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# THE MAVERICK BULL

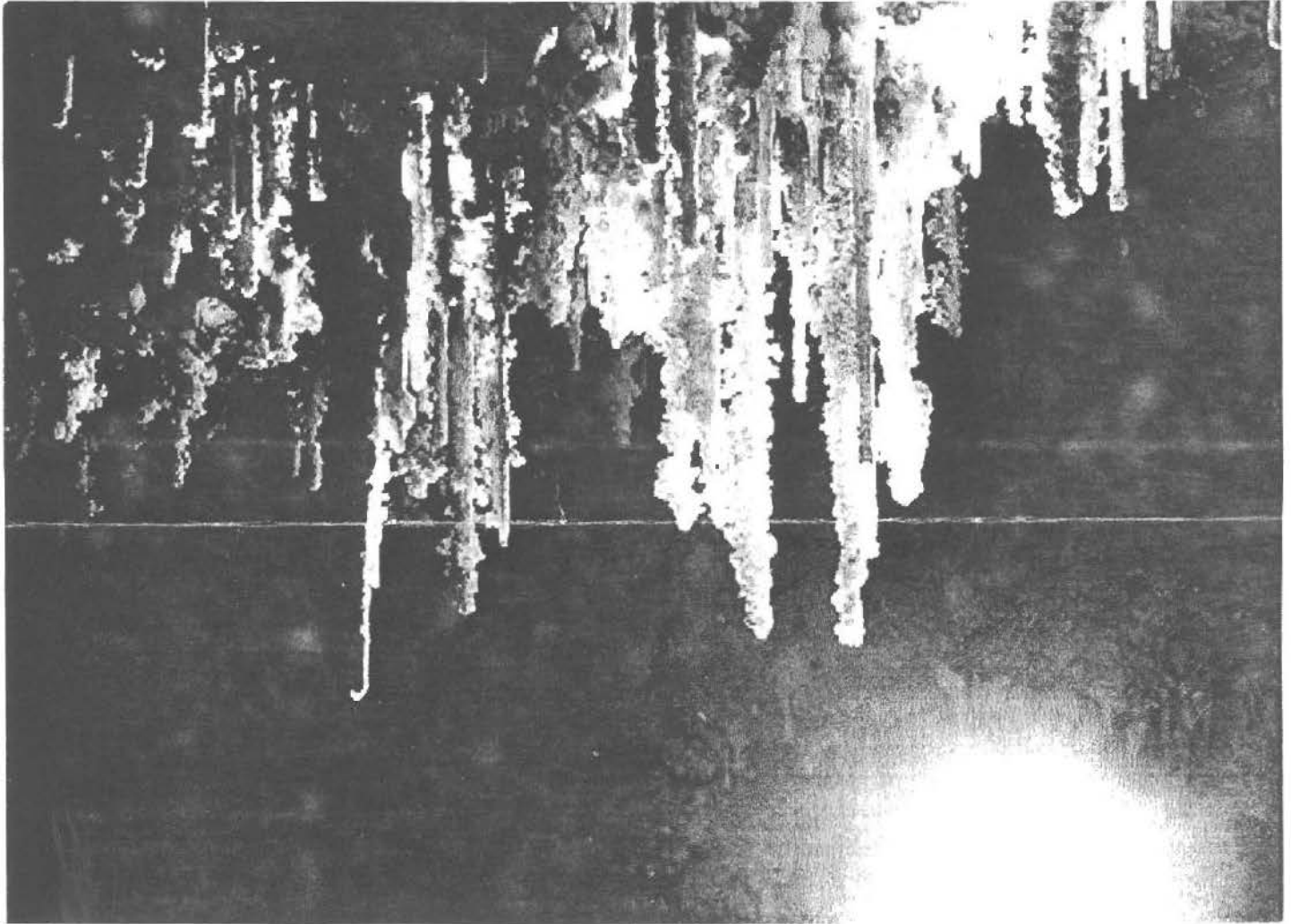
THE MONTHLY NEWSLETTER  
OF THE MAVERICK GROTTTO

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Volume 9 Issue 1

January 1995



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**The Maverick Bull** is the monthly newsletter of The Maverick Grotto, an internal organization of The National Speleological Society (NSS G-322). The editor invites all individuals and other grottos to submit articles, news, maps, cartoons, art and photographs. If the material is to be returned, a self-addressed stamped envelope should accompany it.

