UNDERWATER SPELEOLOGY

Volume 11, No. 2-3

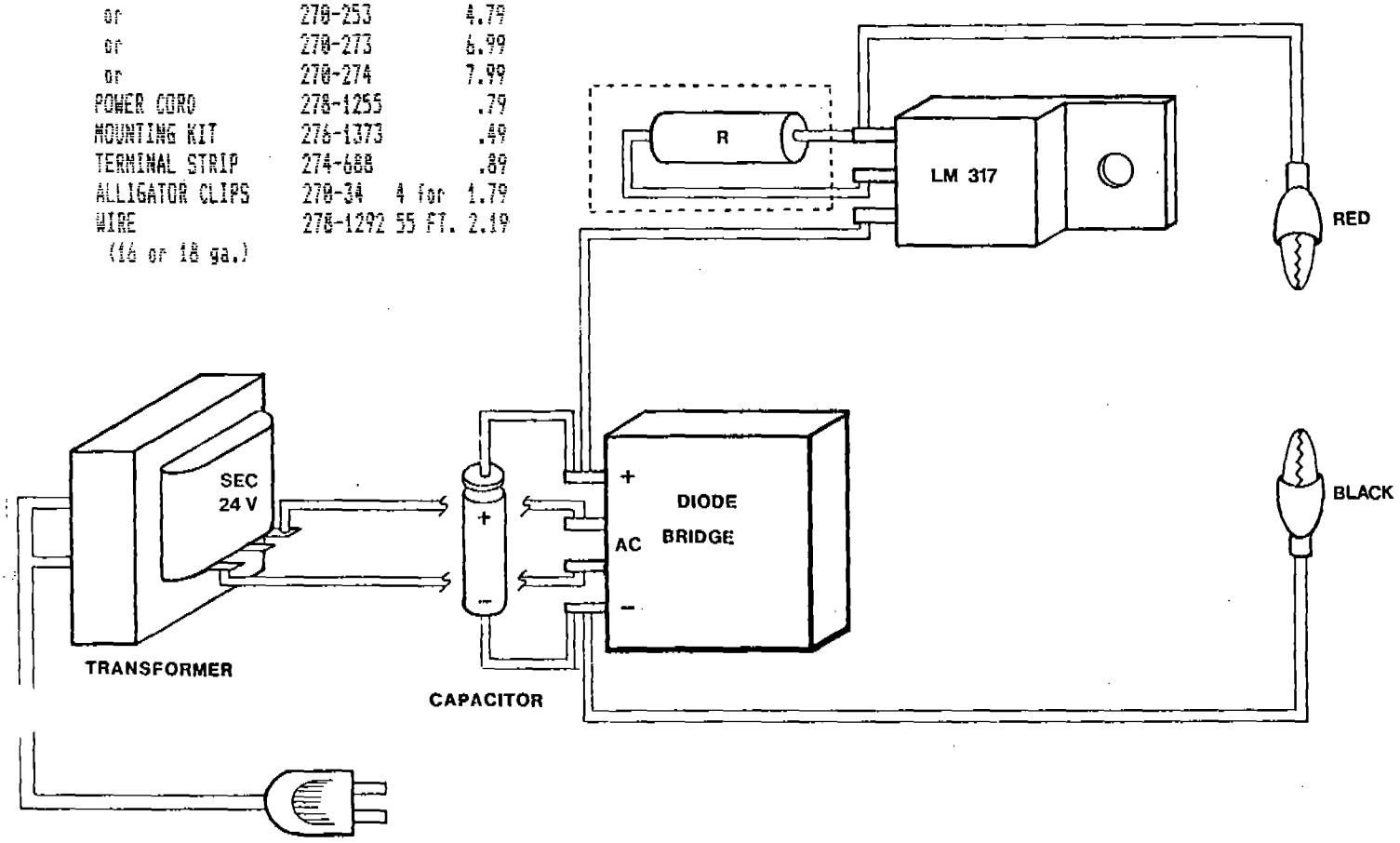
PARTS LIST FOR NI-CAD CHARGER

DESCRIPTION	PART NO.	COST
TRANSFORMER	273-1512	$6.29
DIODE BRIDGE or	276-1146	1.39
CAPACITOR	276-1171	1.59
(47mf at 35v)	272-1015	.69
(100mf at 35v)	272-1016	.79
REGULATOR (LM-317)	276-1778	2.79
RESISTOR (1 ohm-2 watt)	271-131 2 for	.89
BOX	270-252	3.79
or	270-253	4.79
or	270-273	6.99
or	270-274	7.99
POWER CORD	278-1255	.79
MOUNTING KIT	276-1373	.49
TERMINAL STRIP	274-688	.89
ALLIGATOR CLIPS	270-34 4 for	1.79
WIRE (16 or 18 ga.)	278-1292 55 FT.	2.19

