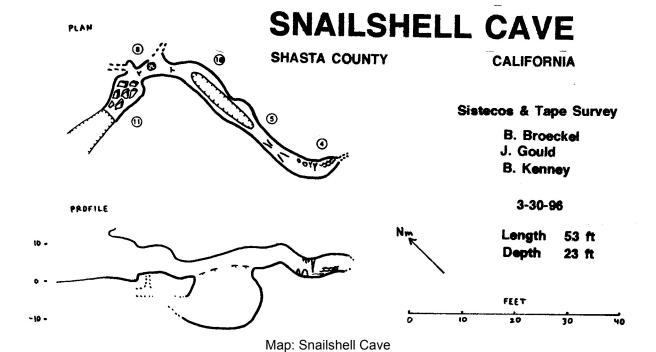
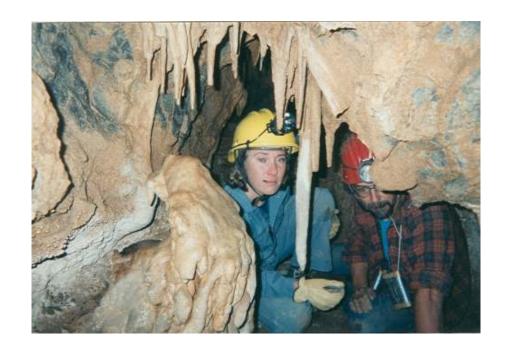
# SAGRAG

**MAY-JUNE 1996** 

**VOLUME 15 NUMBER 4** 





The SAG RAG is published by the Shasta Area Grotto of the National Speleological Society, Grotto meetings are held at different locations the fourth Friday of each month at 7:30 p.m. Meeting locations are announced in the SAG RAG, Membership dues are \$6 dollars per year and include newsletter subscription. Original material not otherwise noted is copyright to the SAG RAG. Such material may be copied with credit given to the author and the SAG RAG. For use outside of the caving community, please seek the permission of the author or editor first. Send material for publication any time to Bighorn Broeckel, 2916 Deer Meadows Road, Yreka, CA 96097. Material intended for the next newsletter is due by the 10th of the even month.

# SHASTA AREA GROTTO MEMBERSHIP LIST

Name	NSS#	Phone	Address
Bair, John	36127	707-826-7656	PO Box 896, Arcata, CA 95521
Broeckel, Bill	31702	916-842-3917	524 Annie St., Yreka, CA 96097
Broeckel, Judy	31703	916-842-3917	524 Annie St., Yreka, CA 960973015
Dagitz, Steve		916-938-3778	6400 Linnville, Weed, CA 96094
Everest, Glen	17903	916-243-3873	16327 North St, Redding CA 96001
Fitzpatrick, Bill	38363	503-779-1201	747 Highland Dr #10, Medford OR 97504
Fritzke, Mark	16064	707-822-8566	565 UpperCreekRd, Bayside CA 95524
Gibson, Don	39584	916-235-4254	5911 Sacramento#11, Dunsmuir CA96025
Henderson, Albert	25329	916-527-7513	14500 Kenney Ave, Red Bluff CA 96080
Henderson, Phyllis	s25330	916-527-7513	14500 Kenney Ave, Red Bluff CA 96080
Jackson, Melanie	36899	916-842-9714	PO Box 1603, Yreka CA 96097
Kenney, Bill	33394	503-883-2781	2425 Hope St, Klamath Falls OR 97603
Kenney, Chery!	36868	503-883-2781	2425 Hope St, Klamath Fails OR 97603
Kenney, Zane	36867	503-883-2781	2425 Hope St, Klamath Falls OR 97603
Kottinger, Jim	26621	916-926-3975	1922 Highland Dr, Mt Shasta CA 96067
LaForge, Dick	16560	707-443-2626	450 Redmond Rd, Eureka CA 95501-9526
LaForge, Evan	27121	707-443-2626	450 Redmond Rd, Eureka CA 95501-9526
LaForge, Kathy	32171	707-443-2626	450 Redmond Rd, Eureka CA 95501-9526
LaForge, Seth	22159	707-443-2626	450 Redmond Rd, Eureka CA 95501-9526
McGahey, Bill	31128	503-826-9272	18508 WFkEvansCrRd, Rogue R OR 97537
Miller, Ray	25724	916-926-2440	PO Box 475, Mt Shasta CA 96067
Molter, Joe	06531	916-243-8924	20568 Bernard Way, Redding CA 96003
Osborne, Ron	36456	503-855-9635	13469 Duggan Rd, Central Pt. OR 97502
Quinton, Don	18354	619-252-8615	1121 Teton Dr, Barstow CA 92311
Reel, George	31876	800-426-8395	964 Little Val. Rd, Roseburg OR 97470
Smith, Niels	23836	916-254-6764	721-155 Alexander, Standish CA 96128
Sutton, Ben		602-294-1279	4675 S Harrison #57, Tucson AZ 87530
Willey, Denise	39573	916-926-1535	1222 Ramona Dr, Mt Shasta CA 96067
Wolff, Jim	07572	916-964-3123	PO Box 865, McCloud CA 96057
Wolff, Liz	11701	916-964-3123	PO Box 865, McCloud CA 96057

