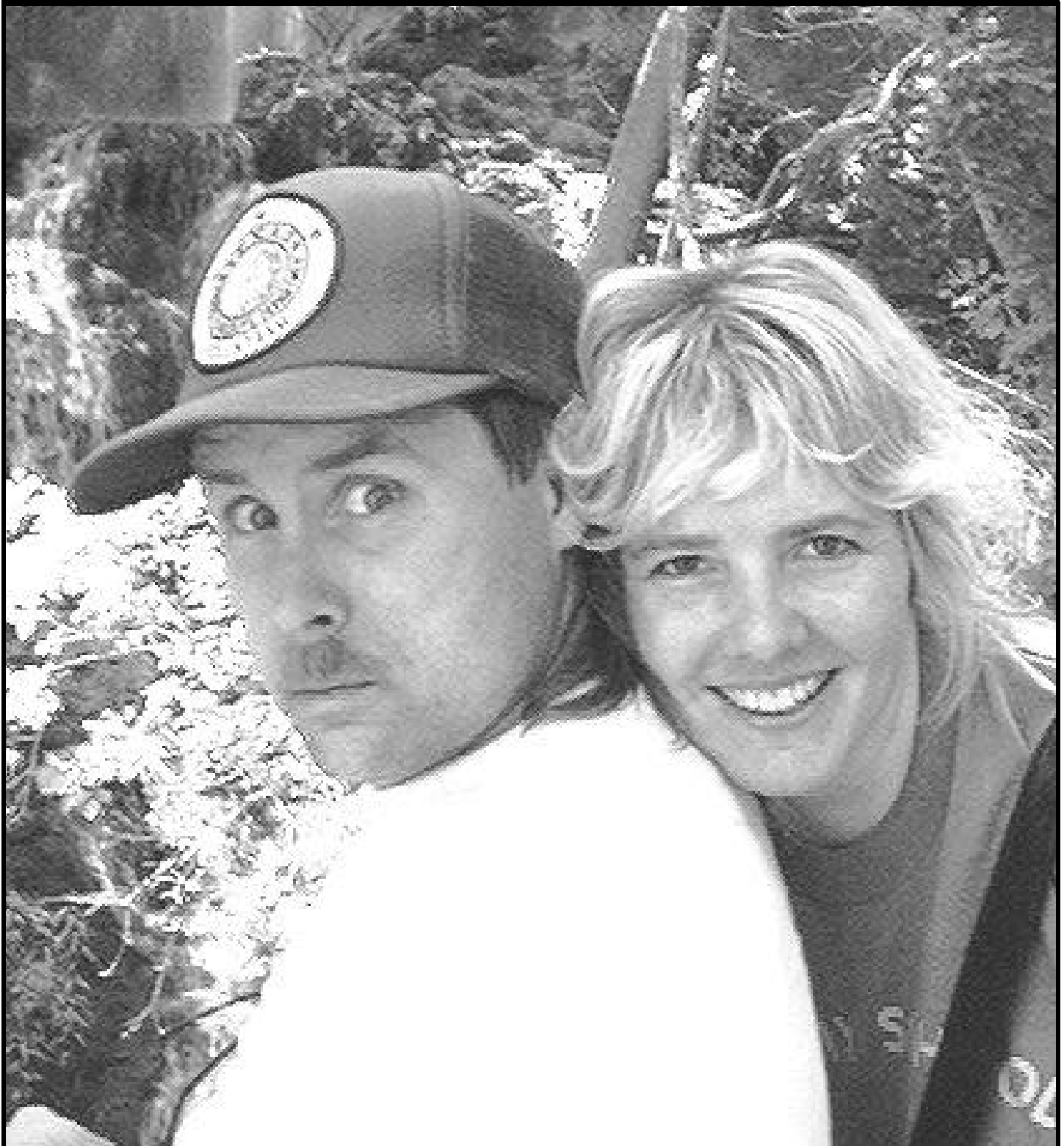


THE MAVERICK BULL

The Monthly Newsletter Of The Ft. Worth Maverick Grotto

July 1998,

Volume 12, Issue 7



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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 access (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.