**Reprinting Articles:** Internal organizations of The National Speleological Society may reprint any item (unless copyrights belong to the author as stated in the byline) first appearing in *The Maverick Bull* if proper credit is given and a complete copy of the publication is delivered to the editor at the time of publication. Other organizations should contact the editor of *The Maverick Bull* at the address herein.

**Exchanges:** The Maverick Grotto will exchange newsletters with other grottos. Contact the editor.

**Complementary Newsletters:** The Maverick Grotto will provide complementary newsletters to persons or organizations that provide cave ac-

cess (i.e. landowners) or otherwise provide assistance to cavers. The Maverick Grotto will provide one free issue to persons interested in becoming members.

**Subscription Rates:** Subscription rates are \$15.00 per year for non-members and free for members.

**Membership Policy:** Any individual with interests, beliefs and actions consistent with the purposes of The Maverick Grotto and The National Speleological Society is eligible for membership. Acceptance of new members is based on payment of dues and a mandatory three trip requirement with at least three different grotto members. These three members shall act as sponsors. At least one sponsor must attend the meeting at which the membership vote is taken. A two-thirds majority vote of the members present will be required for acceptance.

**Meetings:** Meetings are held the second Tuesday of each month at Smokey's Ribs, 5300 E. Lancaster, Fort Worth. It is located less than one mile west of Loop 820 and next to K-Mart. The time is 7:00 p.m., and the food is good.

**Carbide:** Grotto carbide is available at the meeting if prior arrangements

are made. Carbide is free for the asking. Contact Russell Hill at 220-7108 or Butch Fralia at 346-2039 for more information.

**Library:** Support your Grotto Library. Russell Hill will be accepting books and magazines on cave related topics, copies of homemade cave videos, etc. for our library. We wish to thank Russell for his efforts each month to bring and set up the Grotto Library.

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**Cave Rescue: Call collect.**

(512) 686-0234

### Photo Credits

This month's cover photo was taken by Chad Fenner, in the Spelogasm Room in Pink Panther.

## Minutes For the November Meeting

The November meeting informally began at 7 p.m. The business portion was called to order at 7:30 by Grotto President Mike Anderson.

### New visitors:

None.

### Announcements:

The grotto Christmas party was announced.

This was the last meeting of '94.

### Old Business:

The River Styx trip taking a group of school kids has been tentatively

set for this weekend (Nov. 12,13). (Ed's note: This event actually happened, thus ending the longest running old business item I've ever seen!)

T-shirts are still available.

### New Business:

Elections: Butch Fraillia motioned that the nominations for officers be voted on and passed. The motion carried.

### Trip reports:

A group including John Langevin,

Mike Anderson, and Donna Mosesman went to Slaughter Canyon on October 29 and 30th. Apparently, due to a mix-up, they did not have the combinations to the caves. After spending half the day getting them, they proceeded to cave. John did Corkscrew, Mike did the canyon, and Donna did Sitting Bull Falls.

### Program

The program consisted of slides provided by Russell Hill, highlighted by his SMASHING rendition of a fluorescent light bulb.

## Editor's Ramblings

Happy December!

Happy January!

Happy 1995!

Welcome to another year of the Maverick Bull. I got through my first year as newsletter editor and I ain't been fired yet.

I do want to emphasize that this is your newsletter. Each month I start with last month's minutes, this month's meeting announcements, a calendar of events, and a lot of blank paper.

Beyond that, it's a free-for-all. Sometimes I get some interesting stuff off Caver's Digest, but what makes our newsletter ours is submissions from within the grotto.

These need not be limited to trip reports. If you read some new book, or found a new piece of equipment, a review would be really cool. If you have some skill or knowledge, an educational report would be perfect. Cave related puzzles and cartoons also make great submissions.

But, of course, don't forget trip

reports. I'm sure many of you went caving over the holidays, so I expect several trip reports and photos next meeting (or at least in time for February's newsletter).

I would like to publish a grotto directory this year, so please flip to the back page and fill out the information sheet and turn it in with your dues. I'm missing a lot of phone numbers.

-CF

## The January Meeting

The January meeting will be held on Tuesday, January 10 at Smokey's Ribs, 5300 E. Lancaster, at 7 p.m. This month's program will be a bat presentation by Nancy Cushion from

Bat Conservation, Incorporated. She regularly does presentations for younger audiences on behalf of BCI, but will tone it up for adults. Do bring your kids though. Her presentation

will include slides and possibly a live bat.