Officers: Chairman - Neils Smith Secretary - Melanie Jackson Vice Chairman - Jim Wolff Treasurer - Liz Wolff

**Cover**: Picture shows Jennifer Gould at the end of Snailshell Cave. This was the prize for overcoming car breakdowns, wild animals, many miles of dirt roads, mud slides, washouts, more miles of gear hauling by foot, thickets of poison oak, checking small blind pits, and getting past the spiders at the entrance. Bill Kenney is also in the picture. Can you find him? The cave was named around the evening campfire because of some calcified snail shells with the rims tone and pearls at the end of the cave. Meanwhile, Ron Osborne Steve Dagitz, and Zane Kenney were finding another cave nearby that was twice as long as Snailshell, but we didn't have time to survey it. So when are we going back? (See Wolff's article.)

# **CAVING CALENDAR**

June 1, 1996 Weeding and Botany trip to Popcorn Cave Wilderness Study Area, near Big Cave, with Calif Native Plant Society. Call Mike Dolan at 233-4666.

June 8, 1996 Bat Cave at Lava Beds Natl. Monument, with Southern Oregon Grotto. See the flight of the large colony of Mexican Free tail Bats. Call Cheryl Kenney at (503) 883-2781.

<u>June 14, 1996</u> SAG meeting at Wolff's in McCloud. 7:30 PM.

June 15, 1996 Papoose Mdw. CNPS flower hike may include Eagle Lake Lava Tube. Call Kim Earll 257-2151 or 3747.

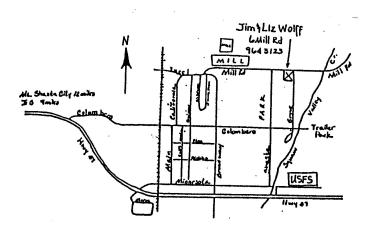
June 15, 1996 Shasta Valley Lava Cave tour with Sierra Club. Possible clean-up. Call (541) 482-6615.

<u>June 16-22, 1996</u> Carlsbad Caverns Restoration Field Camp. Call Mike Mansur.

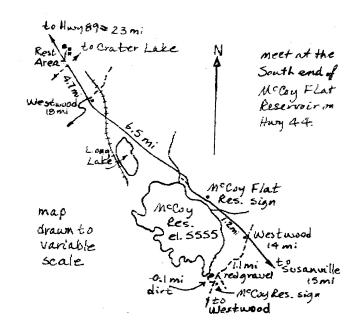
<u>June 17 – July 12, 1996</u> Tongass Cave Project in SE Alaska. Call Steve Lewis at (907) 479-7257. (See article.)

June 28-30, 1996 Marble Mtns. Map Lost Swallet Cave, 60' pit to 100'+? Snug crawlways. Call Broeckel 842-7311 or 3917.

<u>July 4, 1996</u> Speleocamp in the Marble Mountains. Call anybody.



Map to Jim & Liz Wolff's home.



Map to McCoy Reservoir.