Chairman:

John Langevin
4700 Trail Lake Dr.
Fort Worth, TX. 76302
(817) 924-1919

Vice-Chairman:

Dave Milhollin
101 Hosack St. #3
Arlington TX 76010
(817) 459-3959

Secretary/Editor:

Chad Fenner
3700 Wayland
Ft. Worth, TX. 76133
(817) 292-7722

Treasurer:

Sharon Mastbrook
3412 Walton Ave.
Fort Worth, TX 76133
(817) 346-2039

Cave Rescue: Call collect: (512) 686-0234

Photo Credits

This month's cover photo of Alvis and Dawn Hill @ 456 x 420 pixels, was taken with one of the least expensive digital cameras on the market by - Keith Heuss - a Panasonic Palmcam - See related article inside.

Other Credits

Editor: Butch Fralia

Editor-in-charge-of-English: Sharon Mastbrook

Visit Our Web Site

The *Maverick Bull* is available as a World Wide Web site at:

<http://www.fwst.net/np/maverickgrotto>

Web space donated by Star-Telegram Online Services.



Minutes for the June Meeting

Minutes to the June, 1998, Grotto Meeting

The June meeting began at approximately 7 p.m. The business portion of the meeting was called to order shortly after 7:30 by Grotto Chairman John Langevin.

Unfortunately the minutes of the meeting didn't make it into the hands of the guest editor. So, the minutes used for the meeting were about 60! The following data is mostly from memory!

Visitors:

Tony Sultana (Carrollton)
Kathy McGirt (Arlington)
Dennis Burt (DFW)

Announcements:

Karen Perry researched upcoming trips around the state and nation and described them all for the grotto.

Butch Fralia, announced that digging trips to Palo Pinto would resume by popular demand when he can make contact with the landowner.

Old Business:

None discussed!

New Business:

There was discussion of using some future meeting as a work project to catalog the grotto library in lieu of a program. The goal would be to create a database of the library contents. A list would then be available to interested grotto

members.

Trip Reports:

Several people reported going caving. I wish I could remember what they talked about! Ed Goff and Dave Milhollin went somewhere, they always do! It's almost too hot to go caving anyway!

Program:

Chad Fenner provided the program for June. He described the procedures for obtaining permits to federal caves. He challenged several grotto members to get permits for an upcoming trip!

Editor's Ramblings

Happy July!

Last week, our beloved editor called and announced that he was leaving on vacation and that I'm the **GUEST** editor this month.

Chad's comments about not making the May meeting because of being worn out after the ball game brings back a memory!

Once when selling a house, my real estate agent gave me free passes to a Ranger's Game at the old stadium! My ex-Wife decided that going to a baseball game was inappropriate for my girls so I invited my Brother-in-law and my two nephews. We found we had really great seats; right in front of the Ranger's Bull Pen.

Gaylord Perry (this was a few years ago) was warming up for the Ranger's and the way he threw that ball! No body could possibly hit it! Louie Tiant was warming up for the Boston White Sox and the way he threw that ball! No Body could possibly hit it! A no hit ball game!

The first inning with Gaylord on the

mound, some guy from Boston hit the first pitch of the game so hard you could hear it bounce off the cars in the parking lot! Somewhere along the line, the score ending up like a football game 17-2 and the Ranger's didn't own the first number!

I proceeded to get plastered on the 3.2% beer at the stadium! I got so drunk that I ordered Texas Stadium Nachos loaded with jalapino peppers! Anyone who knows me well, knows that my stomach doesn't deal with hot stuff well! In a few moments I was as sober as I've ever been in my life. The Nachos just seemed hot going down! They were hotter coming out and it took a lot longer! Sort of like Keith Heuss's Chili!