TOTAL LESS THAN $25.00

DUE TO SPACE LIMITATIONS, THIS PLAN HAD TO BE OMITTED FROM LAST ISSUE, (11-1) THAT CONTAINED FORREST WILSON'S ARTICLE ON THE CONSTRUCTION OF THIS CHARGER.

WE APOLOGIZE TO FORREST AND THOSE WHO WERE INTERESTED IN BUILDING THIS EXCELLENT ACCESSORY.



programs and workshops for the benefit of all those interested in caving, wet or dry.

I hope to see many of you at the spring workshop. If you have any input for the Section and its objectives, I'll be happy to listen.

Good Caving, Steve

****

DISTRIBUTION OF U/W CAVE SYSTEM MAPS

TO WHOM IT MAY CONCERN:

After much delay and considerable controversy, maps of several Florida underwater cave systems are now available.

However, in the "wrong" handsthat is, in the hands of divers who are inexperienced or untrained specifically for in the special techniques and hazards of cave diving, but who are nevertheless bound and determined to do it anyway - such maps are potentially very dangerous.

In accordance with our commitment to cave diving safety, sale of the maps will be restricted to only those who can give proof that they have attained a cave-diving certification from an accredited agency such as NSSCDS, NACD, YMCA, or NAUI. Cavern diver or Basic Cave Diver certification is not sufficient. For those ordering maps by mail, a copy of both sides of an appropriate certification card, along with the name of the instructor and date of certification will be sufficient documentation.

These measures are being taken to insure that the intended audience for these maps is the only audience being reached. Maps will no longer be offered for sale at diving establishments such as Branford Dive Center or Ginnie Springs Dive Shop.

Valerie Grey, Publications Chairman

****

WITH DEEPEST REGRETS AND HEARTFELT SYMPATHY

On May 6, 1984 a dearly loved friend of the cave diving community passed away in Branford, Fl. Edward Young, caretaker of the 400 acres of land that the Azure Cave system is located on, was loved by all that met him. Mr. Young would gladly spend hours with different cave divers telling folklore secrets of the surrounding land and timeless stories of his family's life and times. He was always ready to share whatever he had with visiting divers including great meals and his favorite chair on the front porch. Mr. Young will be greatly missed for years to come. Anyone that has dove Azure or even if they haven't and want to express their sympathies to the family are encouraged to send cards ASAP. Address an envelope to the Edward Young family and enclose same to Wes Skiles. Wes will hand deliver these cards to the Young family as they are received. Wes's address is below:

Wes Skiles, P.O. Box 73, Branford, Fl. 32008

THE TRAINING CORNER

Wes Skiles, CDS Training Chairman

Welcome readers to the 2nd in a continuing series on cave diving safety and etiquette. In our last article we discussed what could well be the single most important concept relating to safe cave diving. That is of course the observations taken from accident analysis. Accident analysis has produced a concise set of 4 rules which, if followed, would have prevented almost all cave diving fatalities. Those rules are:

1) Always run a continuous line out to open water.

2) Never use more than 1/3 of your air on penetration into the dive.

3) Avoid diving deeper than 130 ft.

4) Always use at least 3 lights apiece.

It is important to note that these certainly aren't all the rules, just the ones that can be tied directly to the drownings of the past. We also discussed the training of those who have drowned in cave diving and made the overwhelming conclusion that the vast majority of divers that drowned have been totally ignorant of important cave diving procedures.

It is because of this conclusion that I feel compelled to write this particular article. It is important to understand at this point some key factors that seem to have been involved in past fatalities. These factors were compiled and analyzed at the winter CDS workshop of 1981. In that particular year, 15 divers lost their lives while cave diving.