<u>July 12-13, 1996</u> SAG meeting and cave camp at McCoy Reservoir. Meeting will be at 7:30 PM Friday night or later. See our Chairman Niels as McCoy Reservoir Watermaster. Caving the next day at Hat Creek, maybe mapping Alien Space Cave. Bring gear for cool nights, including cook stoves. One campfire will be allowed. Other activities: fishing, Crater Lake (local), Mt. Lassen, Pegleg L.O., and the Bizz-Johnson Bike Trail 1 1/2 miles from camp. Call Jim & Liz Wolff (916) 964-3123.

August 3-9, 1996 NSS convention in Salida, Colorado.



# **Emergence**

Crouching amongst the forest bushes
We watched and waited for your return
As the pregnant moon of the Solstice pushed her way
Through the dusky night sky
The birds echoing their lullabies of goodnight
The mild breezes rustling softly in whispers through the evergreens
Awake and take flight for night is come again
To caress your wings of finest satin
To release the needs of hungry senses
Come forth and be counted
Take to the sky on your elegant black wings
The darkness is your mother as you are mother to the little ones
Who lie in wait for your return to the tree you now call home

Denise Willey 6/21/94

Ed. Denise writes "The poem came from a batting excursion that Ray (Miller) and I went on. We were observing a snag which we hoped would produce a nursery colony of Silver-haired bats (*Lasionycteris noctivagens*). We were not disappointed and observed approximately 21 bats emerging from their roost. This took place on the summer solstice (1994) under a full moon and was quite a breathtaking experience for me." Thank-you very much Denise! from all of us.

# **CHIRPCHATTER AGAIN!**

Chirpchatter (again!) - 3/96 by J. Wolff

It all started out with each family car breaking down, just outside of town! I met Bill Broeckel at the park and ride and we traveled together towards Shasta Lake to the long and rather curvy road to Chirpchatter camp.

Bill Kenney and son Zane were there already, so we started setting up camp. Ron Osborne and Jennifer Gould showed before dark – so the weekend was sizing up to be a good one!

Next day we were fed and ready to go at 9am (!), but we had to wait around for a caver from S.O.G. By ten we decided to leave a note and go on up to our area for the day. After getting part way there, going around, over or removing obstacles, we encountered two mud slides across a very narrow part of the already precipitous road.

We proceeded to excavate the many yards of mud with the available tools we had: a short, D-handled spade shovel, a folding GI shovel, and a G-Pick. We almost made it passable, but the muddiest and wettest slide kept replacing what we removed. We quit after taking in the view of a wrecked pick-up down below us, lying in the creek bed. That was a bad omen, so we decided to walk.

Dave Pryor and Ellen showed up about the time we were getting ready to leave, so we then headed up to the caving area, after all, it was ONLY two and a half-miles there, by road ...

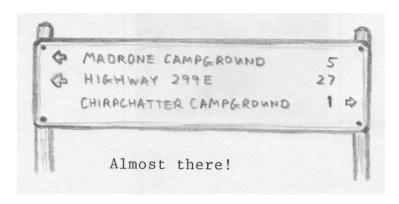
After getting to the area myself, most of the crew was already at the first objective and basically, finished checking out the first series of caves. They were ready to move on to the other cave entrances that Bill B. knew of. I had to eat, so after checking out the same hole I sent Bill K. in to check – it was indeed a small solution cave with some twisting crawl passage, little total darkness, and two entrances. The cave wasn't mapped this weekend, but I will make a sketch from memory for Dave P. and for Broeckel. Most of the crew had taken off while Ellen, Dave and I continued to eat our lunches. They headed in a B-line to the main objective: the big pit.

When we reached them, Bill K. and Bill B. had a rope rigged in this fine pit. It didn't go! With such fine features and dimensions, we were <u>sure</u> it was going to lead to cave, but NO! Oh well! They even checked out the holes in the walls of the pit – nothing.

We next split up, with Bill B. looking for the "Hollywood Entrance" that was seen from across this little valley. Some of us rested on the flat, while others continued looking for new caves.