She will also have information on BCI and their adopt-a-bat program.

## New Officers Elected

The Maverick Grotto elections resulted in one new officer. Mike Nelson will replace Tracy Van Epps as Vice-chairman and Program Director.

Retained are Mike Anderson,

Chairman, Mark Porter, Treasurer, and Chad Fenner, Secretary and newsletter editor.

Even though Tracy is stepping down as vice chairman, we still

expect to see her active in the grotto.

Lets all join together in wishing Mike good-luck in his new position and all pitch-in to help him find monthly programs.

# LECHUGUILLA CAVE ADVANCES ON U.S. AND WORLD LISTS OF LONG CAVES

News Release  
National Park Release  
By Bob Crisman  
November 2, 1994

Lechuguilla Cave in Carlsbad Caverns National Park, New Mexico has advanced from fourth to third place on the list of longest caves in the United States, and from seventh to fifth place on the world list.

An expedition into the cave that concluded October 23, 1994 brought Lechuguilla Cave's official length up to 79.06 miles, which is more than 2.5 times the current mapped length of the park's famous Carlsbad Cavern.

Lechuguilla Cave also remains the deepest limestone cave in the U.S. at 1,506 feet deep, although a lava cave in Hawaii (Kazumura Cave) is deeper at 2,111 feet.

Expeditions into Lechuguilla Cave scheduled for the remainder of 1994 include a surveying and mineral inventory trip November 19-27, a surveying and exploration trip December 3-11, and a science trip December 12-17.

The science trip will be a follow-up visit by the Mars-study team that made their first trip into the cave in April 1994. The December trip will include a U.S. Geological Survey scientist, three NASA scientists, two scientists from the University of New Mexico and University of Massachusetts, and several technical support personnel.

Caves in the U.S. that are longer than Lechuguilla Cave include: (1) the Mammoth Cave system in Kentucky, which is about 350 miles long; and (2) Jewel Cave in South Dakota, which is a little over 100 miles long.

A survey and exploration trip in Carlsbad Cavern is also scheduled November 24-27.

## TSS TECHNICAL WORKSHOP

Posted to Cavers Digest by Bill Elliott

The Texas Speleological Survey's Technical Workshop was held on Nov. 12, 1994, at St. Edward's University in Austin. About 35 or 40 cavers attended, and the meeting was considered a success even though we didn't have enough time to do everything we had planned!

Most of the workshop focused on cave surveying software. We were able to use a new In-Focus video projector to display the programs on a slide screen, thanks to Martha Meacham, Instructional Computing Coordinator at St. Edward's. This wonderful device made it possible for a roomful of cavers to see full color at 640 x 480 pixels. This still was not high-enough resolution for David McKenzie's Walls program, which he displayed on a 17-inch monitor. More on this amazing program below.

Doug Dotson flew in from Maryland to demo his SMAPS 5.2 and SMAPS/GIS programs. I've been using SMAPS for years but was glad to see SMAPS/GIS for the first time. SMAPS is rich in features and quite powerful, despite its lack of mouse control or Windows interface. Doug showed us some displays of Hamilton's Cave along with examples of GIS displays -- colored areas of the cave containing water within a certain distance of an entrance, etc. The topographic overlay was impressive, too. I showed the Powell's Cave System on SMAPS, and a slide-show pseudoanimation of Powell's that I did in 1989, using 56 screens that were captured with EGASLIDE. I also demonstrated the BIGCAVE demo in SURVEX, and all were impressed with the speed at which one can rotate, pan, and zoom on the cave line plot.

Don Broussard did a demo of CAPS, which he had bought a few months ago. The program looks like a decent first effort, but suffers from a somewhat clumsy interface. For instance, you cannot view all your raw survey data in a table -- you're limited

to one screen per vector. The line plot disappears off the screen sometimes, and you have to go hunting for it. With more user experience one could make the program fly, no doubt.

John Fogarty demonstrated CaveView 5.1, a recent update to his program, which is respected among surveyors of Mexican caves. The longest cave in Mexico, Sistema Purificacion (82 km), is on CaveView. This DOS program has mouse control and many sophisticated features. It has no print drivers of its own; graphics are sent to an HPGL file, which can then be printed by Ventura or various other programs. John is working on his Windows program, called CORE, but was not ready to demo it yet. He has ambitious plans to make it an electronic drafting program for cavers. That is, after processing the data you could scan your notes, then treat them as a "rubber sheet" bitmap that can be stretched, bent, and shaped to fit over the line plot. The resultant map would then be vectorized. Details such as breakdown, water, and sand, could be painted in with a mouse from clip art. For example, a bumpy flowstone symbol could be inserted simply as an arc, then the program would draw the bumps for you. I imagine that such a program could result in maps that are laid out better, because you could rearrange and re-letter. With inked maps, you are stuck if you didn't plan carefully.

John gave an interesting talk about the real possibility that in a few years we could have hardened pen computers for sketching and processing data in the cave. Already there are pen computers with 80486 processors, lots of RAM, and big hard disks, but they're expensive. It's hard to believe, but 10 years ago I wouldn't have dreamed of the notebook computers that we now have (I bought my latest one at an auction for US\$520).

We interspersed the workshop with discussions of GPS (global positioning systems), cave radios, and data loggers. Mark Johnston, the original instigator of this workshop, has been collecting information on GPS units. We are interested in the more affordable hand-held units, but they cannot

achieve the degree of accuracy that we would like for detailed karst area surveys. Accuracy is limited to about 30 m or so. There are several error sources, the major one being "SA", or selective availability. This is an encryption of part of the timing and positioning signals from the 24 U.S. military satellites that are used for GPS. Since the Persian Gulf War the U.S. military has switched this encryption on and off to prevent its use by potential enemies. Anyway, this can be partially overcome by doing "differential correction" of the data. This is accomplished with a base station placed at a known location (benchmark) and a roving unit that takes data at other locations. The logged data are then downloaded to a computer and "postprocessed" to remove much of the variance. This can narrow the accuracy down to a few meters or even to one centimeter.

Trimble Navigation makes a new handheld unit, the Scoutmaster, with an RS-232 serial port on it, so it can be used for differential correction. The cost is US\$995, but you would have to have a base station or similar arrangement. Some companies are now offering base station services. That is, they pay an FM radio station to broadcast base station signals which can be picked up on a proprietary receiver over a wide area. You can have real-time differential correction this way and you pay different rates for different levels of accuracy. Some are doing this over small pagers which can be plugged into some GPSs. One company offers a GPS in a PCMCIA format which can be plugged into some notebook computers for real-time navigation.

Cavers at the workshop remarked that you can do just as well or better than a hand-held GPS if you have a good topographic map and a few landmarks. That's true, but sometimes you don't know where you are within 100 m, such as in Mexico. These devices make it easier to relocate something, too. But I have to say that GPS will have to become more accurate and cheaper before I will buy one. There is some talk that the military will turn off SA. Mark Johnston will follow up with

## CAVE TV

"Fangs: Secret World Of Bats" will be aired Wednesday, January 11, 1995 on The Discovery Channel (cable) at 8 PM repeated at 11 PM, as part of an anthology. Thousands of other animals and plants could die out if not for the near 1000 species of bats. Forests scarred by natural and unnatural clearing are rejuvenated by seed-eating bats. Pollinating while they consume nectar, bats spread the seeds of a new forest with their feces.

The television program National Geographic Explorer will broadcast a half-hour film on January 1, 1995,

further postings on what he has found. He's starting a GPS database.

We demonstrated Keith Heuss' cave radio, which has a rugged transmitter weighing about 3 kg. It puts out 10 W at 3,500 Hz. This can transmit through at least 30 m of rock. The loop antenna and receiver are used to pick up the signal via headphones. This radio was used to position the drilling of a well into a cave stream and it came within 15 cm of the cave radio location. We are using this radio to set "cave radio benchmarks" at various locations in Powell's Cave to the surface.

I discussed my experiences building a temperature-sensing data logger for my long-term cave ecology studies. I used some devices from the Blue Earth Co. in Minnesota, with help from Bob Buecher and Keith Heuss. My three data loggers each took 6 channels of data for up to 60 days, but I had a lot of problems with erratic signals, either from bad sensors or deteriorating wires — I'm still not sure. Some of the sensors were "dry bulbs" and some were "wet bulbs", but I also used humidity sensors in entrance areas, which were within the sensors' range of 0-95% RH. Data were downloaded to a PC and graphed using Excel. More compact dataloggers may be available and may be easier to program, too.

