NATIONAL SPELEOLOGICAL SOCIETY
CAVE DIVING SECTION

Underwater Speleology

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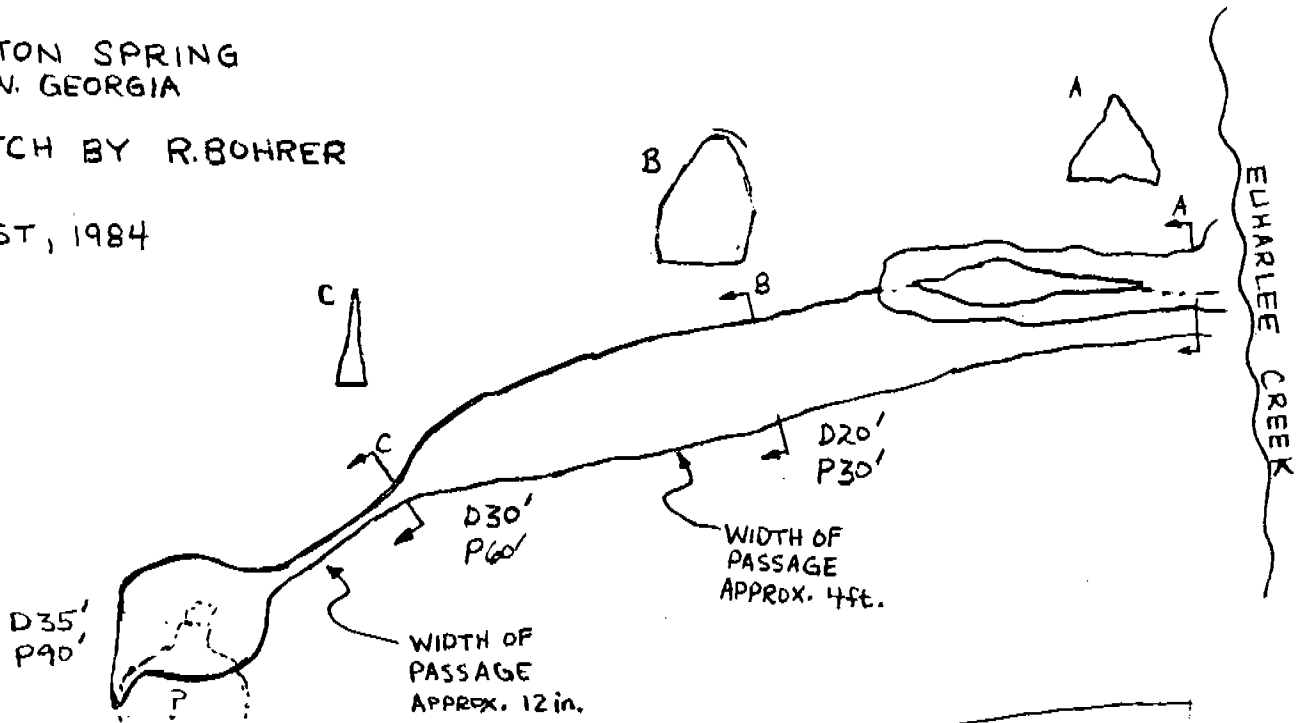
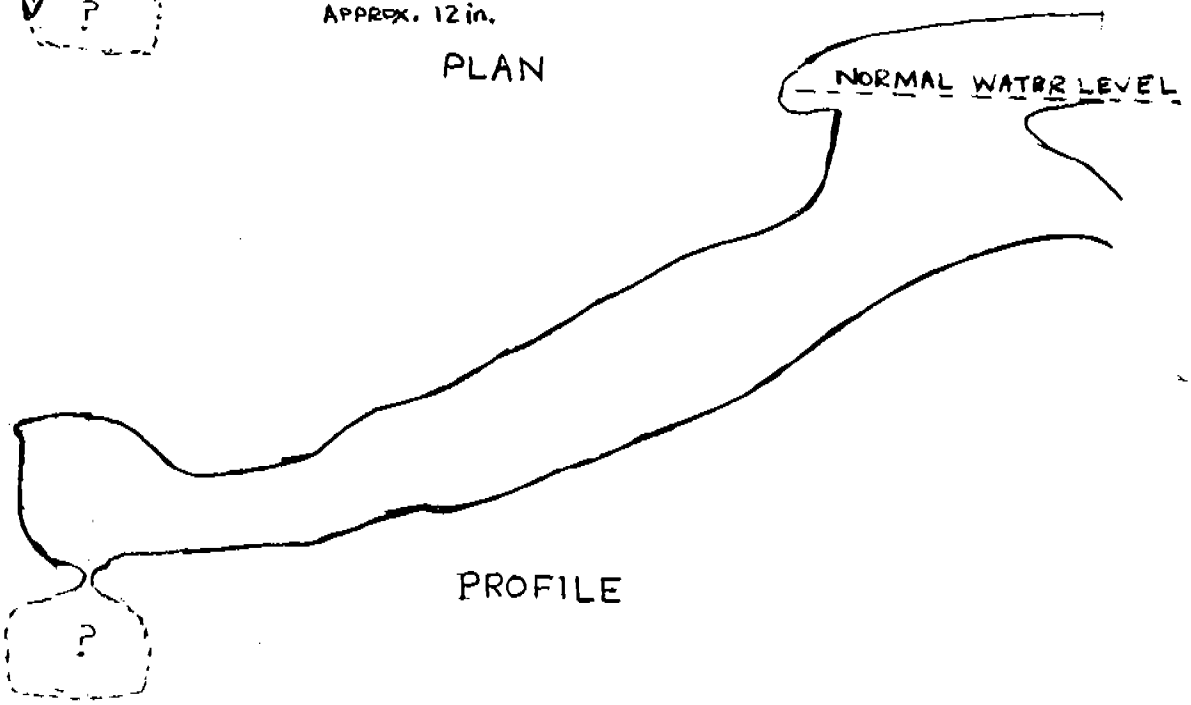
DEATON SPRING
N.W. GEORGIA

SKETCH BY R.BOHRER

AUGUST, 1984



PLAN



PROFILE

MESSAGE FROM THE CHAIRMAN

by Steve Ormeroid

This year, our training committee has been reviewing and detailing many of the standards used for the training of sport divers who wish to dive in the caverns of north Florida. As more of our instructors become active "dry" cavers, they have realized that many of these standards do not apply to the situational realities of exploratory sump diving.

The Sections of the N.S.S. have been formed for the study of specialized areas in caving. Those of us who are interested in pit work certainly rely on the Vertical Section for safety and procedural information regarding single rope techniques. Recently, the Cave Diving Section has had to be preoccupied with developing techniques and information for one tremendously popular area of wet caving, the Florida springs and sinks. The loss of two N.S.S. members in cave diving accidents outside of Florida has made us realize that our work in developing training programs is certainly not over. Quests for more virgin passages are pushing many cavers deeper and farther into the subterranean world.

At a recent meeting of the CDS training committee, an outline of a sump diving course was presented. I am pledging to the N.S.S. that this will be the first of many steps toward helping to develop a program for continued safe sump exploration. In no way will our current training program be affected by this direction of effort. The influx of sport divers into cave diving will certainly continue and the CDS will continue to train and educate these divers so they may enjoy the cavern and cave environments safely.

To the responsible caving community, we have a goal -- the safe exploration of our underwater world. To do this, we must train ourselves for the physical and physiological barriers that will block our way.

The dedication of our many CDS instructors toward the development of these types of training programs will help to guarantee that all of our caving will be safe.

TESTING THE ENGLISH 250 WATT PROTOTYPE CAVE LIGHT

by Milledge Murphy, Ph.D.

On September 19, 1984, Lemar English, of Enlish Manufacturing in Lake Park, Georgia, telephoned suggesting that we meet at Madison Blue Springs for a dive to test a new light that he had just completed. I readily agreed, and we set the dive for September 20, 1984 at 3:30 pm. I had seen the light with its awesome 250 watt

Goodman type head in Lemar's shop 2 weeks before, when Mary Ellen Eckhoff and I had visited Lake Park. We were both amazed when the massive appearing battery pack powered the filament to a phosphorus-like whiteness which felt hot on the skin from a distance of 10 feet. The blinding blue-white beam illuminated the entire shop and we could only speculate on how it would perform underwater.

On Thursday, I packed two sets of double hundreds into my van and left Gainesville for Madison Blue at noon. I stopped by Mary Ellen's home in Live Oak to borrow a back-up 37 watt light.

Lemar and I met on the road leading to the spring, both more than one-half hour early and eager to dive! Lemar suited up and began rigging the battery pack (much like a stage bottle) on his chest. The pack weighs approximately 30 pounds and consists of 2 plexiglass tubes 3 1/4 inches in diameter and 22 inchess long. The two tubes are mounted side by side, which results in a width of 6 1/2 inches and a thickness of 3 1/4 inches. This dual cannister contains six individual two volt, 25 amp-hour dry cells. The pack can be fully recharged in 10-12 hours at a 2 1/2 amp charge rate.

When we were geared up, we decided to swim to the Half Hitch point in the cave, and do a no-decompression dive, while seeing all the Madison sights in a new light, so to speak. We buddy checked the gear, recorded predive data and turn around time, ran the "S" drill, and descended, entering at the small entrance at 4:05 pm. I was reeling (so that Lemar could operate the 250) and was almost blown out of the water when he switched it on. Mary Ellen's 37 watt quartz bulb in my hand was extinguished in an absolute atomic explosion of white light. I have never seen any cave illuminated as was the first room of Madison by that light! I quickly pulled to the permanent line and tied off, then we headed in. What a sight with 250 watts of light showing the way! I found myself not using my primary at all. The normally transparent turquoise water was bleached to a pastel watery bird's egg blue by the brilliance of this new lighting system. No crack or side passage was unilluminated, and fish ran from the light as it approached them. In no time, (actually 28 minutes) we were at the Half Hitch turnaround point and Lemar signaled, shifted the battery pack and we began a gliding exit toward the entrance. We hung suspended in the transparent water water with the spring flow gently moving us toward the exit point.

I extinguished my light and watched as Lemar let the 250 watts push through the pale blue water. He was outlined clearly in its beam, suspended, semmingly flying among the familiar landmarks of the cave. We exited within the planned no-decompression limits and with a perfect test of the prototype light.

The advantage of the light may be summed up as the brightness (without any equal in my experience). Its potential disadvantage is its negatively weighted battery pack. The battery pack will provide a 3 hour burn time with a 100 watt bulb, and 5 hours when using a 55 watt bulb. This battery pack, when used in conjunction with a pair of Cressi-Sub 106 cubic feet, 3000 psi tanks may produce an

effective air/bouyancy balance for the negative battery pack. This combination will be reported on in a future article.

As we were loading our gear for the trip home, Lemar commented in reply to my question about bulb life with the 250 watt head, "If it blows, you could replace it with a piece of barbed wire." I looked closely at the bulb and the filament did resemble a fence barb. He then told me that the bulb was an aircraft landing light and consequently had much tighter quality control standards applied during its production than those manufactured for standard 30, 37, and 55 watt sealed beam light bulbs.

As Lemar got into his truck I asked him how much money he was asking for the light. He thought for a moment and casually said, "How about $400?" I planned how I will save the $400 for the next 2 1/2 hours as I made the return drive home to Gainesville.

ACRES OF MUD, MILES OF PASSAGE

by Susan Drake, M.D.

I have returned recently from a "vacation" trip worth mentioning to anyone interested in learning more about caves than simply where the next passage goes.

Each year Western Kentucky University runs a series of one-week field courses at Mammoth Cave in Kentucky. The course names are Karst Geology, Speleology, Archeology, Ecology, Hydrology, and Mammoth History. They are given in June and can be taken as a workshop or for graduate or undergraduate credit. The $150 for a workshop is very reasonable and a free campground is provided so all you have to do is feed yourself.

Students come from all over the U.S. and Canada and are a delightful mix of long-term spelunkers, college students, scientists and novices. I had worn a helmet and light only once previously, and was able to keep up in the **intensive** caving (working at times at 101% of ability) because no one is macho about it and everyone helps the less experienced group members approach the more difficult passages.

I chose the Karst Geology course with Dr. Art Palmer, an internationally known geologist, who cut his caving teeth in Mammoth Cave rock and mud. I wanted to learn more about cave origins and be able to transfer some of this perspective back to our gorgeous Florida underwater landscape.

Our week consisted of excellent morning lectures with exciting slide presentations of caves around the world. Afternoon to evening was spent caving the Mammoth-Flint Ridge system looking for examples of things we had been discussing. There is an incredible magic to

this cave system, now the longest in the world at just under 300 miles of surveyed passage and growing monthly (can we hit 500?) You can walk, climb, and crawl as hard as you can go for a solid week and still have seen only a tiny fraction of what's there. We spent 30+ hours underground looking at huge canyons, perfectly shaped tube passages, sparkling, delicate gypsum formations and acres of mud (some of the latter only inches away from our eyeballs as we crawled through endless crawlways) in areas of the cave no tourist will ever see (or want to!). Our longest trip lasted 9 hours and took us, covered with 54° F. mud, 2/3 of the way to the Flint/Mammoth "Final Connection" that made this the longest cave.

Our most interesting event was being turned loose in Floyd Collins' Crystal Cave to do a field project. We had 2 1/2 hours to study the cave and outline its characteristics and describe the geologic processes which created it. We showed we had really learned some geology and applied it here. It was marvelous to see 22 people wandering around in the dark, staring at rock walls, muttering "uh hum", and making illegible scrawls on little note pads to turn into their great and original theories of "how it all happened".

The fellowship that developed in the class as the week passed was tremendous. I remember moving single file down an endless crawlway miles back in Crystal Cave and 5-6 hours into a 9 hour trip. Folks crawled on hands and knees in 54° mud and water humming "The Song of the Volga Boatmen" and "The Bridge over the River Kwai". Another day, the people with vertical gear set up a rope in the campground and let everyone have a try at running up a rope with ascenders. I felt like like a hamster in a wheel but, gosh, it was fun!

The two most interesting differences I found between these "dry cavers" and cave divers is that 1) they not only don't avoid sediment, they actually roll in it! 2) when dry cavers want to go up a canyon they have to do it the hard way - no power inflators! They sure can cover some mileage, though, with no air restrictions.

For anyone interested in participating in one of the 1985 field courses, notices are published regularly in N.S.S. News. Anyone that is interested should plan to sign up several months in advance if possible so that planners can have as much advance information as possible. If unable to find the information through this method, write to me and I will forward the address to you. My address is as follows; Susan Drake, 970 Richardson Rd., Tallahassee, Fl. 32301.

CAVE DIVER TO RUN FOR NAUI BOARD

by Wayne Marshall

Jeffrey Bozanic, a CDS member and Cave Diving Instructor has been nominated to run for the Board of Directors of the National

Association of Underwater Instructors (NAUI). This is certainly one of the largest of the national scuba certification agencies, and NAUI management has demonstrated by far the most enlightened and progressive attitude toward cave diving of any of the open water agencies.

On one occasion, the then-current president of NAUI, John Englander, attended one of our winter workshops and participated in several private discussions about the problems confronting cave diving and sport diving. On another occasion, the National Training Director (Walt Hendricks) and South Atlantic Branch manager (Charlie Vallance) met with the CDS Board of Directors as well as the NACD Board to discuss methods of dealing with problems common to the two areas of diver education and safety training. In addition, NAUI is now entered into its second joint venture with NACD to provide an Open Water Instructor training program in cavern diving (October 29-30, 1984 at Manatee Springs State Park). NO OTHER AGENCY HAS EVER MADE THIS MUCH EFFORT TO INVOLVE ITSELF IN THE EDUCATION AND AWARENESS OF CAVE DIVING AGENCIES.

Through his personal efforts and NAUI contacts, Jeff brought many fine speakers to the podium of our most recent summer workshop. The majority of these speakers who gave so freely of their time and knowledge were also NAUI instructors. The combination of Jeff's leadership and the high quality of NAUI affiliated speakers produced what many feel was the best workshop in many years. Jeff has directed his efforts toward another outstanding workshop for the winter season on December 29, 1984 in Branford, Fl.

We heartily endorse Jeff in his election bid, and ask that all Cave Diving Section members try and make sure that any NAUI instructors you may know personally are encouraged to vote for someone of high commitment and integrity that has already proven his leadership ability.

NAUI will be mailing the ballots out in late October, so time is of the essence.

BOD MEETING at 7th ANNUAL T. A. G. FALL CAVE-IN

The CDS Board was scheduled to meet at the T. A. G. Fall Cave-In near Valley Head, Al. at Sequoyah Caverns. The BOD members in attendance were Steve Ormeroid, Wayne Marshall, and Forrest Wilson. Unfortunately, this did not constitute a quorum, so no official business could be conducted. Primary topic of discussion was the review of the Training Committee's new training manual. A great deal of work has been put into this manual by the training committee and particularly Joe Prosser. They are almost finished with an excellent product and plan to have it ready for release at the Winter workshop. It represents a giant stride forward in cave

diving education and will help to assure the continued quality of our training program.

Among the members attending this years event were Jack Brightwell, Sylvia Catinella, Lamar Hires, Woody Jasper, Mark Leonard, Wayne Marshall, Judy Ormeroid, Steve Ormeroid, Joe Prosser, Paul Smith, and Forrest Wilson.

The total attendance was estimated at over 300 cavers. This event is growing every year as the T.A.G. (Tennessee, Alabama, Georgia) area has some incredible caving to be found within one hours drive of this central location. DEEP PITS for the vertical folks, long stream and canyon passages for the horizontal folks, highly decorated caves for everybody, cold water springs for the divers, and slimey, gooey mud for all the normal cavers are all to found in abundance. Of course, the fellowship that results from getting over 300 caving heathens together is a sight to behold!

Another area of discussion was the proposed upcoming meeting between the Board of Directors of CDS and NACD. This meeting was the brainchild of Wayne Marshall, who made the initial contact to the NACD board. The idea is to get the two groups together for a long-needed closed door pow-wow. The date (November 3-4) of the meeting has had to be delayed until after the first of the year due to unavoidable schedule problems of some of the participants. The objective of the meeting is to produce a joint statement of what the two agencies will be doing from now on in the areas of critical concern to cave diving in general and either agency in particular. In an effort to keep the number of people attending this meeting as small as possible to avoid a riot scene, the two agencies have agreed that only board members from the two agencies are being invited to attend. Anyone wishing to have an item included on the agenda must contact their BOD in advance so that said item can be considered for the agenda. The moderator agreed on by both agencies will be Wayne Marshall.

Without dredging up all the skeletons, it would be safe to say that these two agencies have not always seen eye to eye regarding matters of policy or methodology. As is always the case, agencies are made up of people, and people will have personality conflicts from time to time. Over the years, certain folks felt that they could not let sleeping dogs lie, and have continued to agitate the conflict. In fact, there have been some barbs tossed around by individuals from both sides over the years. Finally, the elected leaders of these two agencies have said "ENOUGH!", "UNCLE", "CALF ROPE", "CEASE and DESIST".

What has become evident to many folks is that we cannot continue to dwell on the past. We must realize that there truly is only one "Cave Diving Community", and that community's needs are not best served by the negativity and finger-pointing that has prevailed for so many years. It is our fervent hope that this meeting will be the beginning of a new era of intra-agency cooperation and understanding.

CAVE DIVING IN GEORGIA

by C. Randy Bohrer

At the northwest tip of Georgia, covering 10 counties and an area of 1000 square miles, there are at least 276 natural springs. This equates to at least one spring for each 3 1/2 square miles. This information may be somewhat surprising, but the hydrological system of Georgia is very similar to that of Florida. Georgia springs can be thought of as "scale models" of Florida springs. Flow rates vary from zero (sinks) to 15 million gallons per day (second magnitude springs). The springs seldom have passible caves and when they do the caves are rarely longer than 100-150 feet and are rarely large enough to allow the use of double tanks. Realizing, however, that many of these springs are divable, it is not uncommon to see a couple of city boys sporting NSSCDS shirts talking to farmers in the fields about "`at tar sprang ohn his prpurtee".

One of the first to search out north Georgia cave diving locations was George Krasle, who is said to have discovered the famous traverse from Peacock Springs to Pot Hole Sink. His discoveries, among others, include Deaton Spring, a small spring emerging from a limestone fault along the west bank of Euharlee Creek.

Our first assault on Deaton Spring took place in April of this year (1984), as part of my advanced cave diving course. The creek was up and the spring vent was difficult to find, but eventually, we located and entered the small, triangular shaped opening. I was concerned about the low visibility and the close quarters, but I soon encountered the narrow slit in the floor which marks the normal surface level and descended into clear, 60° F. water, with Forrest Wilson following, and David Lawrence waiting at the entrance.

At a depth of about 30 feet and a penetration of about 70 feet the cave closed to a narrow vertical slit, impossible to negotiate wearing tanks. Here, we called the dive and started out. We were forced to makle a near blind exit since the size of the cave made it impossible to avoid silting.

The next dive at Deaton required some gear modification to allow us to push the restriction which discouraged us on the previous dive. In addition, we wanted to alleviate the problem of the `Y' valves hanging up on the low ceiling and close walls. The following system made the tanks much easier to control and allowed much greater freedom of movement in the high but narrow passages. The tank is placed in front of the diver in a manner similar to that used with stage tanks. A piece of 1" webbing is placed through a rectangular "D" ring fastened near the top of the cylinder. The ends of this webbing, affixed with gear clips, are attached to "D" rings located at the diver's shoulders. A single gear clip fastened to the bottom of the cylinder attached to a sliding D ring on the diver's waist strap. This system allows the tank to be moved to either side smoothly so that narrow, high passageways can be negotiated easily by shifting the tank and rolling sideways.

With our gear arranged in this manner, Mike Sanders and I crawled through the triangular shaped spring entrance. We hoped to connect the spring to the nearby "Big Dan's Cave". The creek was at its normal level and I noticed that the water was much clearer this time as I dropped below the surface at the opening in the floor. Upon encountering the restriction which had discouraged me and Forrest Wilson earlier, we tied a guide line to the end of the permanent line and proceeded through the tight passage. About 20 feet later the passage opened into a small room with still another restriction in its floor with still another room on the other side. Unfortunately, this last restriction was not passable and we had to be content with our present discovery. As we retraced our path the the homeward side of the narrow restriction I noticed a movement to my right. I caught a glimpse of a large, snow drift-like pile of gravel and silt falling toward me just before I was engulfed in a dense, dull-brown fog. Although the amount of material was not enough to make the passage more difficult to negotiate, it reminded me of the dangers of shifting sediments in tight caves. After ascending into the sunlight and crawling out of the cave we spoke of how to make that last impassable restriction passable and of more exploration to come.

Another adventurer in search of divable caves was Mark Calhoun. After being confided in by a young country fellow, he was led to a large, water-filled sinkhole near the state line. "Lyerly" or "Craig's Mill" Blue Hole is entirely out of character for the area's underwater caves in terms of its size and topography. The sink resembles Orange Grove (Suwanee County, Florida) until you encounter the large, 50 foot wide, 20 foot high cave entrance. This opening takes the diver into one of the largest underwater rooms I have ever seen. The room is approximately 500 feet long, 200 feet wide, and 60 feet from floor to ceiling. The diver is almost overcome by an eerie feeling as he swims to a depth of 120 feet in the 40 foot visibility water. His dive light shows clearly the guide line and left wall but barely reaches the ceiling above and shows nothing but darkness and space to the right and below. The walls and ceiling are composed of an exceptionally soft limestone and clay aggregate. Rock outcroppings break off easily and the slightest brush against the wall or ceiling liberates the embedded silt, reducing visibility to near zero. Even the diver's exhaust bubbles produce a rain of fine limestone particles and silt when they contact the ceiling.

Exploration and surveying are still underway at Lyerly, led primarily by Forrest Wilson and David Lawrence. Unfortunately, dives are somewhat limited by decompression and water temperature constraints. Despite its drawbacks, The cave's size and proximity to Atlanta make it a very attractive dive site. However, due to the extreme silt conditions and depth (120-165 feet), Lyerly must be considered an extremely advanced cave dive.

Another spring with potential is "Water's Spring" also known as "Armuchee Creek Spring". It gained its notoriety in 1980 as the sight of the tragic death of still another cave diver. Apparently, the diver pushed a restriction using a pony bottle, leaving his main tank behind. When he turned to retrieve his tank from his dive

partner he became disoriented and was unable to locate the return route.

The recovery diver, Mike Sanders, reports that although this major restriction is only 50 to 60 feet from the entrance, the cave appears to open up and continue. However, a land owner problem and rough terrain between the spring and vehicle paths restrict access and have prohibited further exploration.

If you want to explore a new cave and be the first EVER, instead of the first this week, come to Georgia. There are several other unexplored springs in the area. All it takes are some motivated cave divers to get in them!

SUGGESTED MOUNTING FOR BATTERY PACKS

by Joe Dabbs

To mount my cave diving light battery pack I did the following: I took two hose clamps around the lucite case and secured a 6 inch piece of weight belt material to make a loop. The ends were folded over and "hemmed". I then took a nylon band used for a standard "soft band" backpack. The band is placed around the desired cylinder of the doubles (or a single) through the loop on the battery case. The band is then cammed over to tighten it just as in a backpack. You may have to add some velcro to the band to allow for slightly smaller actual diameter due to the lack of a back pack. This is not only very easy to put on and remove, but also very secure.

By extending these bands with some weight belt webbing you can make an effective harness for doubles "french" style. Year before last, while the French divers were visiting some of our local caves I was impressed with the practicality of their double tank techniques for sump diving. They use separate tank valves, regulators, and pressure gauges which they can continually alternate down to a third (on both tanks). Even though the CDS does not endorse the use of this technique for cave diving it sure beats the heck out of transporting double tanks through a cave to dive a sump. The tanks are transported separately and assembled on site. (ED. NOTE - The endorsement of the "ideal manifold" configuration referred to here applies only to the typical Florida dive site - not to sump dives - GWM)

The difficulty in the past has been the limited availability of these straps. Two of the extended back pack bands form a very stable, secure rig and the entire harness can be crammed into the corner of a duffle bag. I don't know if this is of interest to others, but it works well for me and I thought I'd offer to share it.

DRY SUIT FOR SALE

Valerie Grey has an O'Neil Supersuit for sale. Size is Men's Large. She said it needs some repairs on cuffs and neck seal. Cost is $125.00. Valerie can be contacted at (813) 488-4672 or P.O. Box 575, Venice, Fl. 34284-0575.

OUTSTANDING WINTER WORKSHOP!!!

He's doing it again, folks. On Saturday, December 29th, 1984, Jeff Bozanic has assembled quite an impressive array of speakers and topics for this year's winter workshop. The location will once again be at the High School in Branford, Fl.

The theme is "Getting Wet in "Dry" Caves". Jeff and his group of able volunteers have obtained speakers on a diverse group of topics. Those of you who attended the summer workshop know that he can certainly deliver the goods! This years talks range from using the Orca "Edge" dive computer to an advanced discussion of current theories and information on asceptic bone necrosis. Talks will be presented by essentially 'dry' caver on his perspective on "Those Crazy Cave Divers". There are three different slide shows scheduled by Wes Skiles, Steve Straatsma and Wayne Marshall. In addition, there will be a practical hands-on demo of vertical gear and techniques presented by Steve Hudson of Pigeom Mountain Industries (PMI).

Totally new and innovative for this year will be a catered Bar-B-Que luncheon. This will enable participants to stay on-site and participate in the hands-on session which starts just before lunch, and will continue through lunch. I for one appreciate the oppurtunity to eat Bar-B-Que any time, so I am looking forward to one of the highlights of the weekend!

We will also have the usual Sunday events at nearby Ginnie Springs. In addition, John Zumrick has organized an International Sump Rescue Workshop to be held on Sunday and Monday.

It is especially important that you pre-register this year as food must be ordered in advance. Registration will include the cost of lunch, and it is such a deal!!!

Pre-registration costs will be $15.00 for current Section members and $20.00 for non-members. Registration at the door will be $20.00 and $25.00. In case you didn't notice, it is the same cost to join the Section and register as it is to register as a non-member! Almost like we planned it that way, huh!

Send advance registrations (Form on back of newsletter) no later than December 15th, 1984 in care of Jeff Bozanic, P.O. Box 490462, Key Biscayne, Fl. 33149-0462.

CAVE DIVERS FURTHER THE SIZE OF ROPPELL CAVE

Over the weekend of October 5-7, Ron Simmons and Wes Skiles laid 750 ft. of line in what has been considered the terminal sump of Roppell Cave, Kentucky. Beyond the sump, they found some one third mile of new passage and then another sump. Wes has promised an article on the 21 hour effort for next month's newsletter. We can't wait! We want it now!

Please pre-register me and my party for the Cave Diving Section 1984 Winter Workshop.

_____ participants at $15.00 each (Current Members)
_____ participants at $20.00 each (Non-members)

Name(s) _____
_____

% Address _____
City _____ St _____ Zip _____
Phone _____

Send registrations before 12/15/84 to Jeff Bozanic, P.O. Box 490462, Key Biscayne, Fl. 33149-0462.

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Remember that we will be publishing the Section's annual membership roster in the February issue. Please be certain that your address and membership status are up to date. Remind those who have allowed their membership to lapse to renew. We now have all memberships expiring on either May 15th or December 15th of each year. This means that if someone renews their membership early, we can just extend it for one year.

It is also imperative that anyone who is on the N.C.I.C. rescue/recovery team notify within 24 hours of a change of address.

RETURN MAIL ADDRESS;

NSS CAVE DIVING SECTION
% SANDY FEHRING, TREASURER
3508 HOLLOW OAK PLACE
BRANDON, FL. 33511