Steve Dagitz found a hole that he thought would be nice to share with the rest. Indeed it was, and altho I personally didn't go in, I could hear what was said from inside. A pretty little hole too. On the way down, someone found another hole that turned out to be the biggest cave yet found that day. Some walking passage too! I'll let the discoverer describe it someday. After all, we ARE coming back!

...AREN'T WE??



# TONGASS CAVE PROJECT

MESSAGE DISPLAY FOR JAMES H. WOLFF

To: Cave Net

From: JIM NIELAND:R06F03D01A

Postmark: 3/12/96 7:43 AM Status: Previously read

Subject: Forwarded: Tongass Cave Project Summary

-----

Comments:

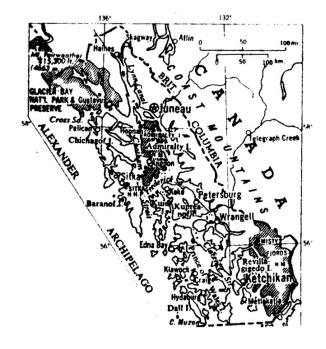
From: JIM NIELAND Date: 3/12/96 7:43 AM

Message:

From: Jim F. Baichtal:R10F05D04A

Date: 2/28/96 8:29 AM

The Ketchicave Expedition of the Tongass Cave Project occurred between June 30 and August 4, 1995. The expedition spent the first seven days on Prince of Wales Island(POW) surveying caves within the Control Lake Project Area. 12 caves were mapped totaling 722.9 feet of passage. During this time caves were also inventoried on Suemez Island and near Luck Lake and Salmon Bay Lake on POW. The next 10 days were spent on Heceta Island mapping 11,214 feet of passage in 26 caves with an additional 2.5 miles of overland survey to tie the caves together. A huge cave system was discovered, Arabica Cave. To date 5,066 feet of passage have been mapped with many going leads. 8 days were spent on Dall Island in which 1,079 feet of cave were mapped extending known caves. The last week was spent at El Capitan Work camp trying to gain access to the alpine but weather prohibited the venture. Time was spent checking local leads and on a cave rescue workshop. During the whole expedition Ward Serrill and Kathy Turco were photographing and sound recording various activities for an upcoming presentation. Tim Heaton Returned to do paleontological excavations in several caves and a 12,000 year old brown bear was removed from a cave on Dall Island. Project Totals: 2,680 person hours were donated in mapping 52 caves and some.2.8 miles of passage.



# RAILROAD BALLAST CAVE

Railroad Ballast Cave - 4/13/96 - by J. Wolff

We had known of this cave for many years, and first saw the cave's name in a Cal Caver. Railroad Ballast Cave is said to have been used in the 40's or 50's by a fire crew to avoid being burned to death during a fire! So, with that in mind, we dove into the cave, to get out of the heat of the day! The cave is very near the proposed Chippy Spur Timber Sale, it hadn't been mapped, and we had to go through that segment of the lava flow, Just to check out the sale area for sensitive caves anyway .... So, Melanie Jackson, Robert Nixon, Liz and myself set out for a great adventure.

Mapping went easily, as we sorted out our various jobs, and became a smooth running mapping machine. Robert, our newest caver did all the bird-doggin', while I set stations, Melanie did the "smart end" of the tape and ran the instruments, while Liz kept book.

The cave changed its nature quickly, with a massive collapse of the cave wall on one side, revealing an "outside-of-the-cave-from-inside-the-cave" feature – technically speaking, that is. Very neat to be outside of the tube's linings.

At the big collapse, there is a concealed lower level of good proportions. It ended soon, the passage was filled with ice, of the permanent variety. The ice flow filled the end of this passage as a cascade.

Back on the main level, the cave continued on in the same trend until red cinders blocked it. We figured it to be the railroad fill that came in from the surface. Later, we were to prove this.

On the surface, we did a traverse to the next entrance a few feet away. It started out as wide passage with plenty of ceiling height, but it too ended at the railroad fill about 250 ft. into the cave. Which came first, the Railroad or the caves??