WHAT WAS STARTLING TO DISCOVER WAS THAT IN ALMOST ALL CASES, THE VICTIMS WERE WITHIN THEIR FIRST 5 DIVES AFTER THEIR ORIGINAL OPEN WATER TRAINING! The panel of 7 speakers and the audience were in total agreement that there must be something wrong with how open wtaer scuba instructors approach warning their students of cave diving and its potential hazards. Many tactics have been used on the basic students. Most are plainly ineffective and some are downright dangerous. The manner of delivery often compells the ego-driven diver to disregard certain statements made about danger and related areas, often feeling that these warnings just don't apply to him. This has been called the red flag warning syndrome. These warnings usually come across in a manner of "I can do this but you can't" or "Don't go cave diving or you're gonna die!" As stated earlier these approaches to the problem are not productive at all. Unfortunately, this is the route many instructors choose to take. They really do a greater disservice to open water divers and body recovery teams than they realize.

Considering these factors, just what can be done to DISSEMINATE BETTER INFORMATION to students on the subject of cave diving? Probably one of the most exciting areas would be working with the national organizations on a unique level of educational resource sharing. The NACD along with Steve Ormeroid and Wayne Marshall just had one such session in which NACD and NAUI jointly sponsored a cavern diving workshop for open water diving instructors. This was an excellent start, but falls short of the educational goals we should aim for with regard to the national open water certification agencies.

Below I have listed several suggestions so that we might work together as the cave diving community to head off future fatalities by preventative education which can be distributed to instructors through their national agencies.

1) Use the strength of both NSS/CDS and NACD to organize an educational seminar that would be open to all national certifying agencies.

2) Have the Training Chairmen of both NSS/CDS and NACD meet individually with the current Training Director of the national agencies to establish a need for awareness of the special problems associated with that agencies instructors utilizing "springs" for training open water divers.

3) Create a sign to be posted at popular springs which warns students that NO National Certification Agency allows its instructors to utilize the overhead environment for any form of open water training.

4) Encourage and support the no-lights rule for all divers who have not received some form of training in cavern or cave diving. The no-lights rule is now in use at Manatee Springs State Park and Devil's Eye Spring within the Ginnie Springs complex.

5) Invite the public to workshops and seminars in which a special cavern introduction dive could be given to educate divers to the real need for proper education.

These 5 suggestions fall far short of everything that could be done, but by directing our energies to the real heart of "could be an accident" types of divers, I feel the cave diving community could make some excellent progress in making the open water diving world aware of cave diving and its uniqueness from a training perspective.

In closing I would like to address a subject that comes from one of our trained cavern divers who also happens to be an open water instructor. His situation is that he would like to teach cavern diving but has no interest in becoming a Basic Cave Diver or Cave Diver, nor is he interested in teaching either of these levels. His dilemma is that the CDS requires all Cavern Diving Instructors to be rated at least at the Basic Cave Diver level as a prerequisite for certification as a Cavern Diving Instructor.

His feelings are that as a trained cavern diver he would be able to teach a proper and safe cavern course. Quite a few people have questioned our motive when comparing our standards with those of other open water organizations. It is typical that if you are an instructor with an organization that you can easily qualify to teach advanced level courses such as wreck diving, ice diving, or even cave diving! It is also interesting to note that often you do not even have to have any prior training to qualify to teach specialty courses as long as the instructor provides a comprehensive outline with an application and the proper fee.

The Cave Diving Section has strong feelings on this subject of training, and feels that it is important that our members understand why we make the requirements that we do to have the instructor teach the sport of cavern and cave diving. It is the sections belief that often cavern diving classes will consist

of certain types of individuals that are likely to become involved in cave diving. It is for precisely this reason that cavern diving instructors must have the foresight and the knowledge of the sport of cave diving so that they may head off possible problems thru cave education even to the cavern diving students. They can also encourage the individual that seems determined to go further beyond the entrance than cavern diving restrictions allow to take a basic cave diver course as the next logical step.

We hope that persons interested in teaching cavern diving in the future can appreciate and support our need to provide the best in quality instruction from cavern diving to cave diving. Until next issueSAFE CAVE DIVING Wes.

