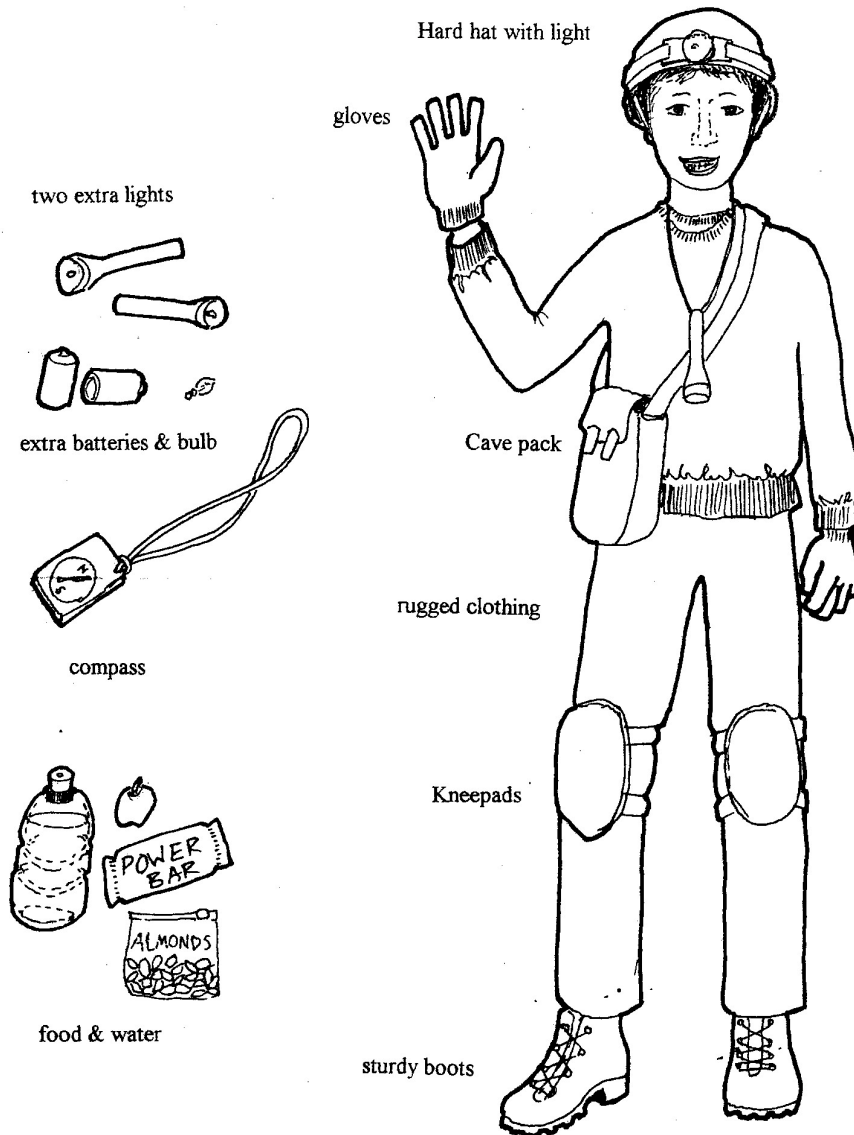


Shasta Area Grotto Kave Kids Koloring Pages - Equipment



Cave Equipment

Always be properly equipped before entering any cave

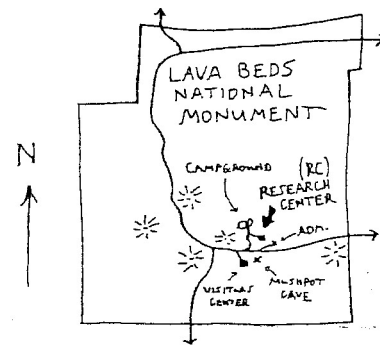
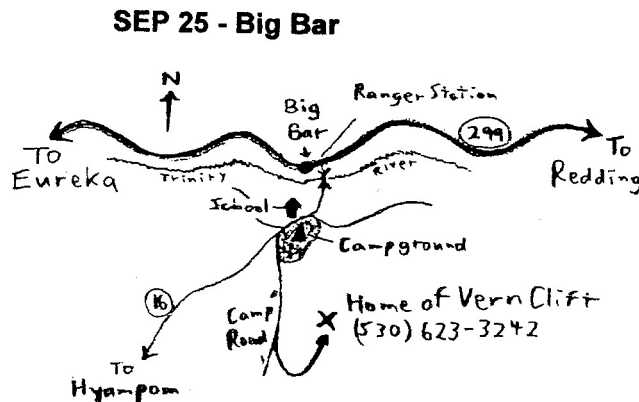
LW

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 or <jbroeckel@snowcrest.net>. For more on SAG, check the web site at <http://www.caves.org/grotto/sag>.

CAVERS CALENDAR 2009

- Sept 25 SAG meeting 7:30 pm at Cliffs in Big Bar (530) 623-3242.
 Sept 26 Grotto caving in Manzanita Ridge Cave, a solution cave, the Lord willing.
 Oct 10 CRF National at Lava Beds, Rogers/Helton 510-796-2283.
 Oct 10 KMCTF Speleocamp, contact Steve Knutson to confirm.
 Oct 30 SAG meeting at Lava Beds, call Wolffs at (530) 964-3123.
 Oct 31 Cave rescue practice at Lava Beds.
 Aug 2-6 2010 NSS Convention in Vermont.

MAPS TO MEETINGS



OCT 30 - Lava Beds

SAG RAG SUMMARY By Bill Broeckel

This edition begins with a note of sadness with the loss of long-time grotto member Jim Kottinger. We've tried here to celebrate his life as a caver, but mostly to remember and bid farewell to our good friend, Jim K. He was so designated to distinguish him from that other very wolfish caver, Jim W.