After lunch we continued mapping south of the tracks, in very roomy and airy passage. This cave is apparently breached by another parallel tube, from somewhere below. An immense skylight gives the caver a feeling that there definitely is another passage somewhere nearby. We traversed around part of it, in order to map in a definite lead. This lead is ice-covered and totally unclimbable to the beckoning lower level. A rope will be in order, next time. Time was running out, so we surveyed on to the next entrance, leaving a station marker for our next trip.

The caves of the Giant Crater lava flow tend to be multi-level and large in dimension, so the rest of the flow that the timber sale is in, should yield some interesting stuff!

# **GAPING HOLES**

5/4/96 By B. Broeckel

On the trip were Vickie Sykora, Darryl Rasmussen, Melanie Jackson, Kyle Haines, Ernie Coffman, and myself. This was a Southern Oregon Grotto visit to Gaping Holes AKA Catwalk Cave. We rappelled into the Mossy Carpet and proceeded upflow to the Walk In Entrance.

Back on the surface, we retrieved our rope, and still had time to see Three



Ernie double checks Melanie's rap.

Level Ice Cave. The icicles were especially numerous at the west end. Ernie also found a group of ice candle stalagmites in an unnamed entrance. downflow.

Another good stop was at Roundtable Pizza in Yreka. I propose a toast to the virtues of mellow cave appreciation trips like this.



The Walk In Entrance to Catwalk Cave.

# SENIOR PROJECT REPORT

TRIP REPORT 5-18-96 Hourglass and 3 Level Ice Caves

8:00 AM. Broeckel arrived at my house. 1½ hours to his house to pick up his kids, 5 and 6. We then went to Jim's house at around 10:05 AM, and then hung around until everybody was ready. 10:40 or so, we got in the car again and headed of to Hourglass Cave. Felt slightly knuckered, so I took a nap. Woke when we parked out in the middle of a forest on a dirt road.

Bill lent me his hard hat and I got it on and then put on my backpack. We entered Hourglass Cave. Saw some bats, it was dripping wet. Then we went into Alarming Extension. Beautiful it was.

The Alarming Extension had several beautiful places, one which was a skylight where the rocks were covered with green moss almost up to the skylight. We continued after a brief stop to look at the skylight. We entered a passage that had an upper layer. I went down into the lower layer and the others went into the upper levels. I rejoined them periodically when there were cracks in the ceiling. They soon rejoined me on the lower level. We went on for a bit, but soon decided we were getting hungry and a bit cold. So we turned back. We walked down the cave until we got back to where we entered Alarming Extension. From there we walked back to the cars above ground where it had stopped pitter-pattering with rain.

All in all, spent about 3 hours in the cave. Returned for lunch at 3:03 PM.

About 3:15 went into 3 Level Ice Cave. 5:18 came out of the cave. Lots of ice, oldest register in the west. Icicles were beautiful until I slipped.

Crispin Henthorn

Ed. Crispin is a Senior Project student from Ashland. Others on the trip were Jim Wolff, George Law and his son David. Crispin originally hails from Scotland, where his name means "curly hair".

Everybody needs to fill this out, tear out the page, and return it to Liz Wolff at POB 865, McCloud CA 96057.

# Shasta Area Grotto <<>> Caver Questionnaire

This survey is to ascertain the wants and needs of SAG members. It is not a "must do", but we can't make changes to improve the grottos' programs and activities if you don't fill it out and return it.

	<u>General meetings</u>
1.	Are meetings: just right: too frequent? too infrequent: How often should they be?
2.	Does SAG need to have a permanent place to meet? If so, what area?
3.	What could be done to make meetings more interesting?  Slide/video shows?What subjects?  Speakers?What subjects?  Workshops?What subjects?  Other?
4.	Would you like to see more campout meetings? More meetings on the coast? More joint meetings with SCS and SOG?
5.	Have you filled out a grotto membership application?
	Grotto Offices and committees
1.	Are you willing to serve as a grotto officer? (You must be an NSS member in good standing and a voting member of SAG.)
2.	Are you willing to serve on any of the committees the grotto does have? If so, which:  Conservation  Vertical training  Library  Membership  Rescue  Cave registers  SAG RAG
3.	Should the executive committee meet to discuss business at another time rather than at the general meeting? Are you willing to serve?
۷, ,	SAG RAG: Are you satisfied with the RAG as it is?
	<pre>If not, what needs to be changed:    Publish monthly?</pre>
	Print more Project reports? Technical articles?  Conservation articles? Cave descriptions?  Trip reports? Maps? Art? Humor?  Pre-planned trip calendar? Reprinted articles?  Other?
	And you willing to contribute?