(Ed. Note: All the questions about this one seem to be coming from open water instructors in the same frame of mind as the gentleman referred to Not from cavern or cave diving instructors. Further, working on the principle that YOU DON'T KNOW WHAT YOU DON'T KNOW, I would have to say that it is extremely likely that a cavern diving instructor could suddenly find that a clear beautiful cavern dive had been turned into a cave dive by carelessness or ignorance of proper silt technique on the part of divers in the cavern. Now the question comes up as to what the instructor would do if a cavern diving student strayed from the cavern into the cave part of a particular system. The instructor wouldn't even be qualified to go get them!

Our priority is not to make it easy to become a cavern diving instructor, but rather safe to become a cavern diver! GHM)

****

EAGLE'S NEST SINK HERNANDO COUNTY, FL

We have been asked to make all cave divers aware that Eagle's nest is under new ownership. The appropriate description would be that it is "SHOTGUN CLOSED". Recently several section members met with one of the new owners and although aware of NSS/CDS, Mr. Peterson was most adamant in the expression of his wish that the property not be trespassed upon. Plans for development include cutting a road to the sink, the installation of a trailer at the site for a full time caretaker, and construction of greenhouses on the property.

While we are certainly not recommending this dive site, we did hope that by conveying this information divers could be spared a confrontation and/or possible legal action.

****

OCEANFEST 1984 MIAMI, FLA.

OCEANFEST, an exhibition for scuba divers, was held earlier this spring in Miami. Over 8000 divers met with 300 exhibitors during the two day program. Co-hosted by singer Jimmy Buffet and Jean-Michael Cousteau, OCEANFEST topped south Florida's week of the oceans celebration. Tour guide operators, local dive shops, and national manufacturers combined to offer prizes and special

programs throughout the week's activities. Wes Skiles, Training Director, was one of Sunday's featured speakers. His presentation, "Springs of Florida", was very well received by the largely open water diving audience.

Thanks to program director Steve Lucas, the cave diving section was allowed to utilize two unrented booths. This last minute invitation proved to be a "task load" handled quite well by members Jeff Bozanic, Valerie Grey, Lamar Hires, Phil and Linda Sirota, and Joe prosser. This combination of talents resulted in a very well designed and quite capably staffed booth. Twin 100's, Y-valves, special bouyancy devices, reels, lights, etc., were gathered to attract attention. Special thanks also to dry suit manufacturers Offshore and Viking for providing suits and undergarments for the display.

To add more action to our display, past issues of UNDERWATER SPELELOLOGY AND THE NSS NEWS were pinned to the curtains surrounding the booth. A continuous display of training and general cave slides added to our presentation. CDS shirts and CAVE DIVING MANUALS were available to top off the booth. Over 200 cave diving safety brochures were passed out with 60 people signing up to learn more about our activities.

A special word of thanks to Steve Lucas and OCEANFEST for making this educational opportunity possible.

(Ed. note: The CDS extended an invitation to NACD to share this booth with us, but unfortunately, due to the short notice given us, they were not able to mobilize and take advantage of the oppurtunity. -GWM)

****
(These two articles on Jacob's Well are reprinted from TEXAS CAVER, April '84 edition. Thanks to Bill Mixon, NSS 5728 for providing them to us. Bill points out in his letter that neither article was written by a caver or a trained cave diver.)
****

JACOB'S WELL ACCIDENT REPORT

by Danny Self

John Willcox, Danny Self, (both independant scuba instructors) and Wayne Russell, a veteran caver and cave diver entered Jacob's Well at approximately 7:50 PM, Sunday, February 26, 1984. We were equipped with full wet suits, single 80 cu.ft. tanks, single hose regulators with octopus, depth and pressure gauge consoles, 2 and 3 lights each, a spare 50 cu.ft. tank and no bouyancy compensators due to the narrow passages. We met at the first level in the first chamber at 25'. We then ran a safety line vertically from there to the beginning of the third chamber at 55'. We then started a new line which ran horizontally the lenght of the third chamber and halfway into the fourth chamber at approximately 85'. Once there, Wayne and John removed their tanks and checked their air pressure. Wayne led the way through the narrow opening of the fifth chamber pushing his tank in front of him and running a new safety line while John

followed taking pictures. Danny stayed in the fourth chamber to maintain the safety lines and retrieve an old tank apparently left by 2 divers that drowned in the well in 1979 and were never recovered.