Beyond that, we offer a special large issue with the usual-assortment of newly mapped Northern California lava caves. Let's see, we have Blue Bucket (27'), Big Breakdown (422'), Slither (401'), Rolling Billows (38'), Snaked (131'), Packrat (140'), and Eagle Lake Ice (219') Caves. That's seven caves with a total length of 1,378 feet, all brought to you by this little grotto newsletter, where even small caves are dignified with a name and a map, even if they don't deserve it. Also in this issue, Bruce Rogers, Pat Helton, and Heather MacDonald team up to bring us an insiders' look at Cave Research Foundation activity in Lava Beds this July last. Thanks to Liz Wolff for the cool cover art. Feel free to color it. Liz is always working on interesting artistic projects and stuff. The public domain coloring book eagles on p.16 came from a free clip art website. Enjoy the SAG RAG, folks, its all about cavers and various local caves. All uncredited photos are mine except p. 4. **BB**

MINUTES FROM SAG MEETING July 24, 2009

JULY SAG MEETING 7-24-09 at Hobsons' in Redding. Present: Bill Broeckel, Dave Smith, Melanie Jackson, Steve Hobson, Jim Wolff, Brian Marshall, Dick LaForge, Hans and Leah Stein, Judy Broeckel.

Meeting called to order by Chairman Jim Wolff at 8:10pm. Minutes of previous meeting approved. Treasurer's Report: \$296.64 balance minus camping fees for total worth \$225.21. RAG expenses \$20. Web site report: Dave is loading SAG RAGs on website. He is adding some pictures. More pictures are desired. SAG RAG report from Bill "Bighorn" Broeckel: issue is out. Next issue should be out sometime around Labor Day. Editor has enough stuff. He plans to have lava tube articles and maps. Data base: nothing new.

Correspondence: Shane Fryer – SAG and Lava Beds rescue practice, no date firmly set yet. Possibly October, with grotto meeting?

Old Business: 2010 Western Regional – meeting with Dave Cruise and Dave Larson. Research Center, Columbus Day weekend, 2010. Virginia Bobrow and Linda Cliff volunteer to plan food and cook for the Regional. Mock cave rescue, date to be determined.

New Business: Jim Kottinger, longtime SAG member, died July 3, 2009. August 22, photomonitoring of graffiti in Samwel to turn over to law enforcement. Possibly rig pit for vertical practice.

Trip reports: Brian Marshall surveyed two small caves, found Indian grinding holes, looks like potential arch site. Dick LaForge reports he got on Steve's boat, admired limestone, found one cave entrance. Bill Broeckel surveyed Ethmoid Cave in the side of a spattercone, with a little help from Judy Broeckel. Steve Hobson reports significant graffiti damage in Samwel Cave. Next meeting at Wolffs Aug. 28, 7:30 pm. Vertical practice the next day. Bring vertical gear. Also opportunities for horizontal caving. 9-25 meeting at Vern & Linda Cliff's home. SAR cave rescue training the 2nd Saturday of the month. Cave trip tomorrow.

Meeting adjourned: 9:20 pm. Minutes respectfully submitted by Judy Broeckel, grotto secretary.

JB

MINUTES FROM SAG MEETING August 28, 2009

AUGUST SAG MEETING 8-28-09 at Wolff den in McCloud. Present: Ed and Virginia Bobrow, Ray Miller, Jim and Liz Wolff, Dave Smith, Neils Smith, Steve Hobson, Russ Yoder, Melanie Jackson, Wayne Cedidla, late arrival – Judy Broeckel. Nice day of caving, searching for Coyote Cave. Great dinner put on by Liz and Jim Wolff.

Meeting called to order by Chairman Jim Wolff at 7:40pm. Treasurer's report: \$136.64 in bank plus \$88.57 petty cash minus \$12.00 NSS website (not cashed yet) for \$213.21 total. Website: Robert is uploading SAG RAGs. Western Regional info to be put on website.

Correspondence: Shane Fryer wrote back about the cave rescue class, 30 Oct. Liz and Steve will set it up. Neils will be a subject. Ken Siegrist's Saddle Buttes weekend, Labor Day weekend. Cave rescue class in Oregon. WNS bat disease. Western Regional 2nd weekend in September.

Old Business: Western Regional Columbus Day Weekend 10-10-10 with CRF at Lava Beds, cost for camping (fee not yet known).

New Business: Clinometer and crow bar (tire iron) donated to SAG by Neils Smith. Saddle Buttes weekend. 9/25-27 SAG meeting at Vern and Linda Cliff's at Big Bar. Lanee Cook ranger. Survey CMR Cave. Meet at Research Center 10-30. Ray Miller says to watch areas where fires were, check burned areas for entrances near Castle, road to Fall River Mills, turn-outs, Old Station, and old Hwy 44. Dave Smith had a talk with George Stroud re: Nature Conservancy land. If research project planned, discuss with him. Research project RTC bat survey and GPS location. Survey and bookkeeping school soon.

Trip reports: Steve Hobson Samwel restoration trip with Melanie and Wayne, Forest Service, removed cigarette butts and beer bottle. Melvin Cave. Steve Hobson and his wife went to another Shasta County area with data from Dr. Hersfield, retired Paleontologist, in this area in 1974 or earlier. Possible September trip to LLC. Jim Dancy and Steve Hobson did some searching and report an 8 inch high hole, climbing up and back somehow. Bill Broeckel found some lava caves, one between Escapade and Dragon, could be Elderberry. Dick LaForge's bike trip went over 70 miles, Hobsons' to McCloud. Consider SAG RAG submission? Bill Devereaux and Ed Bobrow found three new caves, and pinned one, inside Lava Beds near C415. Tomorrow's trip – vertical practice, rig haul systems, take pictures, 150 yard hike to site.

Meeting adjourned: 9:04 pm. Grotto Secretary Judy Broeckel (and Steve Hobson)

JB

JIM KOTTINGER (1926-2009)**By Jim Wolff**

Photo: L-R; John Talley, Claude Smith, Jim Kottinger, Neils Smith, Don Quinton, Jim Wolff (lower right)

Jim Kottinger, long time SAG member, passed away on July 3, 2009. The funeral was July 10th n Mt. Shasta. His obituary in the Mt. Shasta Herald (7/8/09) says this:

“James Edward Kottinger, a resident of Mount Shasta, passed away on July 3, 2009 at Fairchild Medical Center in Yreka. He was 83.

James was born in Mount Shasta, California on January 17, 1926. He was a lifelong resident of Siskiyou County.

James was a veteran of the US Army Air Corps serving during World War II. He was the owner of a sand and gravel pit in Mount Shasta.

James was a member of Sons In Retirement, Experimental Aircraft Association and Studebaker Auto Club. He enjoyed square dancing, climbing Mt. Shasta and flying.

Survivors include two daughters, Cynthia Engstrom of Mount Shasta and Marilyn Ross of Rogue River, Oregon; three step-daughters, Sherry Shipley of Huntington Beach, Jill Ralston of Yreka, and Ellen Kuykendall of Mount Shasta; nine grandchildren; and three great-grandchildren.

A graveside service [was] held Friday, July 10 at 2 p.m. at Mt. Shasta Memorial Park. Arrangements were made by Mt. Shasta Memorial Chapel.”

– What the newspaper didn’t say, is that we knew him as a Caver! Jim joined SAG in 1983 with Ray Miller following a caving presentation at the Sisson Museum in Mt. Shasta. I remember him showing up at all the grotto meetings and most of the cave trips too. His enthusiasm and support for the grotto was commendable, and his name appears as a survey crew member on many of our cave maps.

He pitched-in whenever he could, for instance the cave register canisters and hanger hardware for our program of four caves, and he helped install them, and at the end of the program, he then helped mitigate the register sites. All the extra cave register parts were used in caves of the Marbles and elsewhere. He helped cook the goodbye breakfast at the 1991 Western Regional that we hosted. He was always the moral support for meetings with the FS and attended most of the grotto meetings, up until his wife, Bea passed away a few years ago.

As a pilot of his own airplane, he flew over Tombstone Mtn. and spotted caves for us to later locate on the ground, which we did too! For many years Jim was building an airplane in his basement – we asked several times, how; he was going to get it out of his house after finishing. And everyone claimed that never had a logical answer!

And there were always stories retold by him that had been confided by old Indians about wondrous caves as yet undiscovered by White men. Great cave leads!

We will miss him very much!

JW

PORTRAIT OF JIM KOTTINGER THE CAVER By Bill Broeckel

Jan. 21, 1990 it was George Reel and Jim Kottinger who drove up in a truck with an extension ladder to help my kids' group go through Sand Cave. This was our first contact trip with Shasta Area Grotto. George and Jim were very patient and calm with the children, some of whom were a little scared about going down the ladder and into the cave.

Later we became more involved with the grotto, and some of the meetings were at the Kottingers' home in Mt. Shasta, the town where he was born in 1926. His wife Bea was the grotto secretary, keeping the minutes of the meetings. Jim always had a kind word, friendly greeting, a cave lead or two, and a twinkle in his eye to go with it. He smiled readily and had a quiet, dry sense of humor.

I had a chance to ride with Jim on an Al & Phylis Henderson trip along a rough road up behind the Ishi Wilderness. We reached an overlook and realized that the caves we were seeking were deep down in the canyons and beyond our reach that day. Back in the truck we were driving along looking at the various drainages when Kottinger said "Well, if we get desperate we can always crawl through some culverts." Later that day, Jim helped lead the way through Inskip Cave. He seemed to have a comprehensive knowledge of the caves, but was not overly assertive about it. His interest in caves was abiding and it looked like he always enjoyed the grotto journeys underground.

Once I leafed through one of those weird Mt. Shasta Lemurian lore books, and was surprised to find a photo of a lava tube taken by . . . Jim Kottinger! We don't know what cave it was, either. Kottinger was a WW II veteran of the Army Air Corps, and had a lifelong interest in experimental aircraft. He had his own way of ridgewalking and finding caves – it was more like ridgeflying. He was known generally in the community as the guy who knew about caves. The grotto is diminished with the loss of Jim Kottinger, and we miss his presence and his chuckle, wearing his flight jackets and his ball caps. Goodbye Jim K., we wish you well on your journey through the caves of light beyond the sky. **BB**

A THREE CAVE DAY By Liz Wolff

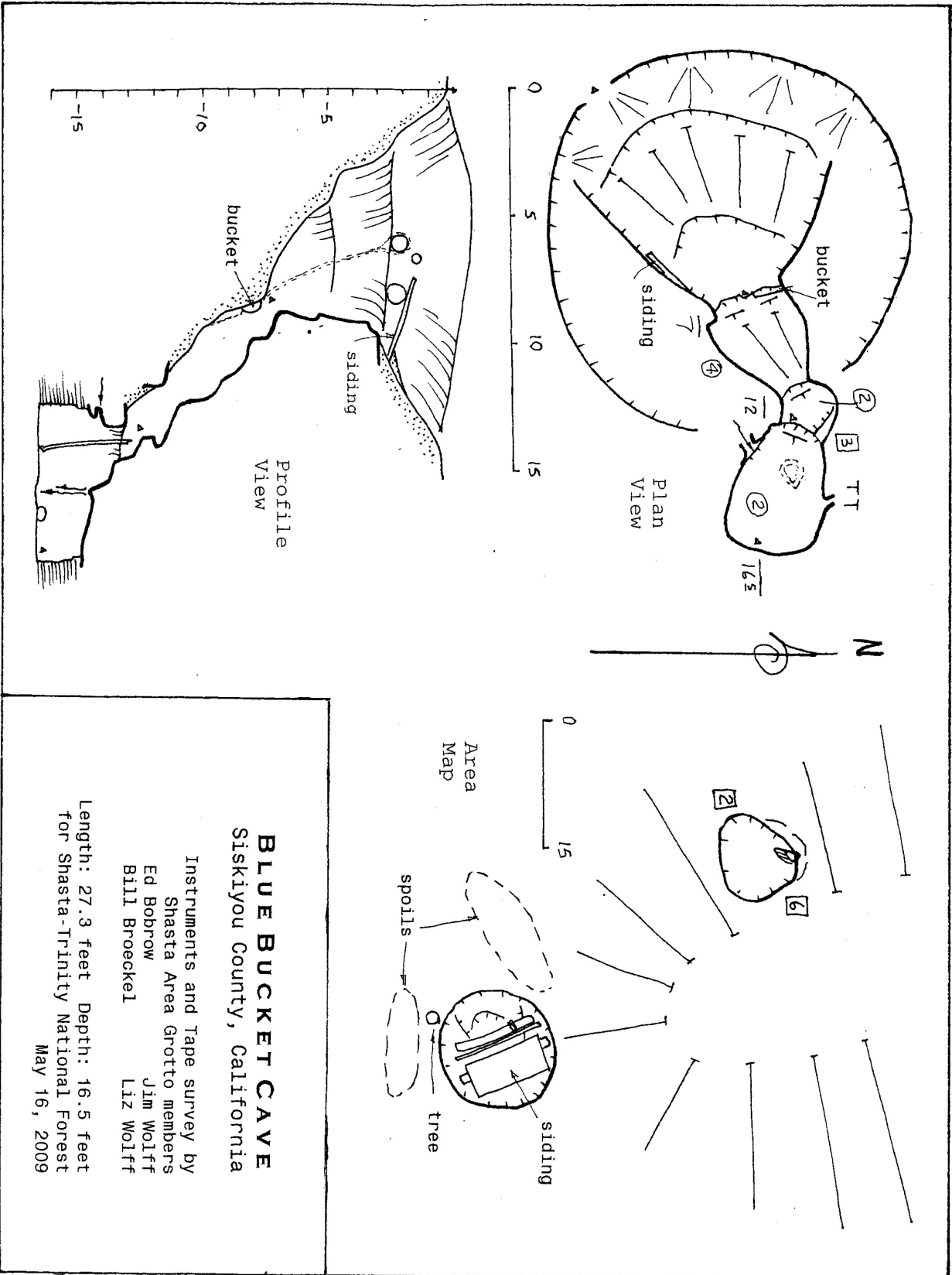
With visions of underground river cave leading to Big Springs a few miles away on the McCloud River, we expected to get wet! We expected to be groveling in mud! We expected ... but that isn't what we got. Water could be heard running from the surface, it sounded like a small trickle. Well, that could produce enough mud for a respectable mud bath Sooo, Bill Broeckel, Ed Bobrow, and Jim & Liz Wolff suited up to get muddy.

Who started us on this trip of wet dreams? Dusty Miller of the McCloud Ranger District of the Shasta-Trinity NF is who. A crew had found a deep hole in the woods while they were working and reported it to their boss Dusty, and he contacted SAG. That is what got us out the morning of May 16, 2009 with visions of river caving. A shallow depression with logs and sheets of plywood and the sound of running water was the description Dusty gave us, and that is what we found. The entrance is located under a roof of T -111 siding and small logs. One log has a knotted rope tied to it and to a blue plastic 5-gallon bucket on the other end. Two piles of material dug out of the cave look to have been deposited in the not too distant past; only a thin layer of pine needles cover them. Hmmm, is it a well or a cave? Natural or ?

The entire cave has very little rock evident other than that on the ceiling. The bucket supports part of the dirt and pine needle slope. A cloud of mosquitoes flock inside the second chamber, porcupine scat rests on a ledge above the third drop. The rope continues down from the bucket, and a steel bar is partially exposed in the mud. Drill holes, 12" deep, were found on the north wall. In the terminal room, the walls are composed entirely of finely striated sand or volcanic ash and small pebbles. It is a small 6X4X2 foot room with a trickle from a hole in the south wall, a waterfall in the middle and a puddle on the floor. Oh well. We surveyed the cave and took notes of all we found for a report and map for the FS. Blue Bucket Cave taped out at 27.3 feet long and is 16.5 feet deep. A small, either natural or dug, depression is located 43 feet to the north along the pressure ridge.



Entrance to Blue Bucket Cave May 16, 2009. We detected some signs of previous visitation.

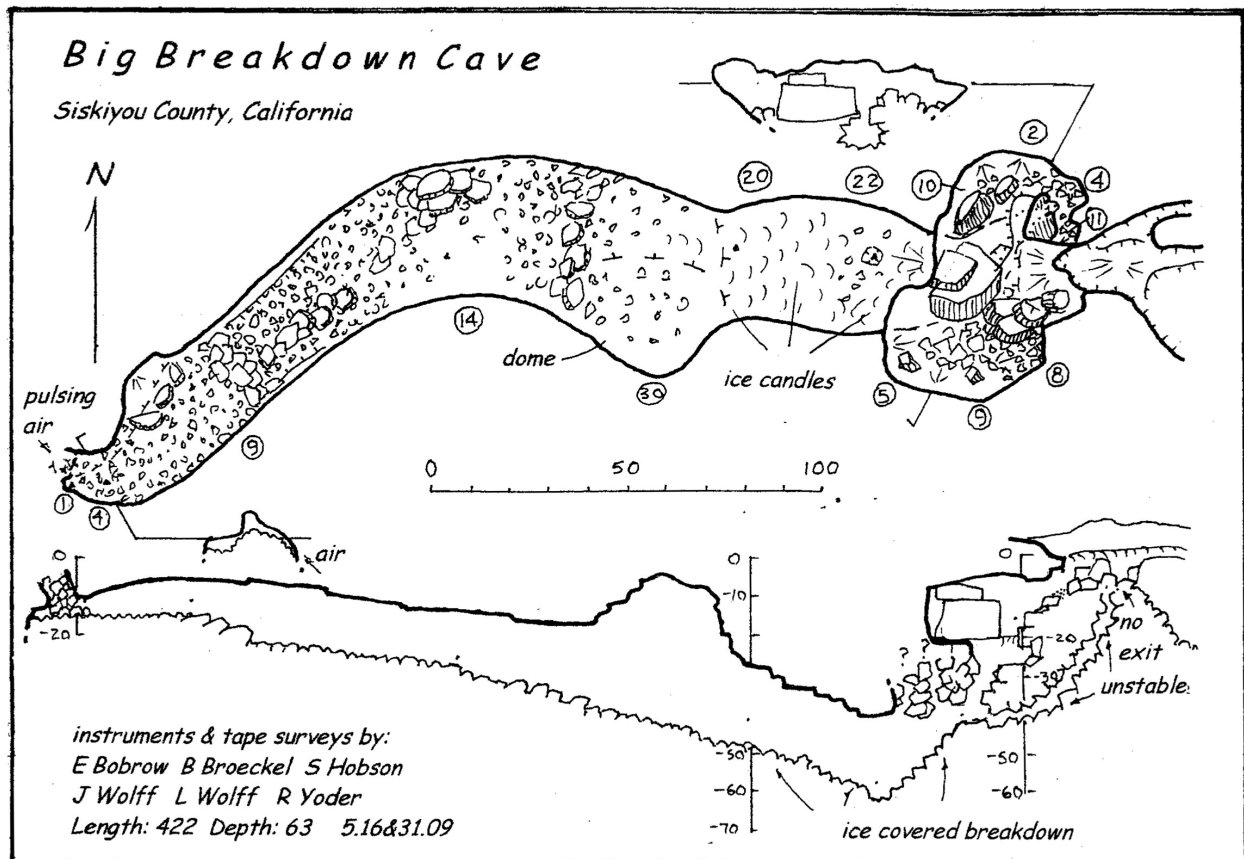


Map: Blue Bucket Cave

As we were getting out of cave suits it was decided we still needed to go caving, but where did we want to go? Jim wanted to go finish the Brown's whole Cave survey, but none of the rest of us were willing to go slime our way through that cave at this time; August maybe. How about starting on the resurvey of ... ? No. "While we were undecided Ray Miller showed up to see what we had found, then bailed on us to go mushroom hunting, as the warmer weather was bringing them up. We finally decided we'd go out to * Big Block Cave to survey the upper boulder level and make plans for dropping the pit and surveying the lower level. The survey went smoothly and was finished in an hour or so. The pit is about 40 feet in three steps, this first being 12 feet.

This part of the lava flow is well endowed with low broad 'surface tubes, and Bill found ** another cave in that category while hiking back to the cars. He stumbled across a low, broad entrance about 50 feet from the road, and couldn't pass up at least taking a look. It appeared to go only a short distance, but fit his definition of a cave. He and Liz entered it to do what looked to be a short survey. It went. We crawled, and it went, we slithered, it still went. It got lower and wetter and still went. We came to a small entrance and hollered for Jim and Ed to come enlarge the hole so we could get out. A contortionists dream, and the exit was accomplished. The survey totaled 225 feet and it still goes **LW**

- * Big Breakdown Cave
- ** Slither Cave



Map: Big Breakdown Cave



Jim Wolff at the entrance to Big Breakdown Cave May 16, 2009

HISTORY OF BIG BREAKDOWN CAVE

By Bill Broeckel

Some were calling this “Big Block Cave”, but there is another Siskiyou Co. cave with that name, so Big Breakdown won the day. Either name would fit the situation. The broad entrance chamber is floored by a jumble of big boulders the size of cars. On the first survey trip, when we did the upper level entrance area, Jim Wolff was commenting about the instability of the cave. Down below, it is hard to see what is keeping that jumble from crashing in on the empty spaces underneath. Good luck kids on this one.

SFBC cavers saw this cave about 30 years ago, back in the Four Balcony Pit days. They saw the pit, but didn’t come back to drop it or map the cave. I saw the pit a couple years ago and put it on my backlogged waiting list of vertical things to do. Then Russ Yoder mentioned that he and rock climber Daryl Rasmussen had done the pit and checked the cave back in the 90s, during the old Jefferson State Grotto days. But a survey was still needed.

The chance came this year, and SAG did two trips. On the second trip, Steve Hobson, Russ Yoder, and Jim Wolff rigged the pit. Soon all four of us were down below where a large lava borehole took off. Russ did the lead tape and we passed through a seasonal ice area. The cave ends in a small rockslide that blows in some air. On our way out we found some alternative routes in and through the breakdown jumble – free climbs!

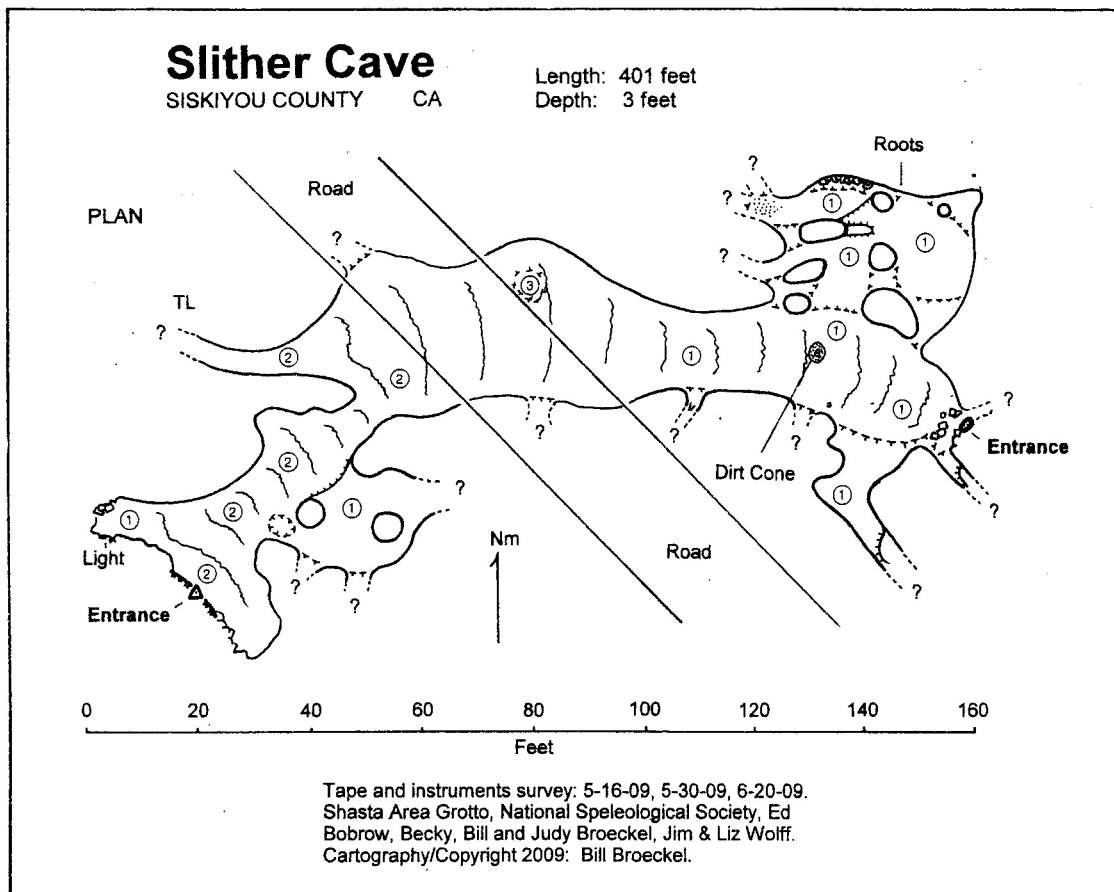
BB

SLITHER CAVE By Bill Broeckel

This cave is close to the road, in fact, it goes completely under the road. But the main entrance faces away from the road, so we hadn't seen it before. Here are some group ridgewalking ideals. Start mapping caves when they are found. It is best to try and start the mapping within 1 minute of discovery. Accordingly, I dove into this one with the survey tape; Liz Wolff came in to help. I expected a shot or two, but we were surprised to see the cave continuing past the narrows. We ended up doing a through trip and put together shots that included all the length of the main route.

Slither Cave consists of a main trunk passage with many lower side areas along the way. The problem here is that the main passage is only 1-2 feet high, so many of those lower side areas are problematic. The entire cave is a crawlway. Breakdown occurs only near the entrances, and much of the floor is quite smooth, with nice places to lay around. I even took a bit of a nap while Liz pushed one of those problematic side passages.

The cave gradually gets lower as you go. A glimmer of light appears, perhaps a way out. A devious route at a wicked angle leads under a small skylight. Rocks were in the way, but I could stick out my hand and call out to the surface crew. Jim Wolff and Ed Bobrow came over and pulled out the rocks. Starting on my back, bending at the waist, and then bringing my legs up underneath tailor style, I was just able to slither out. Liz came out from a prone position. I still don't know how she did that, but she did, bending in ways I can't imagine.



Map: Slither Cave

We made a couple return trips to add to the map, but the cave still has lots of question marks along the sides waiting for future cave mappers willing to explore ever lower passages. Current cave length is 401 ft. **BB**



Main (upflow) entrance to Slither Cave May 16, 2009



Back (downflow) entrance to Slither Cave May 16, 2009

ROLLING BILLOWS CAVE By Bill Broeckel

Newsflash: Bighorn comes up with another new cave. And a typical one it is. I found it last year (9-9-08) when I was running around in the dark, hoping to get some pictures of those tree cast pillars. Yup, another little cave upflow from those surface tubes with the interesting pillars. I didn't think much of it at the time, but then we came back last June to mop up some survey in Slither Cave. Slither is also in this same group of caves, but hopes of actually connecting Slither (401 ft) with Spider Web (286 ft), have been dampened by a small intervening open lava channel.

June 20, 2009: After Slither Cave was done with us, we still had some time. However, we dared not wander far due to an impending thunderstorm. So we thought of this new little cave, right nearby and real handy. Three shots later we had a 38-ft surveyed cave. The lay-out of the cave was just the opposite from the others in the group. Here the ceiling was all flat and level, while the floor did the undulations. That is why it was called "rolling billows". No pillars or ceiling blobs in this cave.

Now we have five mapped caves in this new surface tube area that SAG first stumbled across on a memorable Ray Miller trip in 2006. The other two caves were Tree Cast Pillar (136 ft) and Four Pillars (114 ft). So the total passage length for the entire group is 975 feet. Huge raindrops began evaporating off the lava flow as we expeditiously retreated to the car. However, we just did manage to locate the next cave upflow from Slither. So much for the "immediate survey" rule. There were no dust problems on the dirt roads. The rain came down by the buckets. But I could only smile on our way to the Hi Lo Restaurant. Those surface tubes really weren't quite done with us yet. **BB**



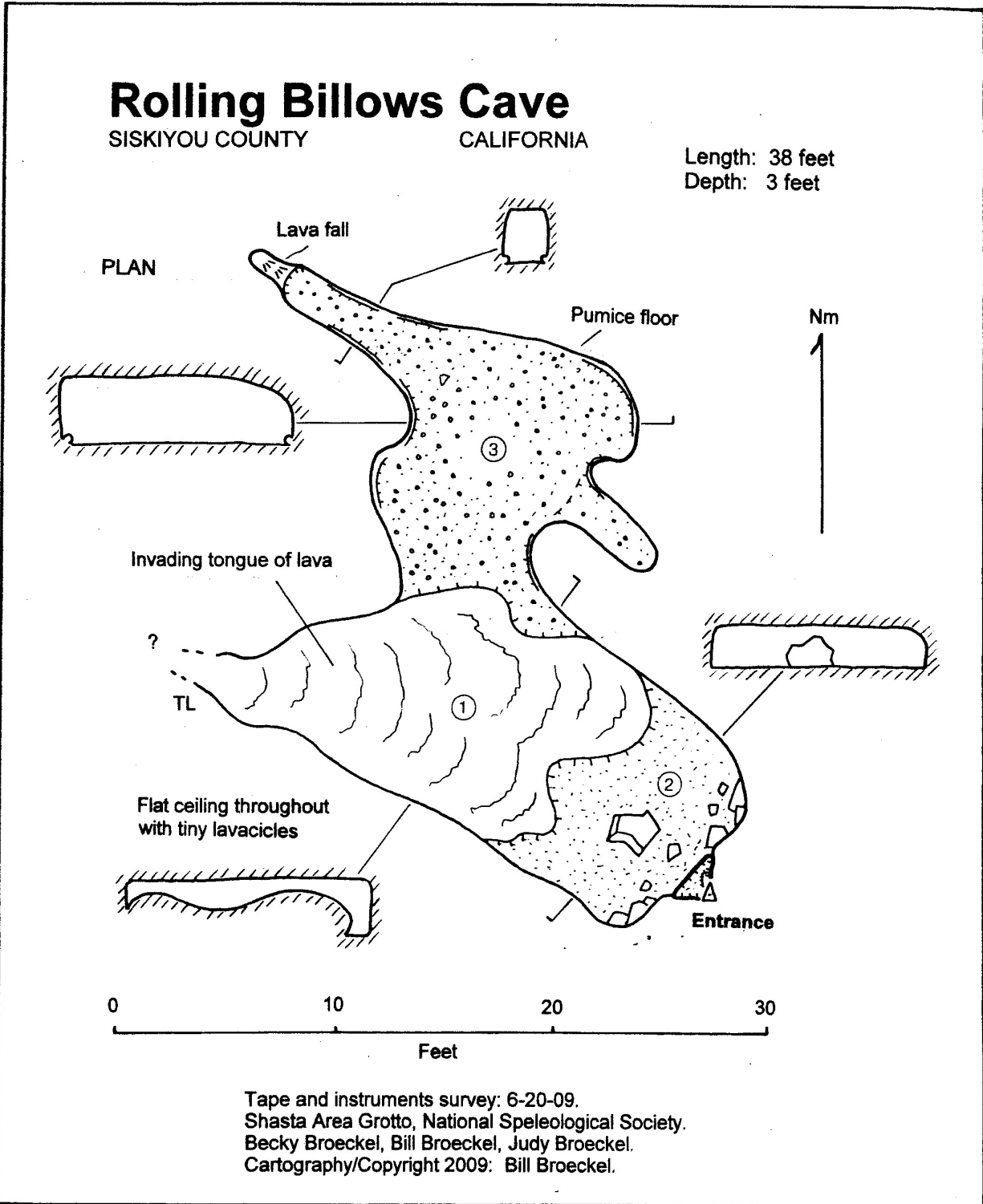
(L) Judy Broeckel, (M) Becky Broeckel, (R) Cave entrance.
Seasoned survey team prepares for Rolling Billows Cave. 6-20-09.

Rolling Billows Cave

SISKIYOU COUNTY

CALIFORNIA

Length: 38 feet
Depth: 3 feet



Tape and instruments survey: 6-20-09.
Shasta Area Grotto, National Speleological Society.
Becky Broeckel, Bill Broeckel, Judy Broeckel.
Cartography/Copyright 2009: Bill Broeckel.

Map: Rolling Billows Cave

EAGLE LAKE AND THE ACTIVITIES OF SAG's JUNE CAMPOUT

By Liz Wolff

"Eagle Lake Ice Cave appears on many road maps of northern California." is the opening remark in an article about the caves at Eagle Lake in the December 1956 NSS Bulletin. The article by Robert Given goes on to detail his difficulties finding the locally known caves, concluding his first paragraph with "Lava beds are the world's worst places for hikes!" When he was looking for the caves, road locations changed from time to time, area maps were at best 1/2 inch to the mile with little detail, and the flow was covered with a dense stand of mountain mahogany and sage. He finally found the caves with a group of students from the Chico State Biological Field School at Eagle Lake Resort, who helped him map the caves. "Lava caves are generally inconspicuous, and a whole new concept of search is needed by one accustomed to limestone caves" is his conclusion regarding looking for them. He also learned how to 'read' the flow to know if there was a likelihood to find caves. According to Given, much of the lava is of Quaternary age, thinly bedded and not severely eroded. The flows contain many cracks and fissures that have been generally mistaken for 'ice caves' due to the collapse of walls and deep coverings of debris. A couple of areas with the proper conditions for tube formation contain caves "similar to those at Lava Beds National Monument." No maps were included.