# Caving Activities

1.	Should we plan a trip calendar for the up-coming season? Where do you want to cave?			
	Lava caves Limestone/marble caves			
2.	Should we host a field camp? WhereA field camp is held for a period of time to accomplish a predetermined goal.			
3.	Should we travel out of area/state more to cave? Where			
4.	Do you want to work on existing projects?			
	(Current area projects are: Marble Mtns, Shasta Lake, CRF/Lava Beds, Chippy Spur conservation, individual cave mapping & clean- up. The Marbles & Shasta Lake usually require vertical competence; CRF requires photo or survey/inventory training.)			
	<u>Training Needs</u>			
1.	I desire training in general caving I need to know where I can buy caving gear			
2.	I desire rock climbing training I desire more technical training in vertical work I have rappel/climbing gear I would like to try out different systems and equipment. type? Knot tying/rope work			
3.	I desire training in surveying cartography cave inventory photography			
4.	Rescue training: I am proficient in rescue work			
	I have had some training no previous training My previous training includes: vertical/pulley systems			
	general first aid/patient packaging stretcher handling rescue coordination			
5.	Other:			
	*_*_*_*_*_*_*_*_*			
Ι	can be available to help with training in:			
Naı	ne:Phone:			
Address:				

# REPRINT REPRINT REPRINT

Excerpted from Dick LaForge's last Newsletter Review ...

For definite reprint, because it is so close to home and in a familiar cave, is Steve Knutson's "How I Spent my Summer Vacation: Activity at Oregon Caves, 1995." Steve describes a push and map 124 feet upstream from the highest previously mapped point where the River Styx first appears in the cave. This is, he says, the first new (and not all of It was new) passage found there since 1961.

# How I spent my Summer Vacation: Activity at Oregon Caves, 1995 by Steve Knutson

## A Minor Breakthrough, August

Oregon Caves has been known for almost 121 years and was, as much as is known today, mostly explored by the turn of the century. The most notable of these explorations was the breakthrough by Walter Burch into what is now called Neptune's Grotto and his immediate, solo push on to the Ghost Room using a single candle for light. Hard-core caving by anyone's standards, especially in 1888. From the Ghost Room the rest of the cave unfolded relatively easily and nearly everything was known by 1900.

Through the early decades of the 1900's and on through the 50's there were occasional minor discoveries by people who chipped flowstone away from sub-human holes to reach space beyond. None of these went anywhere. In 1961 some fools made the last major discovery, following Bill Witherspoon up through a very tortuous hole and finding the area that includes what is now called the Bone Room.

Starting last summer John Roth has begun a project to produce a very detailed map of the cave on Autocad, with me doing the drawing. To implement this crews are resketching the cave in great detail. Bill Kenny and I were sketching in July in a chamber where the River Styx (600 to 90 gal/min., spring to fall) emerges; that is, we were at the highest point reachable along the stream that comes from the main entrance of the cave. Near the resurgence, which is impassable as the ceiling comes down leaving only a space for the fast—flowing water, we spied what is obviously a filled passage, about 4 ft high and seven wide. This obviously had real potential, so we applied for, and received, permission to do the dig.

In August we returned with Scott Linn and set to our task. The material was dirt and rocks at first but we soon hit mud. The material had to be carefully piled on a tarp for replacement if nothing was found. We took turns; after 3 hours we had nearly filled the tarp with a pile that went to the ceiling. I was at the face and suddenly opened a small, but black, hole. I pulled material away from the sides and enlarged it; soon I could get my head

through and below I could see a floor. A little more work and It looked big enough for a body so I yielded to Scott who is a little smaller than I. Bill had just recovered from a rock entrapment and wasn't yet feeling secure around loose debris.