After the two went into and beyond the sixth chamber, Danny explored the fourth chamber which he estimated to be approximately 10' high by 8' wide. Upon comple tion, he picked up some spare line, removed his tank and squeezed thru the passage. Once in, he found the tank, tied the piece of line to it, then turned and followed the safety line out. He was surprised at how narrow the fifth chamber was, which he estimated to be approx. 2' high. He was also getting comcerned at how bad the visibility was getting. About halfway out he got tangled in the line that he had tied to the old tank and found he could go no further. So with a deep breath, he untangled the line and got back into the fourth chamber. He then put his tank on and attempted to pull the old tank back thru the opening.

Meanwhile, Wayne had tied his safety line halfway in the fifth chamber and then tied a survey tape, a 100' tape measurethat he would use to measure the length and diameter of the lower chambers. He then went into and past the sixth chamber. John was taking pictures and followed Wayne's safety line and survey tape into the sixth chamber. Visibility was getting so bad that he was unable to take pictures or see that well. However, he got the impression that it was quite large, large enough to stand in easily with a muddy bottom, unlike the rocky bottom found in the other chambers. Wayne returned to the sixth chamber and motioned to John that it was time to go. John led the way back, following the safety line. When he got to the opening, he found the old tank was stuck. He was able to dislodge it and push it while Danny pulled it through the opening. Danny then turned and exited the fourth chamber carrying the old tank while John exited the fifth with Wayne right behind.

Once in the third chamber Danny and John met up. The visibility was a little better than it was in the lower chambers. Danny signaled to John "Where's Wayne?." John pointed down the tunnel assuming Wayne was working with his survey tape or putting his tank on. Up to that point there waqs never a signal or any indication that something might be wrong. So assuming Wayne would catch up, we decided to move up to a shallower depth so we could start decompressing. About halfway through our decompression stop we really began to worry. We could not go back because we were too low on air and had no bottom time. We then surfaced.

Wayne was found the next day by a dive team from Wimberley in the beginning of the fifth chamber lying on his safety line, mask in place and his tank by his side.

COME DIVE JACOB'S WELL WITH ME

(The following article appeared in the Wimberley View on March 15, 1984. It was written by Mr. Johnny Ripps to give those who do not dive a chance to know what the cave is like. Mr. Ripps is a former highway patrolman who has dived in the cave several times and has helped bring bodies out.)

I try not to think of the nine divers who have lost their lives in the lower chambers of Jacob's Well. I can only imagine their fear and feelings of helplessness as they discovered they had gone beyond their limit with no chance to survive. Like a black widow spider spinning her web, Jacob's Well has claimed the lives of eight men and one woman. Five of these deaths have been within the last five years.

Why do men climb mountains, jump from airplanes, ride bulls, drive race cars, or attempt to accomplish the seemingly impossible? For the same reason divers continue to risk their lives to swim through the deadly chambers of Jacob's Well. Is it the challenge, their curiosity, their defiance of death; or just because it is there waiting to be conquered? Man's unquenchable thirst for adventure is the only answer.

When I slip beneath the surface into the first chamber, my heart is pounding and the blood rushes through my body. My eyes are open wide and filled with the excitement of searching for unknown what lies ahead. As I sink deeper into the tranquil cool waters, I am forced to clear my sinuses of the pressure created by the change in depth.

A lump briefly passes through my heart as I can only speculate on what surprises wait below.

It seems almost peaceful as I pass from the first chamber through the crevice which leads to the second chamber. I briefly check my depth gauge. It reads 25, 30, 35 feet as the thin slivers of sunlight disappear behind me. Sinking slowly, I shine my underwater light into the false tunnels and crevices exploring the darkness.

It was here at 40 feet, in 1979, where I found Don Dibble sitting motionless staring into the darkness after surviving his near fatal accident during a recovery dive. He was in severe pain and almost helpless, but he was alive!

The bodies of the two divers we searched for that day have never been recovered. They had gone deeper into the cave than any diver had ever gone; but they never came back to tell their stories.

