Many of the springs in the area no doubt come from cracks that are of no interest to cavers. Any that may have had cave passage associated with them are no better due to the tremendous amount of shifting that takes place. Only removal of the whole hillsides would reveal whether any of these springs have any cave passage. That doesn't mean I don't like to visit them, however, as they are often in some of the prettiest (and greenest) gorges in the state.

As we walked back to the smaller branch, we started to hear thunder. This was followed by ice pellets. The day before, I had been overheating in the sun while wearing a T-shirt. Now it was getting rather unpleasant. By the time we got back to the vehicles, the ice pellets were streaming down. After driving up to the hilltop (before it got any worse), we got out to check out the storm and talk before we split up for home. It wasn't long before the lightning bolts chased us out of there, though. I decided to take the back roads home to Fayette, and found myself in quite a snowstorm by the time I reached Volga. What a weird day for weather, and what a contrast from the day before.

SURVEYING ON SUNDAY

Pine Cave, Cross Cave, and Cross Cave Annex, Dubuque County, Iowa
October 26, 1991
Marc Ohms, Eric Winch, and Mike Lace

by Marc Ohms

Cross Cave has been on my list of caves to survey for quite some time but I have been waiting for Eric to join the survey. He found the cave years ago and wanted to be involved with the survey. We first surveyed Pine Cave which was on the way down to Cross Cave. After looking on the wrong hillside, I managed to find the cave. It was 32 feet long. Cross Cave Annex is located right next to Cross Cave but is not connected. We surveyed it at 23 feet long. We then started on the survey of Cross Cave. Just inside the cave is a 20 foot pit but has no passage off the bottom. The passage is mostly walking with minor crawling. In places, it has the cross sections of a cross. That is how it got its name. The total length is 270 feet.

COOL WEATHER, LONG WALKS, AND GREAT CAVES

Hatfield's Cave, Devil's Mouth Cave, Searryl's Cave, Quint Cities Cave, Thermal Cave, Jones County, Iowa
October 26, 1991
Mike Lace, Marc Ohms, Scott & Stephanie Dankof, Eric Winch, Loren Schutt, Dean Zimmerman, Ray Houk, and Chris Beck.

by Mike Lace

It looked like it was going to rain most of the day but we all decided to go caving anyway. We first unloaded people and their gear at the top of the B-level road that leads down toward Hatfield's Cave. Marc had already tried to drive down it but the recent rain had turned it into a mud rally. The walk to the cave was a long one but worth the trip as Hatfield's offers large passage and some nice speleothems. Many of the formations, however, have been badly vandalized. While damage has accumulated over the years, some of it appears to be recent.

Most of us wandered over to the smaller Devil's Mouth Cave before returning to the cars and the drive to Searryl's Cave. As noted in the September HOTLINE, the property including Searryl's is now owned by the state as a public river access. It's unclear what impact this will have on the cave in the way of damage to the delicate formations within or to the many hibernating bats. The area is wild and rugged and has, in a way, prevented heavy traffic in this cave. Word has it that the state doesn't want to call any attention to the cave at all but we should make an effort to keep a close eye on the status of the caves in this area.

Only three of us had ever been to Searryl's before so it was fun to listen to the first-timers' gasps as we entered the first and largest dome room. There are water pools beneath the apex of the dome that are rimmed with fine calcite so please watch your step. This is one place where a little flagging tape might help. There were numerous bats in the cave that day including many big browns. In retrospect, it would have been better to hold the trip earlier in the year when hibernating bats would not be disturbed. Future trips should definitely keep this in mind.