Scott went in, feet first, and worked his way along. I hung at the hole, expectantly. He got to a space he could turn around in and at least felt better about his chances. Suddenly he let out sounds of discovery—"Oh, this looks good", or some such, and obviously was moving off. I had had enough of waiting—in I went, head first and soon reached the larger way. A 2-foot high crawl led off and ahead you could hear the river again. I caught Scott at the junction with the stream passage after passing a charming formation that looked like a shield. The stream passage wasn't large, five wide and four high, but continued in the upstream direction.

We couldn't get very far upstream as the ceiling came down leaving us lying on the cobble floor, looking up the stream bed at smooth marble ceiling and cobble floor in a passage about 6 feet wide. We could keep going but one would have to move cobbles to proceed and lay right in the 41 degree, fast-flowing water to do it. We would have to return with wetsuits.

Before leaving we noticed that there was a large soot mark on the ceiling at the last easily—accessible place. Someone had been there before! But not for a long time—the area has been sealed for 60 years, since the construction of the Connecting Tunnel and this was the mark of a primitive kerosene lamp. The mark was probably left there at least 80 years ago. But how this person got there is a complete mystery...

On September 16 Scott and I were able to return and dug our way upstream another 20-25 feet. Unfortunately we had assumed the cobbles were loose; in fact they were very well emplaced and without a pry-bar or trowel it wasn't practical to continue. From our furthest point we could see the crawl-dig continuing....

We mapped out and got 124 feet to the dig site, a nice little extension and the first in 34 years. And still going. Could be dangerous during rain, though.

# REPRINT REPRINT REPRINT

# A Visit By A Paleontologist

On September 19 and 20 we were fortunate to have the services of Greg McDonald, paleontologist at Hagerman Fossil Beds in south-central Idaho. This guy really knows his stuff. I took him to the skull (I figured it was a bear) Kiki Alexander and I had found during the 70's mapping project. He couldn't fit through the 8" space near it so I went ahead, crammed myself into the crack leading to the site, and was just able to reach the skull. I found that there were several other bones there as well and that a rock had fallen on the skull, breaking it into 3 pieces. I was able to pry it free with a short-handled shovel and lift it and the other bones to a ledge.

Freeing myself from the crack I was able to reach back and load the specimens into my helmet. Then I carefully crawled back to McDonald. He was ecstatic—it was a cat! And a very large one. If it was a mountain lion, it was the biggest one anyone has ever seen. He tentatively assigned it as <u>Jaguar</u>, which would place it at the last interglacial period for age. Moreover, the rest of the bones were apparently from the same individual—it had thus

presumably arrived at that site alive, which historically is impossible (Walter Burch had to blast to make a passable hole in 1888 to reach the Ghost Room). The bones were transported out of the cave and packaged for transport back to McDonald's Lab. He knows a jaguar expert and promised a quick identification/verification.

REPRINT

We headed for the Bone Room the next day but again Greg couldn't fit (at Witherspoon's Hole) so I repeated my solo bone—gathering. We expected the bones there to be bear and the jaws I brought back were immediately identifiable as Black Bear (2 individuals). No big deal here—lots of those around. But a large (you could have beat someone to death with it) leg bone I delivered produced an unexpected expostulation (whatever that is). "If it was a black bear", said our paleontologist, "It would have to be Arnold SchwartzenBear". Grizzly! That is indeed the tentative identification. How about that. And these were just some bones lying about on the surface—imagine what a dig might reveal.

Reprinted from UNDERGROUND EXPRESS 15(3) Summer 1995, pages 3-4.

# SAG RAG

Page 1

524 Annie Street Yreka CA 96097 **STAMP** 

# **TABLE OF CONTENTS**

Page 2	SAG membership list
Page 3	Caving Calendar
Page 4	EMERGENCE Denise Willey
Page 5	Chirpchatter Jim Wolff
Page 5	Tongass Project Nieland
Page 6	Railroad Ballast Cave Wolff
Page 6	Gaping Holes Broeckel
Page 7	Senior Project Henthorn
Page 8	Caver Questionnaire SAG
Page 11	Newsletter Review LaForge
	Oregon Caves Steve Knutson

Snailshell Cave map

TO:

