



SAG to the rescue practice (L to R): Marsha Denny, Liz Wolff, Barbara Stufflebeam, and Melanie Jackson. 10-8-16

INSIDE – Lava Beds by the Bruce, and Two Shasta County Lava Tubes

The SAG RAG is published by the Shasta Area Grotto of the National Speleological Society. Grotto meetings are held at different locations on the fourth Friday of each month at 7:30 p.m. Meeting locations are announced in the SAG RAG. Membership dues are \$5 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 or <caverbill@live.com>. For more on SAG, check the web site at <<http://www.caves.org/grotto/sag>>.

CAVER CALENDAR 2017

July 28 SAG Meeting 7:30 pm at Wolffs' in McCloud.

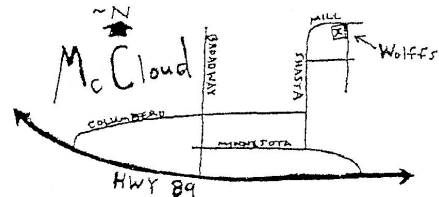
Shasta Area Grotto,
meetings 4th Friday of the month in members homes, 7:30pm, dues \$5

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Newsletter, SAG RAG, 6X per year
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Map to Meeting

July



SAG RAG SUMMARY By Bighorn Broeckel

Here is a belated report on last year's rescue practice. This was well attended and productive, and as pressure on local caves increases, it seems wise to prepare local rescue readiness to respond to some level of caving emergencies. There will be another exercise coming up soon, so stay posted for further information as plans unfold. Bruce Rogers contributed his tome on the mythical Mitertyte/Labyrinth connection out at Lava Beds. The real message of this article has to do with his analysis of the instability of lava tubes. Things can change in these caves in real time, and the trick is to be somewhere else when this occurs at the human scale. So read these cautionary tales and be aware of the possibilities in these shifty caves. Just say'n. Not mentioning any names, except maybe my own. As a counterpoint perhaps, we end with an exploratory narrative of the recently completed Bargain Basement Cave, and its sidekick Northern Lights. I was very grateful for the Grotto support last April, and getting the survey finished up on this archetypal Shasta County lava tube. The area has proved quite proficient at providing many tiny tubes. These caves are so small that... the walking passages are only three feet high.

BB

April 28, 2017 Shasta Area Grotto Meeting

The meeting was called to order at 7:48 pm. at Wolffs' in McCloud.

Present were: Bill & Judy Broeckel, Steve Hobson, Melanie Jackson, Dave Smith, and Jim & Liz Wolff.

Minutes: March 2017 minutes were accepted as read.

Treasurer's Report: We have a balance of \$924.

Website and E-RAG: Both in good shape.

SAG RAG Report: The Pluto's Cave issue is in process.

Correspondence:

We received a request from the Western Region Secretary for information and for names of our officers. Ernie Coffman sent the National Cave & Karst newsletter to grotto members.

Calendar

May 13-14 Western Region SpeleoEd in Sequoia National Park.

May 26 Meeting at Mel's in Yreka, Saturday or weekend caving at Lava Beds.

June 9-11 Paul Gibson trip, snow permitting. Contact Joel.

June 16-24 NCRC National Training Seminar, Bend OR

June 19-23 NSS Convention, Rio Rancho NM.

June 23-25 Hat Creek Campout, meeting 7:30 pm Saturday. Clean-up and survey of Garbage Pit.

June 30-July 4 Marbles weekend.

July 28-30 SAG/SFBC Campout, Medicine Lake

Sept 1-6 (Labor Day) Marbles weekend, with pack mules. Contact Steve for information.

Oct 9 (Columbus Day) weekend Paul Gibson trip. Contact Joel.

Old Business:

KNF will not pursue graffiti issues at Pluto's Cave.

We have 4 separate members' lists to update. Everyone on the listserve has been contacted and asked to respond, and we will use the information coming back to update our list to current members.

Liz has talked with Virginia Bobrow. Ed has had glaucoma surgery and has one more surgery scheduled. He is rarely driving. Some of us will stop by to see them on the Memorial Day weekend LABE trip.

For the July SFBC joint meeting Liz has suggested some caves to visit. We will get pictures of entrances to help everyone in finding them. The Medicine Lake campgrounds are first come first serve for those planning to stay there.

New Business:

Tammy Taylor invited Bill and a number of wilderness/recreation people to discuss recreational activities at Hat Creek. One possibility is moving the visitor center to Subway Cave. Several other caves have been suggested for opening to visitors, most of them already well known. Monitoring is unlikely, however, and a couple need to be protected as bat caves. Bill has written a brochure for visitors on the importance of protecting the caves, and will follow-up in June with David Riggs, Tom Rickman, Juan De La Fuente and others.

Steve suggested putting up a Pluto's display showing cave visitors what is not acceptable.

The 10th International Volcano Speleological Conference will be held at Lava Beds in 2018. We can talk with Bruce Rogers and Dave Riggs about whether they will want local grotto support.

SAG/SAR TRAINING DAY 2016

By Bill Broeckel

ADAMS HOMESTEAD CAVE 10-8-16: This year we picked up where we left off the previous year, and completed our cave rescue training exercise at Adams Homestead Cave. Some readers will remember last year, when the Adams Homestead rescue exercise was interrupted by a real rescue call out on the north side of Mount Shasta, complicated by a concurrent wildfire on Military Pass. This year there were no such call outs, and we proceeded with the practice itinerary. The casualties were scattered about in the cave, and teams were deployed to search them out. One needed to be packaged in a litter, then team-carried the length of the passage. Finally, a vertical lift was required at the tricky entrance climb, using a haul system. Some problems encountered during the exercise were discussed for comment and learning during the debriefing that followed the exercise. The event was well-attended. Shasta Area Grotto people helping with the training were leads Steve Hobson and Liz Wolff, angels Jim Wolff and Barbara Stufflebeam, team plants Mike Stufflebeam and Bill Broeckel, rescue dog handler Susan Hobson, SAR safety check Melanie Jackson, casualty subjects Marsha Denny and Dave Smith, and general support person Sam Baxter. Thank-you to everyone who showed up and pitched in. Thank-you to Dave Smith and crew for checking the cave ahead of time, discovering the fresh garbage dump in the cave, and cleaning it out prior to the rescue practice. These practices are a major yearly event and production for our small Grotto. All Grotto members are encouraged to help with these events, as there are many different role options that can be comfortable and interesting. Watch for further information on the next rescue practice scheduled for this coming Fall. **BB**



SAG/SAR personnel at the rescue practice debriefing. 10-8-16

The Mitertyte-Labyrinth Caves connection

Bruce Rogers

1-5-16; 1-24-16; 3-28-16; 4-21-16; 6-13-16; 11-23-16;

SAG RAG ARTICLE

Lava tubes, by the nature of their being close to the surface, are inherently unstable and short-lived compared to limestone caves. In addition to normal surface erosion processes gradually removing the overlying rock, internal stopping of ceilings and walls commonly occurs.

Commonly small- to massive-scale collapse occurs shortly after the cooling of the lava flow occurs. On occasion, near to total destructive collapse may occur. This happens as the lava cools, sets up stresses within the lava flow itself, and adjustments are made accordingly by shedding extra, unsupported rock within the tube. Studies have shown that stress and resulting cracking and collapse more commonly occur during cooling than in heating. The thick breakdown deposits in most lava tubes are evidence of this. Sometimes upper passages fail, collapsing their floors down upon lower levels. On occasion the impact of these collapses into the underlying tube passage may continue further downward into yet lower passages. Sentinel Cave in Lava Beds National Monument has several areas where at least three levels of passage have collapsed down on and through underlying levels while only retaining the last forming, more or less stable, cave passage roof.