We then walked downstream to a cave Marc had noticed high in the bluff on an earlier trip. The climb up the steep slope was interesting but we were rewarded with large walking passage, a few active formations and a great view of the valley below. One of the smaller sections of the cave was noticeably warmer than the rest for unknown reasons. We didn't argue with it though as the outside temperatures were more than cool. Thermal Cave, as it was later named, was surveyed with 172 feet of passage. A smaller nearby cave (15 feet of crawlway) was noted and on the climb up the rock face of the hillside, we found yet another one. It's a wide crawlway that

stretches 40 feet to a terminal mud slope and several pristine formations. The cave was named "Quint Cities Cave" after an old grotto that did some of the early field work (late '50s) in this area. We made it back to the cars with dusk at our heels and lengthy drives ahead for most of us.

-ANOTHER ARTICLE-

SPECULATION: IOWA CAVES, THE COSMIC CONNECTION

by Lowell Burkhead

65 million years ago, Iowa's cave country in the northeast part of the state was much the same as it is today. Known as the driftless area, it is the only part of the state that wasn't plowed under by the glaciers of the more recent ice age. Even the climate was little different than today. The main noticeable difference would probably have been the plants and animals of the time. In those days, dinosaurs roamed the state. Then came the largest one-time change to the area ever.

An asteroid one to two miles in diameter came screaming in at up to 30,000 miles per hour and smashed into Iowa: the Manson crater. The explosion was so great that all the trees across Iowa would have been flattened and most were incinerated. A shock wave propagated out at the speed of sound followed by a huge tidal wave in the seemingly liquidized crust of the Earth. Earthquakes were triggered everywhere in the world and a dark cloud of smoke and dust covered the face of the planet. A 25 mile diameter hole had been punched through the Earth's crust. The crater produced could have been 250 miles in diameter but the glaciers of the ice ages since have erased all traces of it.

Iowa was left completely shattered. There is hardly a piece of bedrock in the state that is over 20 feet across that isn't cracked or broken. There are hills in eastern Iowa that are like a stack of blocks shaken apart. Hillsides broke loose and slid out as their shale footings gave way. If there was a way to date the state's crevice caves, we would find them all the same age with few exceptions. We would find massive breakdown in the older caves to be the same age, all dating to the minute of that not so ancient by geologic time, cosmic collision.

The shock wave speeding into the mantle and core would have released massive amounts of water, both from the core's iron hydrite alloy and the mantle. The open cracks gave it a route to the surface and into the caves. In most areas, it was just hot water, but in magnetically active areas, it was sulfuric acid laden with metals. As this acid cooled and mixed with water table fresh water, Galena crystals were formed that filled the cracks and the cracks were enlarged by the acid leaving the Galena in the earth fill of the cave passages. Many of the Dubuque caves were already formed 65 million years ago and were merely enlarged by the acid water from deep down. Some were no doubt formed completely at that time in the new cracks. The surface of the Earth in the mining area of Dubuque and western Illinois was steaming with the stench of sulfur.

All of the deep drilling research wells have been stopped by corrosive liquids that destroy the metal drilling equipment. This is the stuff that came to the surface. This is the stuff that formed most of the caves in the Dubuque area and this is the stuff that today generates the heat of the Earth's core and the Earth's magnetic field. It is the electrolyte of the planet's energy producing cell. The Earth is a huge voltaic cell produced at depth by this mineral salt and sulfur water in contact with metals in the upper mantle and lower crust. It is known that there is a .7 volt difference but I have seen no explanation for it. I maintain that it is produced by this worldwide battery. Current flowing through the core from it produces the Earth's magnetic field. Local magnetic differences attest to its activity in the area. The evidence for its existence is massive.

There is not room here to write a book on the subject so I will abbreviate the body of that evidence. First is the existence of the Earth's magnetic field in the absence of magnetic material. As magnetic materials (iron, cobalt, etc.) are heated, they become non-magnetic. This is called the Curie temperature. The lower part of the Earth's crust, all of the mantle, and all of the core are above the Curie temperature of all magnetic materials. The only property left is conductivity to electric current. Large electrical currents from this Earth cell would produce the large magnetic field of the earth. This current would also produce huge amounts of heat. This explains why the core of the Earth is so hot even with the massive amounts of heat loss. The black smokers of the deep ocean rifts are spent electrolyte leaking out loaded with metals. All of the heat of the Earth's core is generated by this current from the Earth cell. This heat engine drives plate tectonics, volcanos, all of the geothermals. It generates the heat lost in the deep ocean rifts where new ocean floor is being produced.