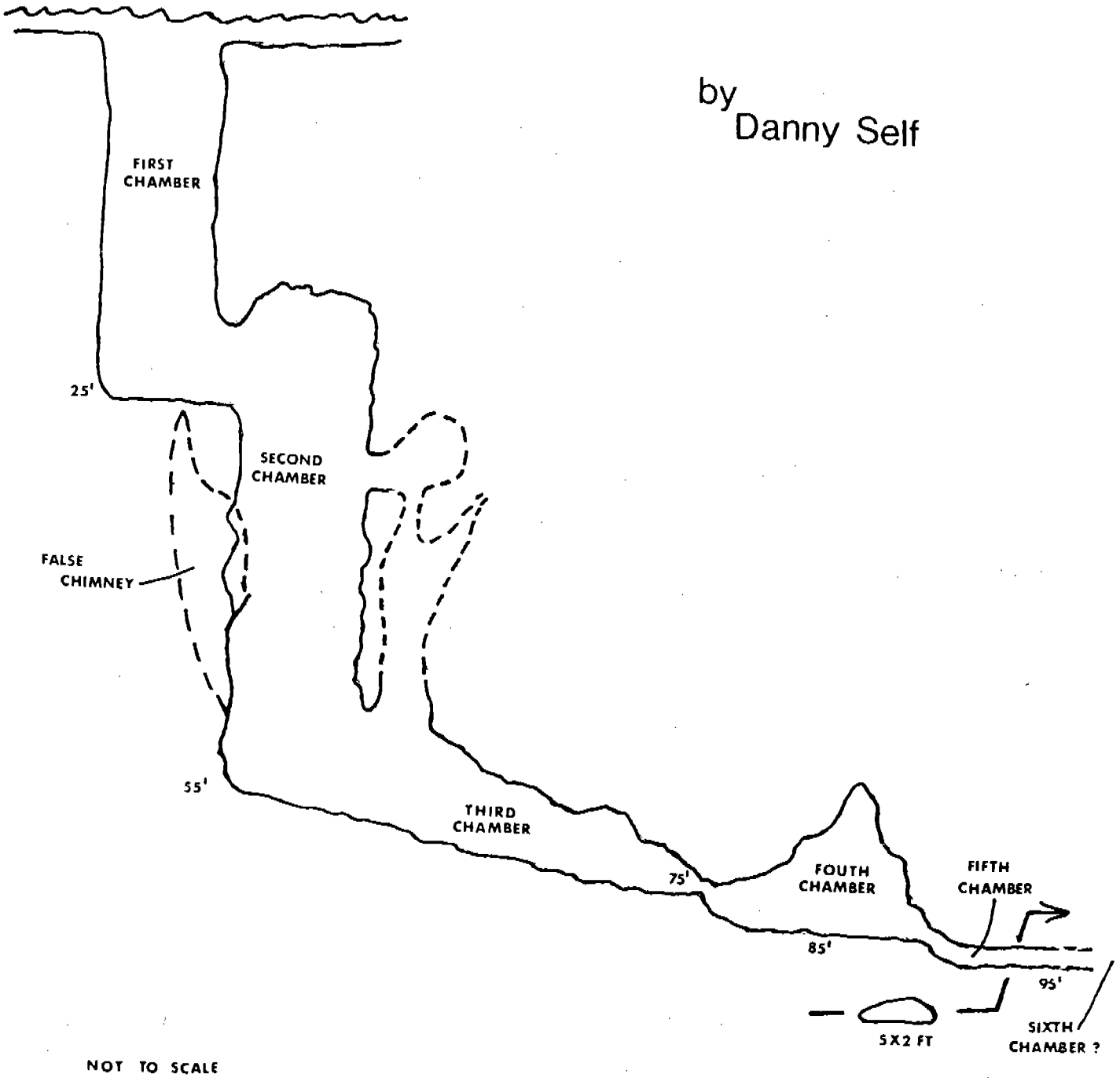
We are at the bottom of the second chamber, and my depth gauge reads 55 feet. Our underwater lights remind me of the giant spotlights at the county fair. They seem to reach out through the darkness like magic wands, ending suddenly as if someone cut them with a knife.