The finale of the workshop was David McKenzie's Walls program for Windows, which he demonstrated on

entitled "JOURNEY THROUGH THE UNDERWORLD". No, it's not about the Mafia, it's about the caves of Belize and their archaeology and biology. The film, made by Richard and Carol Foster, a British/American man-and-wife team who live in Belize, features cave archaeologist Dr. Jaime Awe, cave biologist Dr. William R. Elliott, and a Maya named Cirillo Chun. The three venture into a series of caves and see some pretty fantastic stuff along the way. This will be on the Discovery channel or PBS in many areas. Check your local listings.

a 486 66 MHz computer with 32 Mb of RAM. David has concentrated so far on the data management and error analysis "front end" of the program and only recently put in the graphics feature. David used algorithms that he developed for his master's thesis on surveying in 1979. These first appeared in Net3 and Net4 (the latter is available with CaveView). His approach to "data screening" or "blunder detection" is way ahead of any other cave survey program I have read about.

Walls has a data management window with hierarchical files, very nice for larger cave systems. He has followed the lead of Doug Dotson in using a hierarchical scheme. Different surveys can be moved around in the tree by dragging and dropping with the mouse. Each node is marked by a little survey book, which is red until it is processed, then it turns blue. Branches can even be moved around within a tree or between different project trees.

The whole tree or just parts of it can be processed. It crunches data very fast (17 seconds for the entire 82 km of Sistema Purificacion). David hasn't even optimized for speed yet, so it could go faster.

Other windows pop up to tell you where the blunders are. Of course, the more loops there are, the better the blunder detection. Using the UVE (unit variance estimate), you browse through tables of statistics looking for

F statistics that are >1. Each independent loop system has both a horizontal and a vertical UVE. Each traverse has UVEs and an F statistic. They can be ranked with the worst system at the top and you can interactively jump to a line plot of the cave that shows the loop system in blue and the highest-error vector in red. Really bad F statistics range from 10 to several thousand. You can "detach" a vector, or give it zero weight in the least squares correction of the loop system, then reprocess to see what happens. The program gives you suggested corrections to the vector. Currently, the tolerances are set at 5% for distances and 5 degrees for azimuths and inclinations. One can use this to actually go back into the cave and resurvey bad vectors (if you marked your stations). Some in the audience suggested that the names of the survey team members could flash like a neon sign when bad vectors are found!

I used NET4 once to analyze the Entrance Maze survey of Powell's Cave. It found 4 blunders and suggested what the correct vectors should be. When I resurveyed those 4 vectors the suggested corrections were remarkably good. This worked well because there were 48 interlocking loop junctions. Most blunders come from misnamed stations, but some are from other incorrect data.

The name "Walls" came from David's old mainframe program in which he actually attached cave walls to a survey using a graphics (digitizing) tablet. This feature may be added to the new program later. The program could adjust the walls when the survey data is adjusted.

John Fogarty and Doug Dotson were very complimentary of David McKenzie's program. The three had discussions about collaborating on a set of Windows programs that could work together.

Walls could be the front end, Fogarty's could be the drafting portion, and Dotson's SMAPS/GIS for Windows could work with the other two to provide GIS features. They were happily discussing the HTO spec that

evening at dinner and agreed to collaborate on that, too.

We are very sorry that we ran out of time and were not able to demo Compass, Karst256, CavePlot, and Vectors. My apologies to Garry Petrie and Dave Herron, who mailed me examples of their programs. Demo versions will be distributed to interested surveyors in this area to evaluate. We could have spent another DAY on survey programs. There was no Macintosh readily available in time to show CavePlot and Mei Park's Vectors, which Paul Fambro discussed. We also wanted to discuss Internet communications and how to get on the Cavers Digest, but that may be done in another workshop later.

The TSS plans to post the completed feature lists for all the cave surveying programs. These came from a questionnaire that I posted earlier, and most were filled out by the programmers themselves. I'll post that here and on the new cave surveying list that Olly Betts started. Many thanks to all those who sent information or who participated in the workshop. Real good!

Bill Elliott  
Texas Speleological Survey  
Austin, Texas

*(Ed's note: I attended this workshop and thought it was wonderful. I would encourage anyone who has a technical interest in caving on subjects like survey software or D-GPS to attend the next one.)*

## **BLM MAY CHARGE FEES TO CO CAVING**

Posted to Cavers Digest by Dave Bel-ski (NSS Board of Governors)

It has come to my attention that the Bureau of Land Management (BLM) has decided to start charging cavers a fee to utilize BLM administered caves in the West. (New Mexico for openers.) This fee has yet to be determined, but my information has it that it will be substantial.