Chad isn't the only one changing vehicles. I have a shiny new Jeep Cherokee Sport! I've never had a car/truck with all the luxury stuff before (a matter of choice).

If anyone is interested, my old 4wd Suburban is available. It's a real caving truck!

In this month's issue, RD (Dave) Milhollin writes an article about last year's NSS convention. It sounds like a fun trip. Hopefully everyone who can will attend this year's convention and have their own stories to tell.

Keith Heuss provided an article on digital cameras. They are becoming popular. Are they good enough to replace 35 mm photography? Read and see.

Caving on the web? See list of websites on page 9!

At a recent newsletter printing session, Chad and I compared notes and discovered that he's been the newsletter editor longer than anyone else! Amazing! What stamina, what perseverance! Chad, I salute you! Have a great vacation but **PLEASE! HURRY BACK!**

Good Caving.
BF

July Meeting

This month's meeting will be held on Tuesday, July 14 at Smokey's Ribs, 5300 E. Lancaster, at 7 p.m.

This month's program will either be a slide presentation by Chris Sobin on caving survival or a free for all slide

presentation where you bring your own slides. Come prepared, bring slides or pictures just in case!

Do the Convention!

I'm not one who as a rule likes gatherings of really large groups of people. My last Rolling Stones stadium concert was back in the early 1980's. On the other hand, I would rather do something than sit around and talk about doing it. But I really didn't think I would enjoy the NSS Convention last year at Sullivan, Missouri.

The ride up there was great, Chad drove 90% of the way there in the BIG TRUCK, and I was free to sleep, or read, or just look down at all the little people we passed. But I still figured that when we got there it would be maybe boring at best. The night we registered in Sullivan School was uneventful, except for the nice cool breezes and the clouds which shaded up, but I did notice those Show-Me people looking up a lot, maybe they didn't like shade as much as Texans. On arriving at the campground an hour or so later it was pouring down, so we pulled up to one of the open pavilions and met some of the organizers. We were yacking on about the geology field trip for the next day, when after pronouncing that there might be a postponement because of the rain, the cellular-phone guy in charge of campground security was struck by lightning. Yep, came right down the little antenna he had placed up on the tin roof, zapped him in the ear, and went out

his foot. He was OK, but we all got tired of standing around on the picnic tables trying to avoid similar experiences. As boots, then tents, then cars, yes cars, began to float by across the campsite as it was transformed into a river bottom, I was assured that Missouri was a great cave state, because as soon as the rain stopped, the water in the caves always began to go down, just sunk through the cracks in the rocks and into the gravel down to the aquifer way down there. Well, we decided that it had been more fun at the high school, which we were told had miraculously been converted into a refugee station, with most of the NSS BOG all running around the gym in their socks. Well, we were to be left out, because the rising river had isolated the ranch we were on, and according to the experts, nobody was going nowhere. We slept in the BIG TRUCK.

The next day things began to look up. The rain slowed to a drizzle and yes, the field we were in was beginning to "dry out", well, at least the flooded cars were not trying to float any more. We whooped up a big breakfast of pancakes and sausage for everyone under the shelter, and I suppose the smell of coffee and food brought people running over from some of the higher areas where they had braved the storm the night before. Before long, some new faces

appeared, and we learned they were from the "outside world", they knew of a back gate to the ranch that could be reached by four wheel drive without fear of drowning. One of these guys was a local caver named Greg Small, who was originally scheduled to lead a trip to Scotia Hollow Cave. In spite of the dire forecasts of the night before, Greg thought the trip could go, once everyone had breakfast and had a chance to round up their caving gear. (see Maverick Bull, V10, n6, July 1997)

The convention itself was held in a school, in the town of Sullivan, around 15 miles or so from the campground at Bourbon. There were busses that ran between the two places, and I kept getting the schedules wrong and missing busses, but the friendly cavers would let you ride in or on their vehicles if you just stuck out a thumb. I was impressed by the unofficial renaming of a county road by the cavers. In Missouri the equivalent of "farm to market" roads are under the county jurisdiction, and are "lettered" rather than "numbered", and the road leading to the campground was "N". By the second day the sign had been converted to read "NSS" with an arrow pointing to the appropriate byway. The beer stores reported a booming business, the best in recorded history so I am told. It was appropriate that the town name was blazoned on the water tower, too bad for some of the attendees that bourbon did not flow from the kitchen taps. There was so much to do at the school, and of course all the things that I wanted to do/see were all scheduled at once, so more than once I found myself running between two rooms trying to catch all of what was going on. There was the map salon, the print salon, the vertical sessions, the geology, biology, and human sciences sessions, there was the Project Underground seminar, the Congress of Grottos (which I couldn't find anywhere), and a few discussion groups dealing with goals for the organization and dealing with issues important to local and internal organizations. There were vendors, with books, maps, T-shirts, ear rings, coffee mugs, helmets, back issues of magazines, you name it! There was a great slide



Photo by Dave Milhollin - from a slide scanned by Ed Goff

show toward the end of the week that blew us away, and Chad was having a hard time controlling his glee as the Bull took award after award, the grotto had a great night. I should mention that the food served there was good as well, not gourmet, but much more affordable, quite filling, and really tasty; better than the average campfire fare. I heard stories of other conventions with really bad food, and the people telling these tales of woe were thankful for the good grub in Missouri.

One of the free afternoons I was able to wrangle a spot on a guided tour of a cave on the Onondaga State Park Property. The cave had an interesting history, being a minor commercial cave until it became apparent that the state was going to buy up the land around Onondaga Cave. The landowner quickly and with little regard for conservation set up a tour trail complete with fluorescent lights in order to get the appraised value of the property up. The damage done is still being assessed, and the cave, double-gated, sealed, with a gatehouse and all, is only open once a week for a limited number of guests. I was impressed that one of my fellow guests touring was Rane Curl and his family. Dr. Curl had been NSS president when the cave diving section was founded, and I got to talk to him a little about that. Our guide was Jo Schaper, a frequent contributor to several caving publications and a rabid volunteer with the Missouri Parks. She gave an exceptional narration of the history and geology/biology of the cave, and was obviously having as good a time at it as we were. Jay and a few other photographers had ample opportunity to get shots off as the rest of us inspected glued stalactites that are slowly (well, really pretty fast compared to your average southwest cave) growing over the mend. There was a seismic monitoring station down in the cave, right out of late night sci-fi, and a dramatic staircase that led down to the canyon at the end of the commercial tour.

Another side trip was as the guest of local caver and diver Marvin Zaske. He had been along on the tour of Scotia Hollow, and tried to help me get tied in with some of the local cave divers who had tried to get a spring site open during



Photo by Dave Milhollin
Scanned from a slide - by Ed Goff

the convention. The rains at the beginning increased the outflow of some of the local resurgences so much that the locals did not want to go diving. Marvin and I took off one morning and drove to Roubidoux Spring. After registering with the sheriff's department people, we geared up among a group of school kids who were braving the jump from a 15 to 17 foot retaining wall above the spring vent, in spite of the signs that expressly forbade this kind of activity. As we geared we answered questions like "why are you going to do this", "is it dark in there", and the others. Once geared up, we fought like hell but couldn't get into the vent. Marvin had dove this spring many times, but the flow just kept spitting both of us out just as we thought we might finally pull into the mouth. Finally I made it in along one side by sneaking around some huge boulders that only moved slightly as I grabbed onto them as anchors, while pushing against the ceiling for additional leverage. Once inside, the cave opened up, and the flow became manageable, but Marvin was never able to get in. The exertion, over-breathing, and cold all added up and he had to give up for that day. Reluctantly I returned to the surface, in sort of a headlong spiral, great entertainment for

the kids watching from the river banks. The water WAS cold, and the next time I plan for any extended submersion in Missouri I plan on dragging out the old drysuit.

But some of the real memorable events happened right at the campground. We were camped on the side of a hill, sort of away from the center of the camp to assure the best chance for uninterrupted sleep. GOOD LUCK! There was a large roofed pavilion about a 4 minute walk away that had some kind of party every night. Right across from it was Groad's Hollow, the UT-Austin camp, and lots of good music came from that way even after some of the more organized parties. About 8 minutes away, across a swamp bridged intermittently with random-sized planks and rocks, was the hot-tub area. There was a tub about as big as a respectable backyard above-ground pool. There were two heaters, and I later learned that there were actually two tubs that had been joined together for the festive occasion. Down the muddy trail from this was an icy, spring-fed river, which provided water for the boilers, but also provided a great place to chill after time in the stew. As if this wasn't enough, there was an ornate Swedish-style sauna that could seat probably 15-20 people on benches. This area was discreetly screened off from the rest of the campground, and often kept going until the water-worshippers saw the sun come up, and even later on at least one occasion (or so I am told!)

Another night I was ready to sack out, had already turned out the lantern and crawled into the tent, when a car drove past the campsite. This was not unusual, as perhaps 50 or more people were camped on down that road, and they came and went on a regular basis. Well this time the car was followed by another, and another, and another.... I looked out the tent door and there was a stream of headlights for as far as I could see. All these cars were pulling up and parking all around us. I pulled on some pants and went outside to see what the clatter was about. About that time a truck showed up with an outhouse, carnival float remains, Christmas tree lights, and candles, lots of candles. The proceedings that followed resembled somewhat a Celtic Autumn festival, and

was a source of great delight to a student of foreign cultures. Perhaps the highlight of the celebration was the baptism-slash-display-of-strength-and-skills that featured an instant carbohydrate product and a kiddie pool. Seriously, folks, you had to be there!

Yeah, you just have to be there. And another opportunity to experience an NSS Convention is coming up. From August 3-7 in Sewanee, Tennessee the tribes will gather in the heart of TAG country (this means lots of caves.) The

convention will be on the grounds of the University of the South, and this is the second time there. People who attended the first time have been heard to say that it was one of the best places to convene they have ever experienced. There are going to be pre-convention events, like the NCRC classes and the self-rescue class, field trips, cave camps, lots of pits, underground rivers complete with roaring falls, you name it. There are Civil War battlefields, museums, whitewater rivers, all that! Several other

members of the grotto have expressed an interest in attending this year, and YOU should try to as well. I didn't think I would have a good time. I didn't. I had a HOOT! See you at the 1998 convention!

Digital Photography by Keith Heuss

In this world of instant gratification, digital photography is becoming more and more popular. You can take a picture and make a printout just minutes after taking the picture. But wait, what about the quality? Do digital pictures compare with the quality of 35mm photography?

In 35mm photography, the image exposes a light sensitive coating on a clear plastic base. After exposure, the film is returned to a photo finishing lab. Slides or prints and negatives are returned to you a



Keith Heuss
320 x 240 pixels
Digital Photo by Chris Heuss

now in the computer can be printed on a color printer or put on a web page or e-mailed to someone.

How do these digital pictures compare to a 35mm picture as far as quality goes? Two factors determine the quality of digital pictures. These factors are number of pixels and number of colors. Pixel is short for picture element. This is the smallest part of the whole picture area that



Terry Holsinger
640 X 480 Pixels
Digital Photo by Chris Heuss

week or so later for your use in sharing your photographic skills with others. Digital cameras do not use film. They have replaced the film with a light sensitive integrated circuit (IC) called a CCD (charge coupled device). This IC converts the light into electrical signals which are proportional to the intensity of the light. They can also discriminate between the different colors. These electrical signals are converted into digital format and stored in the camera. Two methods are used to store this data. One method is in a memory card and the other is on a removable floppy disk. Whenever the pictures have been taken, the camera can be connected to a PC through a data cable and the pictures can be downloaded to the computer for permanent storage. The memory in the camera can be erased and reused for more pictures. The pictures,