It is hard to think of liquid water in contact with molten metal or water in an alloy with liquid iron in the Earth's core. At miles or hundreds of miles of depth, pressures are great enough to allow it. These pressures can create materials that we can't even imagine. Everything that we can see in our part of the world is saturated with water. Knowing that water can exist in the pressures involved without boiling away, then it is reasonable to think of the mantle and the core being saturated with it. There is no compelling reason that it wouldn't be.

There is considerable evidence that reversals of the magnetic field and north-south date to the same ages as the large impacts that punctured the Earth's crust. Large areas of this Earth cell would be reconfigured by the shock wave and shattering. All of the little local magnetic fields add together to produce the overall Earth's magnetic field. Most of them would cancel as their direction would be random. Only the symmetry of the ocean floor deep rifts and the great rift of Africa add up to the north-south direction. So only a small part of the generated fields are left after the cancellation of the random direction ones. A little reconfiguring could easily reverse the whole thing.

It is also interesting to note that the hotter a battery gets, the more power it produces. At room temperature, the energy produced would be huge, but at the temperatures of the mantle, the power may exceed the solar power striking the Earth. It is also interesting that Mars doesn't have a magnetic field and Uranus does. Does that tell us that Mars has no liquid water and Uranus does? It is interesting that radio waves 10 Hz and lower increased over a hundred-fold just before the LA earthquake. Some of it is no doubt produced by the breaking crystals in the rock, but supplying the Earth cell with fresh electrolyte through all the new cracks undoubtedly produced the rest.

To return to the subject at hand, it is known that many if not all of the great caves of North America were created by sulfuric acid water. The experts have said that the caves of Dubuque were created by hot springs. I have not seen much on how either may have happened since there is none of these mechanisms evident today. Could they have been formed very quickly as hot springs of sulfuric acid were produced by meteor impacts? I think, yes, as sulfuric acid is very fast on limestone. These hot springs certainly wouldn't have lasted very long after the impacts, maybe a few hundred thousand years. Would that be long enough to produce the caves? They may have lasted a few million years. That is certainly long enough to produce the caves.

At the price paid for these caves, maybe we shouldn't ask for another such cave producing epic. Is total devastation too much to pay for a few good caves? If you think not, just ask a dinosaur. He may change your mind. Comments will be printed in letters to the editor.



Formations in Hatfield's Cave, Jones County, Iowa

Photos by Scott Dankof



Searryl's Cave, Jones County, Iowa. Top: at the entrance. Bottom: first dome room.
Photos by Scott Dankof