The cavers in the West need to

communicate with their elected officials, NSS and/or CRF and express their concerns about this upcoming policy. Local government officials (BLM) are being pushed into the implementation of this policy, apparently by edict from Washington, D.C. The cavers who utilize BLM-administered caves need to be made aware that if this projected policy is not stopped, we will be paying, at least twice (taxes plus fees) for the privilege of using public land which, of course, you know we own.

Conversations with the Cave Managers within the BLM in New Mexico confirm that a fee is being considered to use these BLM-administered caves, and it will be sooner, not later. The fee will include an application for permit fee (Non-refundable, even if the permit is not granted!), plus a per capita user fee of rather large proportions.

As I see it, this simply adds to the bureaucracy, and in order to cover the paychecks of the people required to do the necessary accounting (in triplicate, to be sure), the fees must be relatively astronomical. They certainly do not have the personnel to accomplish this task right now.

I am posting this message, not as a member of the Board of Governors of the NSS but as a concerned caver who utilizes BLM-administered caves in the West. I intend to continue this fight to overturn the pending policy in any means that I can. I will seek membership in the NSS ad hoc committee that has been set up to study this recent event. I feel strongly that this is wrong and every caver should notify BLM of their opinion.

I will welcome any response from fellow disgruntled cavers and I will see to it that any correspondence to me will be delivered to the proper BLM office.

There are several official mailing addresses you can send your responses to:

William C. Calkins  
State Director  
Bureau of Land Management  
P. O. Box 27115  
Sante Fe, NM 87505

Jim Goodbar  
 Recreation Specialist  
 Bureau of Land Management  
 Carlsbad District  
 P. O. Box 1498  
 Carlsbad, NM 88220

Mike Bilbo  
 Recreation Specialist  
 Bureau of Land Management  
 Roswell Resource Area  
 P. O. Drawer 1857  
 Roswell, NM 88202-1857

Thanks,  
 Dave  
 belski@acca.nmsu.edu

*(Ed's note: Apparently, not every caver agrees with Dave Belski. This single posting has generated more Caver's Digest (the Internet bulletin-board on caving) postings than any current topic. (Even out numbering the number of postings on Cave Dowsing, which is some method of finding caves, underground pipes, and lost car keys using something like a divining rod.) Some cavers agree with Dave and are outraged at the thought of being charged for non-consumptive use of public lands, while others feel that small fees could be beneficial if applied properly and the money used to better the caves. I personally don't feel like I know enough to form an opinion and welcome anyone to add their two cents' worth.)*

## Checklists for caving

by Reno Lippold

Have you ever arrived at the cave entrance only to find that something "kind of important" was missing from your gear (like your main cave light!). Well that's okay. Your trusty flashlight will work in a pinch. And nothing boosts your ego like when you peer down that long rock-floor crawway, knowing you recently unloaded some big bucks for a quality set of knee pads -- and they're back at home in your cave gear locker! Other oversights may not affect the actual cave trip but can still add stress to your life

## Caving Checklist Outline

1. Trip items.
  - a. Standard Items.
    - (1) Clothing. (for mostly DRY caving)
      - complete change of surface clothing \_\_\_\_\_
      - coveralls \_\_\_\_\_
      - gloves \_\_\_\_\_
    - (2) Main Lighting Rig (Carbide).
      - carbide lamp \_\_\_\_\_
      - spare bottom (fill with carbide) \_\_\_\_\_
      - spare carbide, portable \_\_\_\_\_
      - spare carbide, bulk \_\_\_\_\_
      - spent carbide container \_\_\_\_\_
      - spare parts & maintenance kit \_\_\_\_\_
      - (O-rings, sealant, tips, felts, gasket, wing nut lighter unit, flint, tip reamer, & tip cleaner)
  - b. Specialized Items.
    - (1) Vertical Work and Climbing.
      - leather gloves \_\_\_\_\_
      - hand line \_\_\_\_\_
    - (2) Survey Work.
    - (3) Wet Conditions.
    - (4) Digging.
  - c. Support/Miscellaneous Items.
    - battery charger \_\_\_\_\_
    - cell charger \_\_\_\_\_
2. Pre-Trip Actions.
  - work access to the cave \_\_\_\_\_
  - leave word on itinerary & contact information \_\_\_\_\_
3. General Trip Items.