Macro of Miller Lite Can
320 x 240 Pixels
The macro capability of digital cameras is one of their more redeeming features.
Digital Photo by Chris Heuss



Morgan Carnes
320 x 240 Pixels
Digital Photo by Chris Heuss

This means we would have 50 black lines with 50 white spaces between them appear on the film. The equivalent digital camera would have to have 100 pixels per millimeter to capture this image. Now a 35mm frame is 24 by 36 millimeters. The total frame pixel count would be 2400 by 3600 pixels for a total of 8.64 million pixels. If we allow three bytes per pixel, we would need to store 25.92 megabytes per picture. That is a lot of storage space. This data is stored as a file. Now there are means of compressing these files to make them take up less space.

Now, let's take a look at what is

Polaroid PDC-2000 could store 40 1600 by 1200 pictures in its 240-megabyte internal memory. It uses 24 bit color. The most common prices were between \$400 and \$800. In general, the more it costs, the better (more pixels) the picture.

Most cameras use JPEG data compression techniques. I did some comparisons to see how much compression I could get on some images I had. I used PhotoFinish to import the PCX files than I stored them out in JPEG format with medium loss compression. Then I compared the number of bytes each file took up. A color picture rose.PCX originally was 151,917 bytes. The compressed file, rose.JPG was 9,988 bytes. The compressed file only takes up 6.6% of the original file. Another file Cathy2.PCX, a black and white picture took up 130,360 bytes of data. The compressed version took up 15,289 bytes, or about 11.7% of the original file space. So, now we can see how they can get so many pictures in such a small space.

Now that you've taken some digital pictures, what are you going to do with them. The first thing you do when you get home is to connect your camera to your computer. Next, you can download the pictures into your computer. You can view them, store them, index them print them or e-mail them to a friend. If you are going to print them, you will need a color printer. Color printers are cheaper and better than they were just a few years ago. You can find a good printer for around \$400. Colors are truer and brighter and the inkjet cartridges are cheaper these days. As your picture taking goes on, your disk fills up

the picture can be broken down into. A digital picture has so many pixels on the vertical side and so many on the horizontal side. A typical digital picture may be 600 by 800 pixels. This is a total of 480,000 pixels for that picture. Each pixel will require memory space to store the information for that pixel.

The information for each pixel represents the color and intensity of that pixel. The more colors and greater range of intensity we store for each pixel, the more memory we require. We may use only one byte (that is 8 bits) per pixel. We could only store 256 different colors for each pixel. This is far too few to represent a good quality picture. If we allow 2 bytes per pixel, we would be able to represent 65,536 different colors. This is much better, however it may not be good enough. The problem that occurs when we don't allow enough colors, we get a noticeable flaw where the color in the picture changes from one value to another similar color value in the picture. The more different colors we allow, the less noticeable the flaw is. With more colors, we have smooth transitions from colors and brightness levels. Three bytes for this color value is much better. We can represent 16,777,216 different colors with these three bytes.

The price we pay is for the storage taken up by this higher quality picture. At 600 by 800 pixels, we would need 1.44 megabytes to store one picture. At even better quality of 32 bits per pixel, we would need 1.92 megabytes to store one picture.

How much would a 35mm picture require? A good camera lens can resolve about 50 lines per millimeter on the film.



Survey Compass
320 x 240 Pixels
Digital Photo by Chris Heuss

available in the digital cameras and make a comparison with our 35mm cameras. I did some research on the web and found quite a few digital cameras currently on the market. Most did 24 bit color which yields 16.7 million colors. The majority of them only did 640 by 480 pixels. This is 307,200 total pixels. The cheapest camera was the Vivatar Vivicam 2500 which did 640 by 480 in 24 bit color and could store 24 pictures at \$193. The Minolta RD-175 was the most expensive at \$4,862. It could store 114 pictures at 1520 by 1146 in 24 bit color on a removable 131-megabyte memory card. The



Pete Lindsley
640 x 480 Pixels
Taken with Sony Mavica
Digital Photo by Chris Heuss



Chris Heuss
640 x 480 Pixels
Digital Photo by Keith Heuss

by 3600 pixel resolution of 35mm photography and store it internally in the camera with high picture count. We may even see the merging of camcorders and still cameras. You would buy a single camera capable of taking both still pictures or switching into the movie mode to take motion pictures. They would not store the images on tape, but on internal memory. Then when you get home you would download them into your computer and edit them and put them on a CD for permanent storage. I can't wait to see what the future of this field does but for now, I am going to stick with my Kodachrome.

For more information, if you are on the web, do a search on digital camera and browse around. You can even download sample photographs taken by some of the digital cameras available today and see what they look like. If you have any questions or comments, e-mail me at kheuss@lcra.org.

quickly. You will need a very big disk drive. You will need to back-up your photos onto tape or other mass storage removable media device. What about giving a slide show. There are video projectors, but they are really expensive.

High quality digital cameras are around that take as good or better photographs as you could get with 35mm film, but they are for professional use by companies like NASA and astronomers. There are other means of getting your photos into a digital format. Kodak has a service where they can put your slides or negatives on what they call a photo CD. Cost is pretty high ranging from \$3.84 per picture for small quantities down to \$2.00 for 30 or more. They can get about 100 images on one CD. You can purchase a slide scanner, but they are quite expensive. Flatbed scanners are more reasonable priced, but you have to make a print and scan it in to get your picture digitized. I am going to wait until the prices come down and storage technology advances to the point where higher quality pictures are possible.

What does the future bring? Digital photography is not just a fad, to pass away in a few years, it is here to stay. Solid state memory technology is

advancing every year and other means of storage are also advancing. Some day cameras will be able to capture the 2400



Bear
320 x 240 Pixels
Digital Photo by Chris Heuss

Additional Comments On Digital Cameras

by Butch Fralia

In recent months, I've had opportunity for a laying of hands on digital cameras. I have a collection of photographs taken with a Sony Mavica and Panasonic Palmcam.

There has been discussion in the caving community of using these cameras for cave photography. During the TSS photo workshop at Cave Without a Name, Keith Heuss put on a presentation about digital photography. I mentioned to Keith Heuss that I wanted to write an article on Digital Cameras. He had already written one and sent it to me. It was a fortuitous event

since I needed articles for this newsletter. It appears that digital cameras are great for newsletters, webpages and the like. They still have a way to go before becoming comparable with 35 mm photography (at least the models that mere people can afford). The macro (close up) capability of all available models is phenomenal! They don't however seem to work well in a cave - at least the in-cave photos that I have leave a lot to be desired. As Keith mentioned, digital cameras are here to stay and they will only get better. As you can see, there are a number of

digital photographs in this newsletter, taken with different resolutions. The cover photo was shot at the maximum resolution (640 x 480) pixels using a \$199.00 Panasonic Palmcam. A neat little camera except that it eats batteries like there's no tomorrow! The lower resolution photos are good for thumbnail or inset photos.

If you're thinking about getting a digital camera, I'd recommend you wait awhile! There are rumors that some new technology may be released and the prices may come down before Christmas. Then again! They may not!

Caving Web Sites

At the last grotto meeting, someone started a discussion about publishing a list of useful caving web sites. Here is a list that will get you started! If you can't find it from here, there's no hope for you. If you don't have web access, it's time to get it, and join the world of on-line caving!

Sherry Mayo's Website:

<http://rschp2.anu.edu.au:8080/cave/cavelink.html>

This is the place to start! Sherry Mayo's website in Australia is probably the most definitive and complete list of caving sites world wide!

Cave Research Foundation:

<http://www.bradd.org/crf-fgdc/fp/default.htm>

National Speleological Society:

<http://www.caves.org/>

This website has links to many of the NSS sections. A lot of where to find information.

Texas Speleological Association:

<http://www.caver.net/tsa/>

This site has a calendar of activities for TSA events around the state. You can even download a copy of the Texas Activities newsletter in Adobe PDF format.

Texas Speleological Survey:

<http://www.utexas.edu/depts/tnhc/.www/tss/>

This site offers a LOT of information on caving and Texas Caves.

Texas Cave Management Association:

<http://www.io.com/~mgrimm/>

Home Pages of Cavers:

<http://www.caver.net/users.htm>

The above site (maintained by Bill Bentley) is useful for finding e-mail address and home pages of various cavers around the country.

CaverNet:

<http://www.caver.net/>

Bill Bently's caving web site with links to other caving sites. Bill is a well known Texas caver from Midland.

Download Walls Cave Survey Software:

<http://www.realtime.net/~davidmck/wallsbeta/>

This is the cave survey software recommended by the Texas Speleological Survey. David McKenzie (a TSS Director) wrote the package and provides it free of charge to promote good cave surveying.

Download Compass Cave Survey Software:

<http://www.thepoint.net/~alan/VRCave/Compass/index.html>

Larry Fish's web page seems to have faded into oblivion but you can still get a copy of his shareware cave surveying software from this link.

Download WinKarst Cave Survey Software:

<http://www.europa.com/~gp/>

Gary Petrie's website, links and access to WinKarst Cave Survey Software.

Happy Webbing!

Maverick Grotto
C/O Chad Fenner
3700 Wayland
Ft Worth TX. 76133

Calendar of Events

July 26, 1998, Possible dig project at Possum Kingdom Lake. Contact Butch Fraia, (817)346-2039, sharbu@flash.net

August 3-7, 1998, NSS Convention, Sewanee, Tennessee. Contact William Shrewsbury, (423) 886-3296

August 9-15, 1998, Mammoth Cave Restoration Fieldcamp. Norm Rogers (309)692-6715, nrorgers1@juno.com.

August 22-23, 1998, Gypkap, New Mexico. Contact Joli or Chris Lee, (505) 585-8406, jcllee@wazoo.com

September 4-7, 1998, Tentative Bustamante/Grua del Palmito TSA Labor Day Project. Contact Gill Ediger, (512) 441-0050, gille@worldnet.att.net.

September 11-13, 1998, Colorado Bend SP Project. Contact: Terry Holsinger, (512)443-4241, trhii@sprynet.com

September 26, 1998, Carlsbad Bat Appreciation Day, Contact: Rick Lobello, rick_lobello@nps.gov.

September 26, 1998, PBSS Grotto Trip to Fort Stanton Cave, Contact: Walter Feaster, (915)694-1824, walfeast@marshill.com

October 304, 1998, Gypkap, New Mexico. Contact Joli or Chris Lee, (505) 585-8406, jcllee@wazoo.com

October 8-11, 1998, Colorado Bend SP Project. Contact: Terry Holsinger, (512)443-4241, trhii@sprynet.com

October 16-18, 1998, 21st Annual Texas Cavers Reunion. Site to be announced!

October 23-25, 1998, Powells Cave Project. Contact: Terry Holsinger, (512)443-4241, trhii@sprynet.com

November 13-15, 1998, Colorado Bend SP Project. Contact: Terry Holsinger, (512)443-4241, trhii@sprynet.com

December 11-13, 1998, Colorado Bend SP Project. Contact: Terry Holsinger, (512)443-4241, trhii@sprynet.com

July 12-16, 1999, NSS Convention, Twin Falls County Fairground, Filer Idaho. Contact: David Kesner, (208)939-0979, drdave@micron.net