In some lava tubes, masses of breakdown had been covered with subsequent lava flows coursing down the already formed tube. Some of these features are obviously jams of rafted debris that have been rafted down the tube by newer, internal/secondary lava flows, but some are in-situ piles of ceiling collapse that may become partly to completely covered with later "down-the-tubes" flows and cemented in place.

The ultimate examples of this collapse are the long, sinuous collapse trenches between intact lava tube segments. In these cases, the collapse has resulted in trenches or pits approaching 120 feet deep. In other places the immense collapse features have formed by multiple levels of passage sequentially collapsing to result in a single, very large diameter passage collapse such as in Skull Ice Cave in Lava Beds National Monument.

Hidden Valley near Mammoth Crater in Lava Beds is one of the largest collapses in northern California. There, the roof failure has resulted in a canyon nearly 150 feet deep and a quarter mile long. The floor of this canyon is now masked by thick soil and nearly 100-foot high. The Ponderosa pine trees themselves may be between 190 and 330-year old (approximations based on counts of cut pines in the Giant Crater flow). These trees and their predecessors have grown during the past 36,000 years since the lava flow was emplaced. With such a thick soil covering the valley floor and hiding essential clues to its exact structure, it is unclear if this

continued

collapse resulted from a single massive failure of the roof of a huge chamber or multiple, sequential collapses of stacked passages. Current wisdom from knowledgeable geologists working on Medicine Lake Volcano appears to support a single, now roofless cave passage origin.

There have been several instances of passage collapse that led to unknown passage being discovered or obscured. In at least three instances, unknown passage was either found or connections between existing passages were revealed. In Merrill Ice Cave, Post Office Cave, Sunnyside Tick Cave, Elmer's Lower Bridge, Bloody Caldwell Ice Cave, and Two-eyes Cave (now known as Irish Bridge), partial historic collapse has been documented and has led to new passage and increased awareness of the instability of the tubes themselves.

One of the most spectacular, partly collapsed caves in Lava Beds is Cave of the Unstable Volkswagen-sized Boulders, also known as Goliath Cave. In response to reports by Boy Scouts of a bottomless pit in the southwest corner of Lava Beds National Monument in the mid-1980's, a party led by Willamette Grotto's Mike Sims and Dan Weinberg located and explored the cave. The party did enter the cave and managed to explore down to a narrow chimney at the lowest point in the cave after a marginal descent along an extremely unstable breakdown slope. An unexplored passage beckoned, but the chimney itself was in a mass of frightfully unstable breakdown boulders, moving with each move of Dan Weinberg, the only caver skilled/brave/foolhardy enough to attempt the climb. Dan quickly inspected the climb and reported it was walled, floored, and ceilinged with large, loosely held blocks of lava breakdown. While known officially as Goliath Cave, Sims and Weinberg called it Cave of the Unstable Volkswagen-sized Boulders with good reason. Once again, unstable breakdown piles have defeated attempts to push cave passages by simply collapsing into a mass of passage closing rubble. Visitation has since been discouraged.

However, this short tome is concerned with the indefatigable J.D. Howard and Labyrinth Cave. On Judd D. Howard's original 1920 map of The Labyrinth, now known as Labyrinth Cave, he shows a narrow passage connection between the Water Passage of Labyrinth Cave and the downstream end of Mitertyte Cave. Generations of cavers have casually looked at the breakdown jumble at either end of this point and merely moved on. However, given the unstable nature of such breakdown jams, it is possible that originally there was a very narrow slot between some of the table-sized blocks that allowed visitors to pass between these two caves. When mapped in the 1980's, the postulated connection area was seen to be a mass of table- to head-sized, angular breakdown blocks of Mammoth Basalt. Certainly such a passage no longer exists since persistent probing by SAG and SFBC cavers such as Shannon Mathey, Liz Wolff, Celeste Yang, and Bruce Rogers have found no through-going passage.

Thus in at least seven instances, collapse has blocked or partly blocked passages in several lava tubes. While most of these collapses were natural and part of a typical lava tube's life cycle, several were at least aided by human intervention. It pays to be cautious when exploring around in even apparently stable breakdown since one may never know when shifts may occur. It is also instructive to note that shifting breakdown can alter cave passages or access to passages and no one should expect some caves to be forever stable and unchanging. **BR**

SAG Completes Two Shasta County Lava Tubes

By B. Broeckel

NORTHERN LIGHTS: Looking north from a cave area, on 12-16-14, we entered a manzanita thicket and soon hit on a couple unexpected caves. The first wasn't that surprising. It quickly divided into two problematic leads, but looked to probably give up 30 feet, so we initiated a cave survey. The two leads were a high left and a low right. High left quickly squeezed up, small enough that we never did actually push our bodies through the worst spot. Low right was easier, but involved sliding underneath a large, loose rock.

From both leads, light could be seen coming in from the next entrance north (hence "northern lights"). So we went in that next entrance, and finished the survey by passing tape through the troublesome spot. Then off survey, and stripped down to minimum gear, I carefully slid under the loose rock. Nothing bad happened, but it was good to have Judy as spotter, and thus this newly defined 43-ft cave was added to the project.

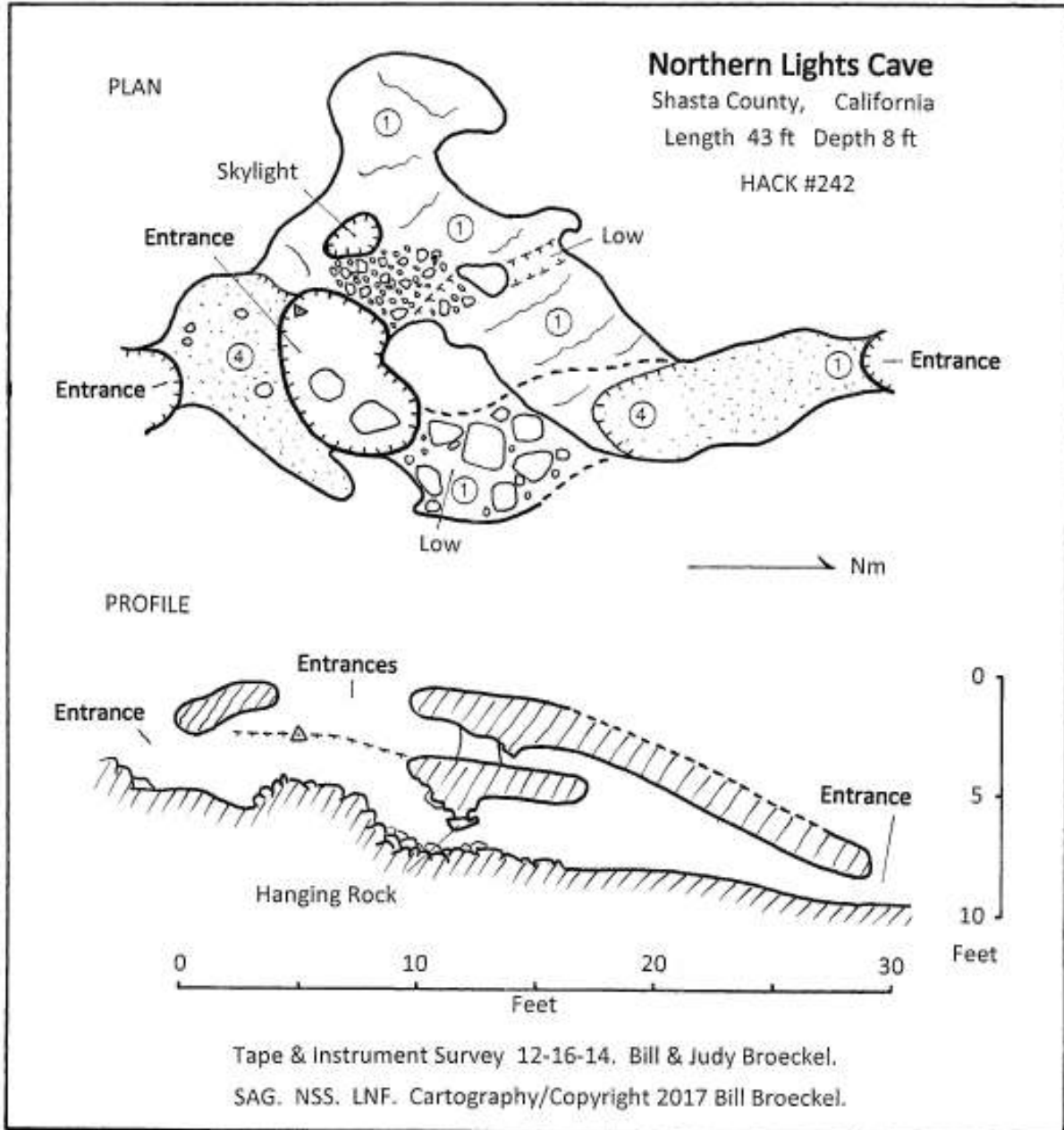
BARGAIN BASEMENT: With time still left on the 12-16-14 session, we kept right on going with the survey into the next cave down the line. It was kind of thrown into the bargain, so to speak, after finishing off Northern Lights. Then when the bottom dropped out of the right hand passage, it became "Bargain Basement Cave" (BBC). We left several going leads, and we knew we were on to something at BBC. (I have taken some critical comments on abbreviating cave names in the past, but in this case I just couldn't help myself.)

We returned on survey a week or two later (12-29-14), and pushed the going crawlways. The lower level passage doubled back and nearly connected with Northern Lights through a tiny hole we had not noticed from the other side. That is the kind of thing that really activates my speleo-imagination. Down flow this same passage pinched off, but it also braided over to join in with the upper level passage. Further along, we ended the day at a small skylight, having pushed the cave over 200-ft, but leaving three continuing leads, each of them only one foot high. Both of these December outings were snow trips, but winter ended very early this time around, and we were swept off to other areas. BBC was left as a hanging survey

Two years later (12-4-16) we came back. Early winter was setting in again, this time for real. We tied up some loose ends from long ago, but had a moment left for BBC. So we dropped into the skylight and took a hard look at the worst of the three 1-foot leads. Two years ago, there was a rock that needed moving, but by late December, it was solidly frozen in place. At that time, I had hit it with another rock. I had kicked it with my booted heel. But the rock refused to budge, and I left it for another day. Well, I guess we waited a little too long, because unfortunately by early December 2016, the rock was already frozen in again for the winter.

This time, however, I was able to swim through some rocks that were still loose enough, over to the left, and then tipped on my side, to slip in between a big rock and the passage wall. I was in the worst of the leads! Excitedly, I crawled off around the next corner, and there the passage

continued



Map: Northern Lights Cave

suddenly sealed off. We added 18-ft to BBC that day. We also looked ahead on the surface, found yet another entrance, and popped in for a quick peek. Two passages were headed back up flow. That made good sense, because the two remaining 1-foot leads were headed down flow. We could easily imagine them neatly linking up. Down flow the combined tube looked like - dare I say it - "walking passage". Thus the scene was set for our last and final debacle in Bargain Basement.

CLOSE-OUT SALE IN BARGAIN BASEMENT 4-29-17: The grand finale BBC survey trip came the day after the grotto meeting. The Wolffs, Dave Smith, Steve Hobson and myself banded together to put on a good old-fashioned official Shasta Area Grotto survey/exploratory caving trip. I promised everybody "walking passage - probably goes on for miles way down the valley rift". This was a nice sunny spring day, perhaps a bit warm, on the hike to the cave. Wo ho, was it really that far?

After a tough session of manzanita busting, we succeeded in reaching the cave entrances, just in time to eat our lunches. Next we divided into two teams. Hobson and I would do the assumed connection, while the other three would get to map the "walking passage". Aah, it was nice and cool inside the cave.

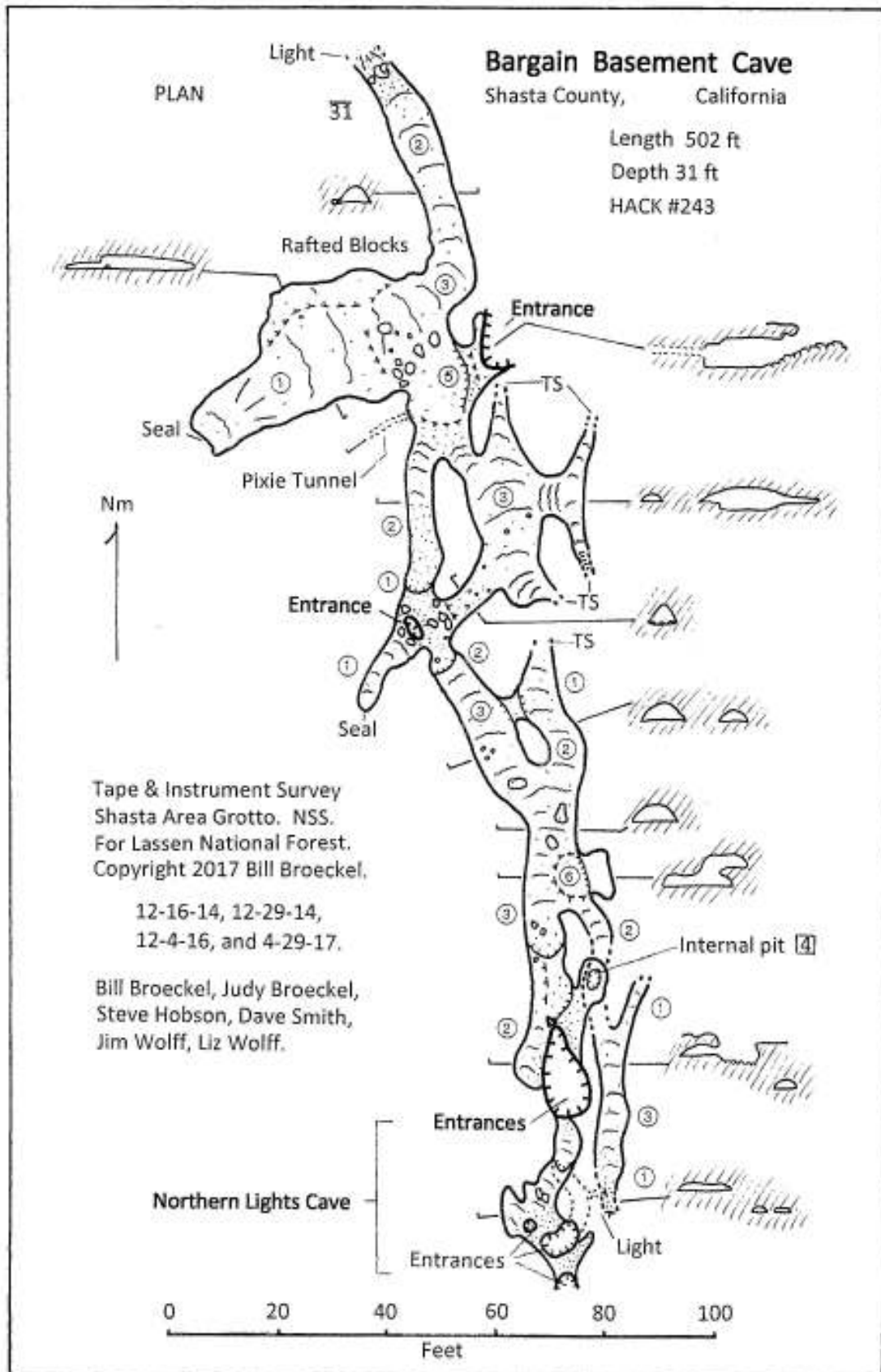
Well, Steve and I dropped into the previously mentioned skylight entrance. Hobson took the end of the tape, and easily mastered the next worst lead. This immediately dumped into an easy crawlway that made a beeline for the other team. We could hear their happy voices echoing in the massive caverns booming up ahead.

Hobson and I tied into a Wolff/Wolff/Smith station (W1). Then after exchanging a few pleasantries with the group, we went back up in the other upflow passage. After some interesting complexity, this indeed connected back to our starting point under the small skylight. Task completed, we hurried back down to check on the other team's progress.

Alas, they too had completed their assignment, with no miles of running passages after all. In fact, there was some grumbling. The "walking passage" turned out to be only three feet high, and that soon diminished to a mouse hole with light from the surface. That's OK, I suppose, if you're a mouse. Incredulously, I had to go down there and see this for myself, but the reports were all too true. The cave had somehow shrunk.

In all fairness, there was a place near the entrance, where if you were about 5-ft tall, and leaned a certain way, you could in fact stand up. Over-all, I was very pleased with our efforts. The cave yielded another 200+ feet of passage, and was now completed, finuto-mundo, and safely in the books, a hanging survey no longer. The total length for BBC stands (perfect word), at 502 feet. That beats out Deadwood Cave by one foot, and BBC takes its place as the 22'd longest cave in the project. I was hoping for at least another Mad Hatter. Oh well, I guess it is kind of like a mini Mad Hatter, braided, unbroken, and everything. You know how it goes with this caving stuff, especially in this area. You take what you can get.

BB



Map: Bargain Basement Cave



BBC – Upper Entrance. 12-16-14



BBC – Lower Entrance. 4-29-17

continued from p. 3

At the last CRF meeting at LABE, NASA was also there testing electronic equipment for "Differential GPS" locations at Indian Wells (they will be sighting on entrance pins at LABE caves). The GPS points we use can disagree by 300' from those given by the new technology, so it will not be of use to cavers anytime soon.

Trip Reports:

Joel Despain went to the Gray Rocks area last month. Bill Broeckel sent information on several caves that have been surveyed in that area (Hole in the Drain, Hole of the Bear, Hole in the Wall, Snailshell).

Tom Rickman is planning a weeklong inventory of cave adapted springtails in Lassen NF. Liz will contact Geo Graening, who should have information for some of the caves.

The meeting was adjourned at 8:41 p.m.

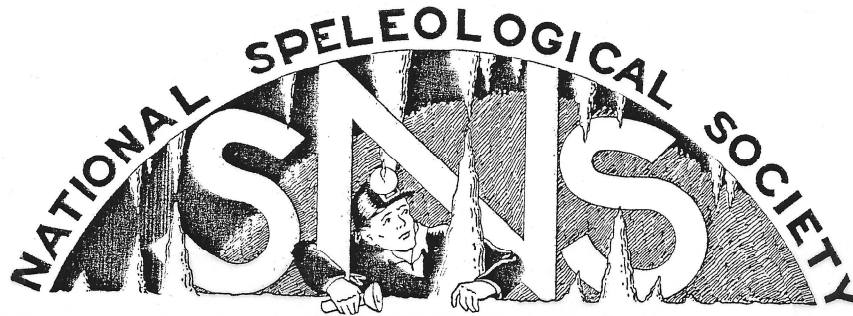
Dave Smith, SAG Secretary

DS

THE MISSION STATEMENT OF THE SHASTA AREA GROTTO

**The Shasta Area Grotto is a conservation organization devoted
To the protection and study of caves and their contents.**

Shasta Area Grotto is an Internal Organization of the National Speleological Society.



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