Marc Ohms Eric Winch
Ray Houk Chris Beck
Loren Schutt Mike Laco
Dean Zimmerman

T.H.L. = 52m/172ft



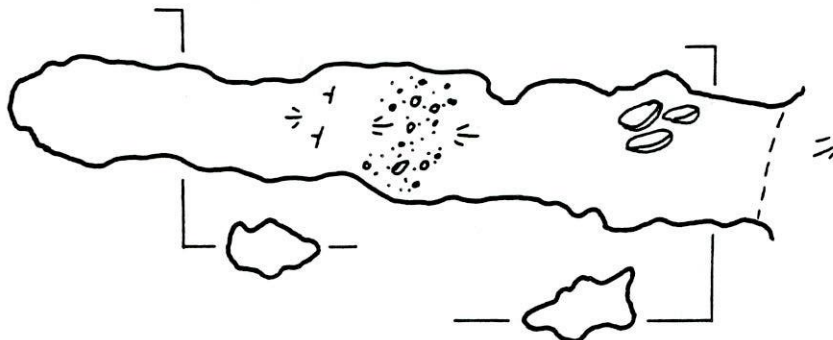
Marc Ohms

PINE CAVE

DUBUQUE COUNTY, IOWA

T.H.L = 10m/32ft

0 meters 5



compass and tape survey by

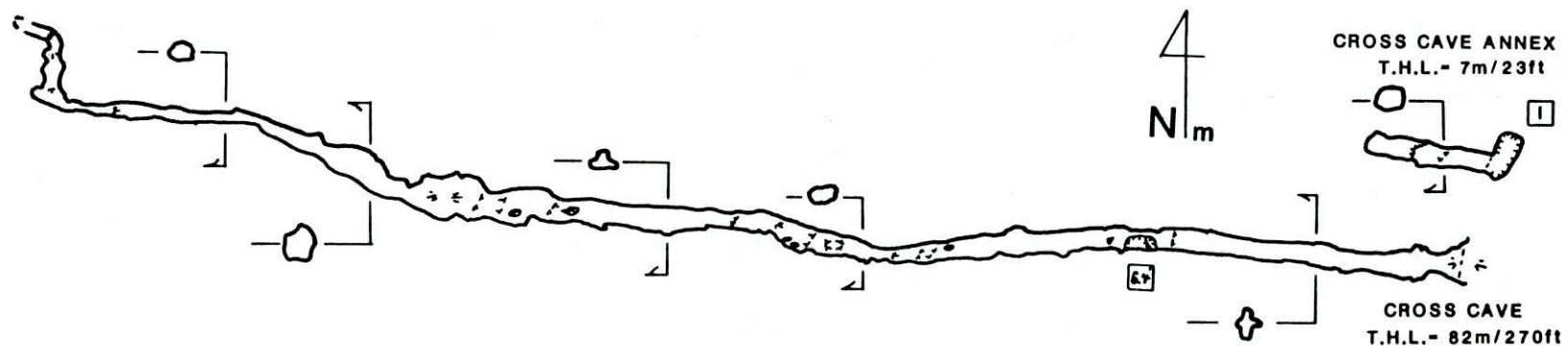