Like the dangerous beauty of a spider web, the cave's peaceful appearance lures you deeper and closer to the danger below. As we begin our descent through the third chamber, I shine my light on the walls of the cave to examine the fossil

Jacob's Well

Sketch

by
Danny Self



NOT TO SCALE

imprint of a shell. An albino catfish quickly swims through my light beam and disappears into the darkness. Beneath our feet, a crawdad scrambles deeper into a crevice seeking safety.

As I watch his retreat, I notice leaves along the floor of the cave. They have fallen from the trees above the well, and settled here deep within the third chamber. The current is barely noticeable, and I realize this is when Jacob's Well is the most dangerous. Without a current the silt we stir up will not be carried away; instead, the crystal clear waters will become murky, and our vision will become extremely limited. We stop to remove our fins so as not to stir up the silt any more than necessary.

As I shine my light down into the cave, I see a large boulder resting on the bottom aqppearing to block our way. I check my depth gauge; it reads 75 feet. Behind the boulder, the ceiling tapers downward; and the cave grows smaller in diameter.

I remember a previous dive when the current was so powerful it took all my strength to reach the boulder. The current waqs picking up gravel and moving it up the cave. Small pieces of gravel would hit the face plate of my mask with a force almost powerful enough to break the safety glass.

As we pass the boulder, we easily slide through the passage into the fourth chamber. It is like a small narrow room with a cathedral ceiling. I shine my light up along the ceiling and I see pockets of air inching along trying to find an escape route.

This seems to be the end of the cave, but at the bottom of this chamber there is a small opening only large enough for one man to pass through. To accomplish this I must take off my tank and push it through the opening ahead of me. Because the bottom consists of loose gravel, the size of this opening varies with the force of the current coming up from the springs somewhere below. The opening is actually a narrow crevice about nine feet long before opening into the first chamber.

As I slide through the narrow passageway, my back is touching the ceiling and my stomach is touching the floor. My arms are stretched out ahead of me holding my tank. It is a tight fit , and this where most of the divers have lost their lives. In 1978 our recovery team worked for two days before bringing the swollen body of a diver through this passage.

We have reached a depth of over 100 feet, and our remaining bottom time is less than 15 minutes. We get a false sense of courage; perhaps the side effect of nitrogen narcosis. (Our blood becoming saturated with nitrogen under pressure.) It is like drinking a dry martini on an empty stomach, and usually occurs at depths greater than 100 feet where the pressure exceeds four atmospheres. Leaving the narrow crevice, I am now in the fifth chamber. My depth gauge reads 115 feet. I realize this is where Don was trapped and ran out of air in 1979. He was lucky, and freed himself to swim up through the narrow crevice to a waiting reserve tank. He sustained a serious injury, but he lived!

When I am standing on my knees, my head touches the ceiling. The chamber is 12 to 15 feet wide, but less than 4 feet high on the center. The ceiling drops down on each side of me, making the chamber appear saucer-shaped. As I turn

around to watch my partner enter the fifth chamber with me, my beam of light catches a fresh water eel slowly swimming through the narrow crevices.

As he passes within my reach, I make a half hearted attempt to catch him, and as I touch his slick grey body, he swiftly disappears into the chamber below. My partner stops beside me holding his tank under his arm. Using hand signals, he tells me he has less than 5 minutes of air left before he must start back. I motion for him to wait for me here as I turn and slide my tank through the opening into the sixth chamber.

Directly in front of me is rock formation coming up from the floor in the center of the chamber. My partner's light shines over my head and lights up the back wall, as he waits behind in the fifth chamber watching me swim deeper into the cave. I notice the room is half filled with loose gravel making it appear smaller than I remembered.

Like moods of a woman, the cave is constantly changing and unpredictable. My air supply becoming critical, I briefly examine another tunnel I believe to be the entrance to a seventh deeper chamber. Perhaps it leads to the grave of the two divers lost in the cave in 1979. No one will ever know for sure, for without a surface air supply system, a deeper journey into the cave is impossible. Just being in this chamber makes my air supply makes my air supply a critical factor in this dive, allowing no margin for error. My exit must be carefully executed and without mistake.