-- like going caving without a complete change of clothes and no drop cloths. The misery you'll go through in that muddy crawway doesn't even register on the same scale with the hell you'll get when your spouse sees that muddy car interior!

But seriously, besides the annoyance, omissions in trip preparation could easily impact safety. I assume it is not uncommon for cavers to decide to continue with a cave trip without an important piece of gear rather than abort. While some mistakes are often the result of haste and personal neglect or apathy, they will still occur even with the thorough, methodical caver. Caving can be a complicated undertaking, and the human brain does not seem to excel at list management. The complexity of a cave trip grows with specialized activities and when taking others caving --

especially if you are outfitting them. Through the use of checklists you can ensure avoidable mistakes in preparation are virtually eradicated.

I first wrote up a set of checklists back in 1988 when my caving trips began to become logistical nightmares. I have used these checklists on many trips since and have made improvements continually along the way. This is the result of this 6 years of evolution. The checklist presented here is actually just an outline. It should give you a few ideas for creating your own.

Use of a checklist may enhance your caving enjoyment and safety by ensuring important equipment items are available and are ready to perform as intended -- and that important actions are completed prior to entering the cave. Creating and maintaining a checklist is about 1/4 the battle of becoming systematic

and methodical about your trip preparation. The rest is disciplining yourself to use the checklist!

## E-Mail Addresses in the NSS Members Manual

by Tom Rea

Just a reminder that we are beginning to work on the 1995 NSS Members Manual. If you are an NSS member and want your e-mail address listed, now is the time to send it. The NSS office does not keep track of e-mail addresses. Send your name, NSS number, and e-mail address to [trea@delphi.com](mailto:trea@delphi.com). If you were in there

last year or have already sent it, no need to do it again. I now have 426 listings, less than 4% of the membership.

## The Pompe: A New Product Review

By Jeff Dilcher

Recently I realized that my Petzl handled ascender was so worn that, where there should have been "teeth", it was as smooth as a baby's bottom! I decided to head to Mountain Ventures in Decatur, GA to remedy the situation.

I looked over the assortment of ascenders, including Jumars, CMI's, etc., when I came across what appeared to be a Petzl handled ascender with some unusual modifications. I looked at the enclosed documentation (which always appears to be in every language but English-- the French hate us, don't they?) and discovered that this unusual hybrid was called "The Pompe" (English: "The Pump").

"Ya, The Pompe!", shouted the store clerk in a not-so-good Hanz & Franz rendition.

I looked at the strange mass of cords, hooks and pulleys skeptically. The handled ascender seemed like the typical Petzl ascender. Below the handle, a cord is attached which hangs downward. Instead of attaching directly on to the foot (feet?) loop, as in an orthodox frog rig, the cord loops through a small pulley which is attached to the foot loop. The cord then goes back up to the ascender and is directed through another small pulley bolted to the outer portion of the ascender. The cord is finally affixed onto the "waist mounted" Petzl Croll ascender via a small hook.

"This is all well and good", I muttered to myself. "I wonder what it is supposed to do."

I strained to remember my high-school French in an effort to translate the documentation:

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The pump ascender makes climbing the rope easier. This is

appreciated when climbing with a heavy sac, and is equally effective for progression up inclines. The methods of negotiating re-belays and knot passing remain unchanged.

No play in the engagement, thus no loss of height with each movement: the Croll moves upwards with every effort.

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What this system basically does (for those of you who haven't already guessed it) is turn the upper ascender into a "z system" not unlike the mechanical advantage gained in a z-hauling system. According to the discussions of Z-rig hauling systems in *On Rope* (Padgett and Smith), a 200 pound load can be progressed using 94 pounds of force. This is in addition to a calculated 10% friction loss at the pulleys.

The purchase price for the rig was \$57 (A plain handled ascender was tagged at \$43). Since "The Pompe" assemblage could easily be unbolted from the handled ascender if it proved un-useful, I decided to pick one up. I scurried home and thrashed around in my big box o' neglected caving gear in an effort to resurrect my frog rig.

The nearest cliff to my home is about 40' high or so, so I decided to do some testing. At the bottom of the cliff I attached my Croll to the rope, and proceeded to engage The Pompe. The first thing I noticed was that my Croll did not "grab" the rope for the first 40' of the climb, as is normally its irritating habit. This was one of the main reasons I trashed my frog rig some time ago. Now I was off, "pumping" along!

Indeed, the effort required to make upward progress seemed to be noticeably easier. The small pulley attached to the ascender body did give me some problems, however. My habit, when frogging, is to grab the handled portion of the ascender with my right hand and clutch the outer edge with my left hand as I am in the process of standing. This habit will get a portion of your glove caught in the small pulley or result in a minor rope burn if you persist. With a little care this can be avoided, however.

Here are some of the advantages I see in The Pompe:

a) The Pompe makes hauling heavy loads even easier. The frog rig has always been touted as the best rig for carrying a lot of weight. The addition of the "mechanical advantage" makes the Pompe an even better weight-hauling system.

b) The Pompe greatly reduces the effects of the dreaded "Croll grab" on the beginnings of climbs.

Among the disadvantages:

a) The Pompe takes the beauty of the frog system, which is its simplicity, and adds a jumbled mass of cords and pulleys. This greatly reduces the aesthetic appearance of the rig.

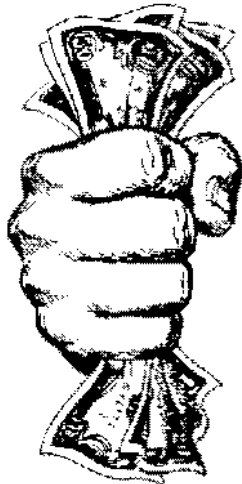
b) Although the documentation says there is "...no loss of height with each movement", one must at least take into account the friction loss from the two pulleys.

c) If you grab the upper ascender with both hands, as I normally do, then you are likely to suffer ill effects when coming in contact with the pulley. (As an interesting side note, the cartoon "how to" character in the documentation is doing just this! I wish they would draw a picture of him wincing in pain just afterwards!)

After reflecting on The Pompe, I would recommend it to those who currently enjoy frogging, and/or those who cave on expeditions where they are likely to be dragging a heavy load. To those who are comfortable with their present system, don't rush out and buy The Pompe if you tried frogging in the past and were unsatisfied.

*(Ed's note: If anyone has seen one of these or better yet has one, or even if someone is familiar with the Z-rig, this would make a great program sometime. Call Mike Nelson, 788-8327, and set up a demo for the whole grotto.)*





## DUES TIME!

Yes, it's a new year, and once again it's time to renew your grotto membership. Don't forget, last year we had to raise our membership dues to \$15 to cover ever-increasing copying costs of the newsletter. Also, if you're not a member, you can still subscribe to the *Maverick Bull* for \$15. (Subscriptions for members are included free.)

Mark Porter, our treasurer, will be collecting all dues and subscriptions.

Also this year, I would like to put out a grotto directory with addresses and phone numbers. I have most everyone's address (Or you wouldn't be getting this!); however, I am missing a lot of phone numbers. Please take a second to fill out the information below and return it to Mark with your dues.

Thank You.

Chad Fenner

### Grotto Member/Subscriber information

(This information will be published, so don't put down unlisted phone numbers if you don't want them given out!)

Name \_\_\_\_\_

Address \_\_\_\_\_ Home Phone (\_\_\_\_) \_\_\_\_\_

City \_\_\_\_\_ Work Phone (\_\_\_\_) \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_ Member/Subscriber \_\_\_\_\_

## Calendar Of Events

January 13-15, 1995, Colorado Bend State Park - Contact Butch Fralia (817) 346-2039  
February 10-12, 1995, Colorado Bend State Park - Contact Butch Fralia (817) 346-2039  
March 10-12, 1995, Colorado Bend State Park - Contact Butch Fralia (817) 346-2039  
April 7-9, 1995, Colorado Bend State Park - Contact Butch Fralia (817) 346-2039  
May 12-14, 1995, Colorado Bend State Park - Contact Butch Fralia (817) 346-2039  
June 9-11, 1995, Colorado Bend State Park - Contact Butch Fralia (817) 346-2039  
July 17-21, 1995, Colorado Bend State Park - Contact Butch Fralia (817) 346-2039  
August 3-9, 1995, Colorado Bend State Park - Contact Butch Fralia (817) 346-2039  
July 17-21, 1995, NSS Convention, Blacksburg, Virginia. Contact Carol Tideman, (410) 792-0742.  
August 3-9, 1996, NSS Convention, Salida, Colorado. Contact Skip Withrow, (303) 693-0997.

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