Marc Ohms Mike Lace

Eric Winch

Marc Ohms

CROSS CAVE AND ANNEX

DUBUQUE COUNTY, IOWA



compass and tape survey by

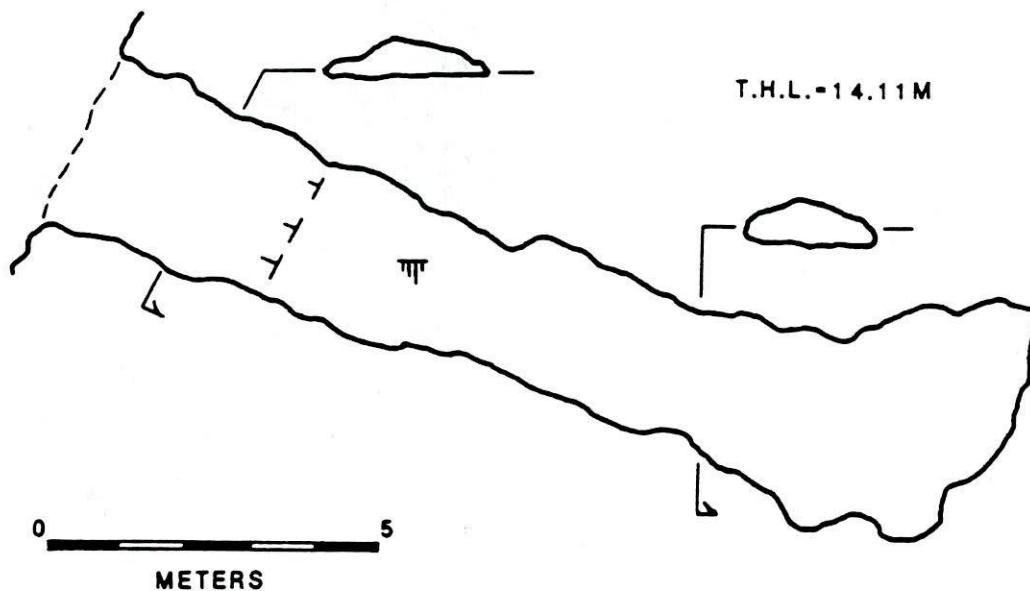
Marc Ohms Eric Winch

Mike Lace

Marc Ohms

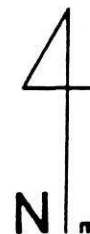
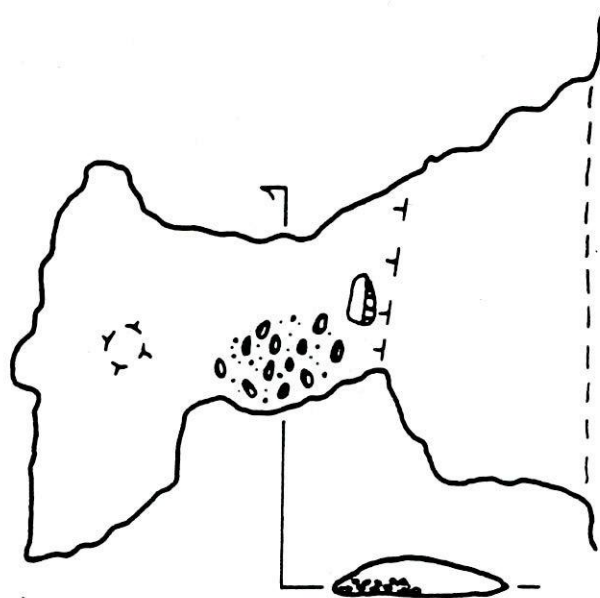
HIGHLANDVILLE CAVE #2

WINNESHIEK COUNTY, IOWA



HIGHLANDVILLE CAVE #4

WINNESHIEK COUNTY, IOWA

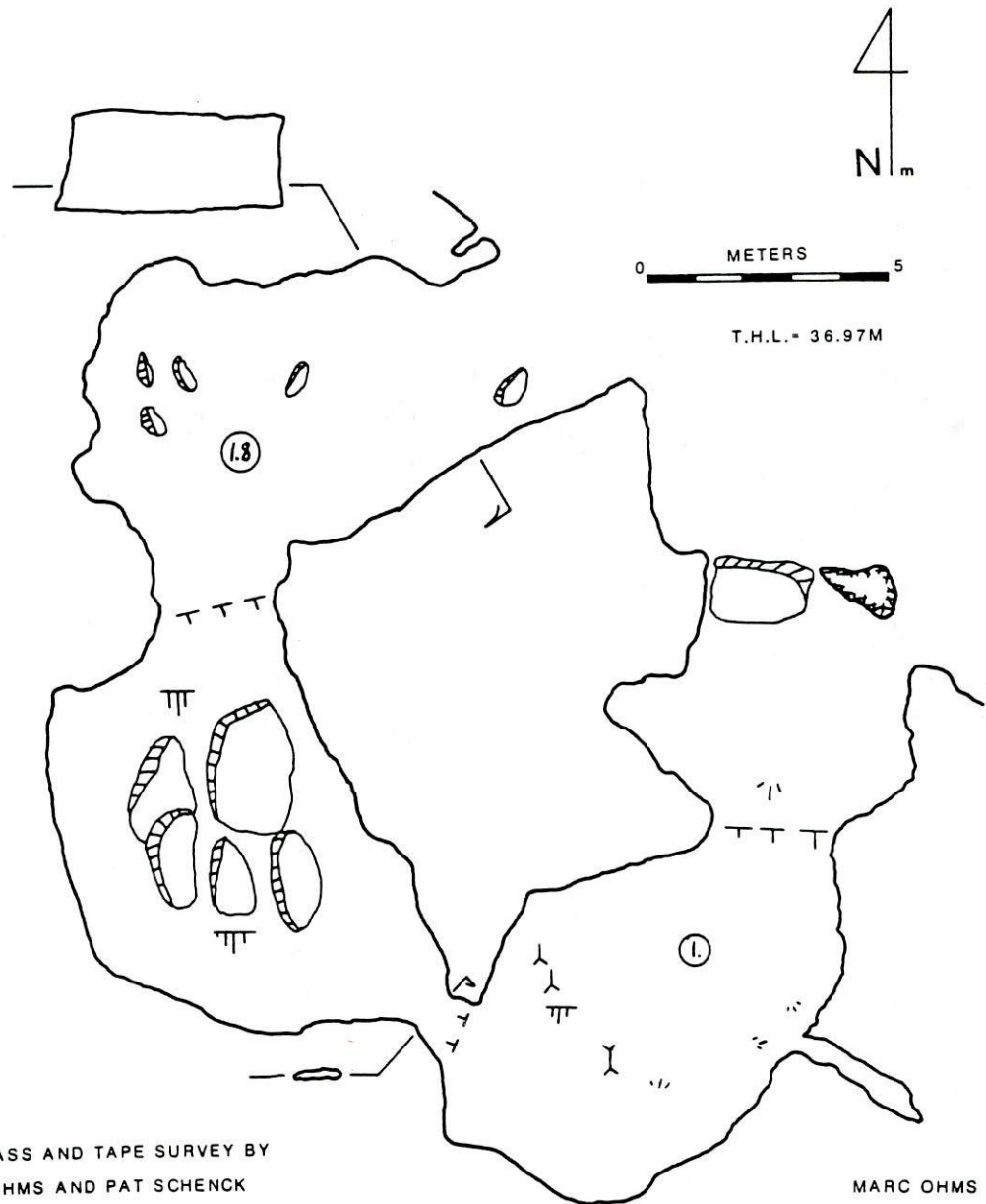


COMPASS AND TAPE SURVEY BY
MARC OHMS AND PAT SCHENCK

MARC OHMS

HIGHLANDVILLE CAVE #3

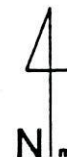
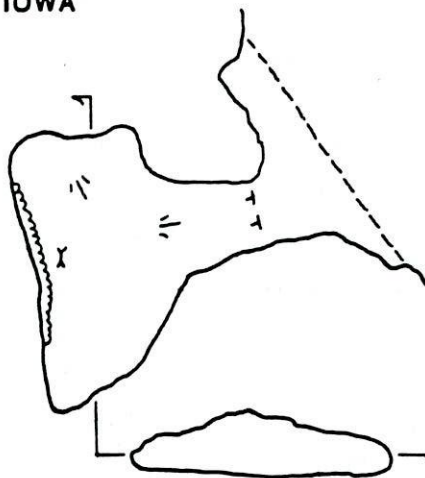
WINNESHIEK COUNTY, IOWA



HIGHLANDVILLE CAVE #5

WINNESHIEK COUNTY, IOWA

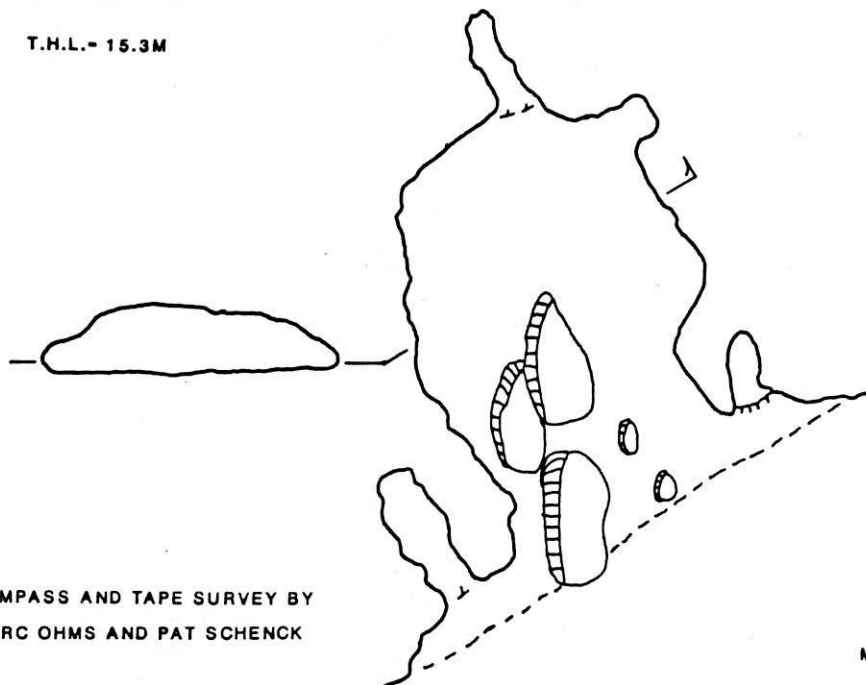
T.H.L. - 6.56M



HIGHLANDVILLE CAVE #6

WINNESHIEK COUNTY, IOWA

T.H.L. - 15.3M



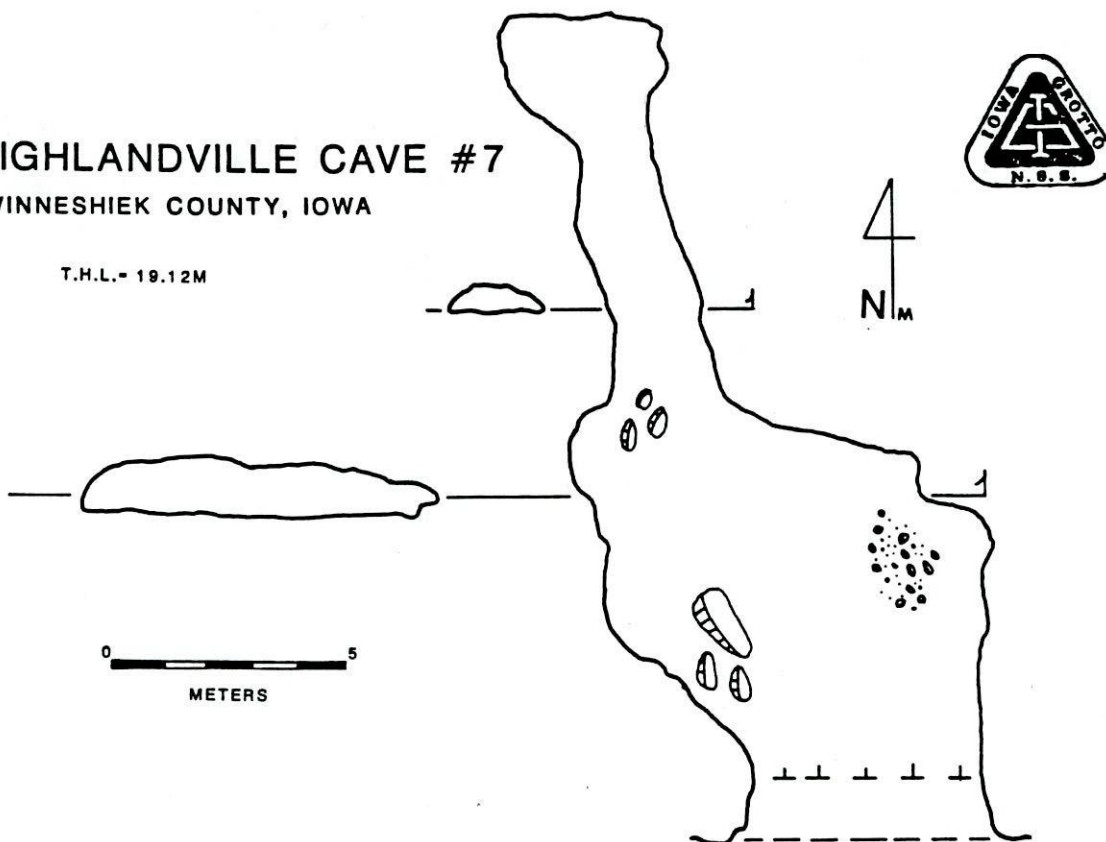
COMPASS AND TAPE SURVEY BY
MARC OHMS AND PAT SCHENCK

MARC OHMS

HIGHLANDVILLE CAVE #7

WINNESHIEK COUNTY, IOWA

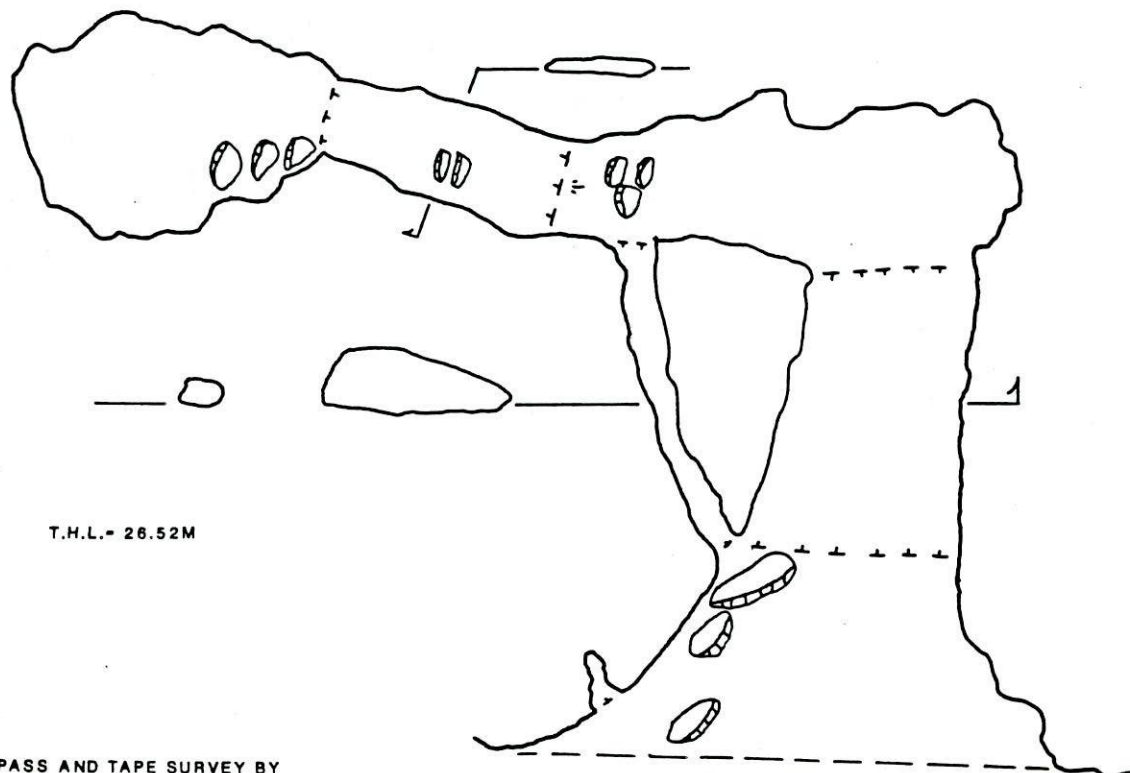
T.H.L. = 19.12M



HIGHLANDVILLE CAVE #8

WINNESHIEK COUNTY, IOWA

T.H.L. = 26.52M



COMPASS AND TAPE SURVEY BY
MARC OHMS AND PAT SCHENCK

MARC OHMS