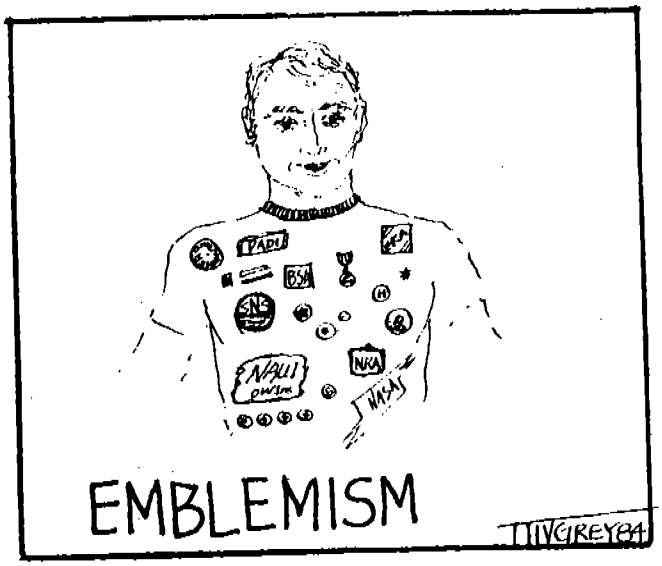
As I re-enter the fifth chamber, my partner turns and begins his journey back up through the dangerous passage leading to the fourth chamber. The water becomes murky as he struggles to pull himself through the crevice. My visibility becomes restricted to less than a foot. Paralyzed briefly, I imagine a rock slide blocking my exit to the safety of the less treacherous upper chamber. I slowly begin inching along, feeling my way as I follow the life line which leads to the surface and safety over 100 feet away.

As I reach to open the air reserve on my tank, I feel the bottom of the cave slide downward beneath me. My light suddenly goes out as a rock hits the switch, turning it off. Engulfed in total darkness I can hear the rocks sliding down around me. Discovering the switch on the light to be broken, I quickly turn on my back-up light. The water has become so murky, my light is no more than a glow at the end of my hand; but it gives me a false sense of security allowing me the presence of mind to analyze my situation.

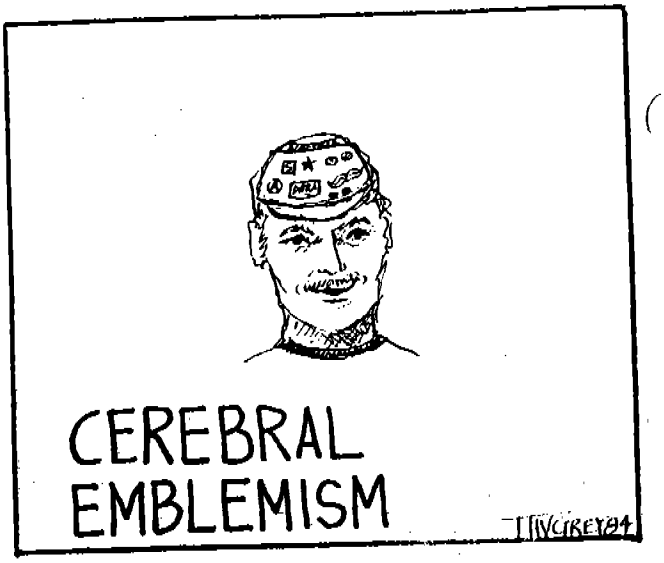
Pulling myself along the life line, I am only a few feet from the fourth chamber and safety. My heart is pounding as I see the glow of my partner's light through the murky water.

As I enter the fourth chamber, my partner hands me my reserve tank. As I slide it over my head, my memory flashes back to 1977, when I almost lost my life when my equipment malfunctioned while searching for a drowned diver in Canyon Lake. If I had been in Jacob's Well that day, I probably would have died.

The water begins to clear as we pass through the third chamber. My light picks up the movement of a blind salamander as he half swims, half runs along the bottom. Entering the second chamber, I inflate my bouyancy compensator to begin a bouyant ascent. Looking up, I see the rays of sunlight piercing the darkness



Courtesy of Dennis Williams



Courtesy of Dennis Williams

NSS CAVE DIVING SECTION
C/O SANDRA FEHRING
3508 HOLLOW OAK PL.
BRANDON, FLORIDA 33511