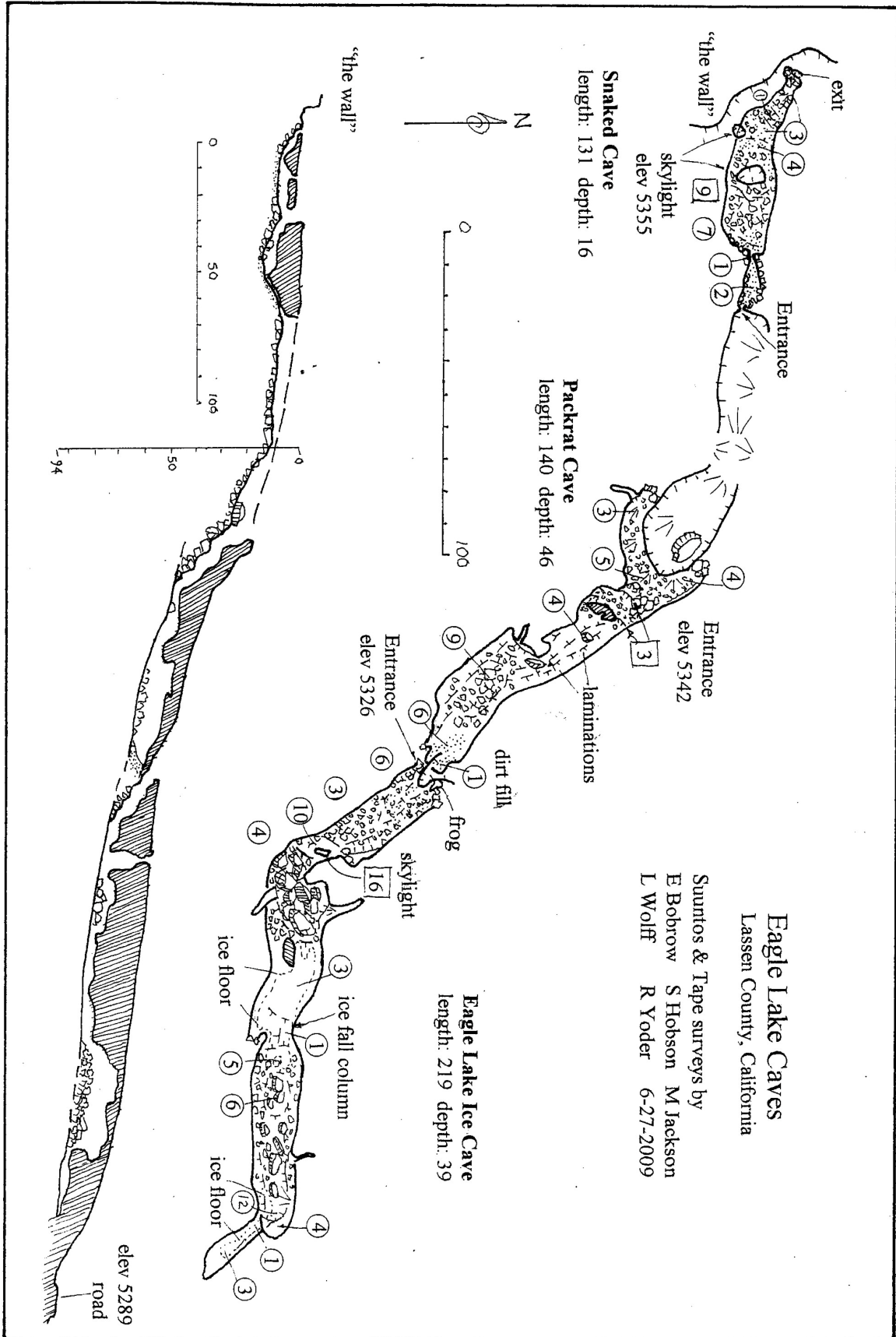
The terrain on two sides of Eagle Lake is steeply sloping pine forest, while the west and northwest sides are covered by vast lava fields with possible sources at Ice Cave Mountain, Ice Cave Ridge, Whaleback Mountain or any of several smaller unnamed cones southeast of these mountains. The flow is thickly blanketed with dirt and volcanic ash with only the occasional outcropping of lava, making finding caves somewhat difficult. The lake is about 5000 feet elevation; vegetation around the caves includes juniper, Jeffery and Ponderosa Pines with some oak and plenty of manzanita, mountain mahogany and sage brush. Following a couple of major fires, parts of the lava flows are relatively brush free, but the rest is densely covered.

SAG had made a visit to the area in the early days of the grotto, but no mapping or cave hunting had been done. SAG next visited the area following the urging of Neils Smith, SAG member and local caver. He had been talking about the area's potential for a few years and a trip was finally planned. This time we were prepared to survey the caves. At the proper spot we parked and followed a faint path up the hill to a skylight and then to the entrance of Eagle Lake Ice Cave. The entrance is a dirt floored funnel leading to a breakdown floored chamber. Crawl under a duck and walk into the skylight chamber, with glazed walls and a lot of formations. The skylight is 16 feet above the floor.

A low, wide, breakdown-obscured continuation leads into a chamber with a small maze of routes through boulders. On the south side of the room, near the ceiling is a ten foot long perched tube. Across the room on a four foot ledge is a nine foot long tube. Once past the breakdown a crawl leads to the ice floored room that gives the cave its name. This room ends in a tight, sloping crawl on ice, with an ice-fall column 1½ feet tall. This opens into the largest room of the cave with a breakdown pile covering most of the floor. The room appears to end with a chamber on a ledge seven feet above the floor. Below the ledge is an obscure crawl hole leading to the final ice floored room of the cave. It ends in a lava seal. The survey was done by Melanie Jackson, Russ Yoder and Liz Wolff. The cave taped out at 218.6 feet and is 39 feet deep. An elongated white earwig was seen when entering the ice chamber.

While the survey was going on, the rest of the crew consisting of Arley Kisling, Dave Smith, Steve Hobson, Jim Wolff, Ed Bobrow and Vern Clift went looking for Pack Rat Cave (mentioned in the Bulletin article) and any other caves they could find. They found Pack Rat Cave, a skylight entrance into a third cave, and an area of deep cracks, but no more caves.

One hundred and one feet upslope of Eagle Lake Ice Cave is the entrance to Pack Rat Cave. This cave is located in the east end of a long trench. The overhung trench funnels to



Eagle Lake Caves
 Lassen County, California

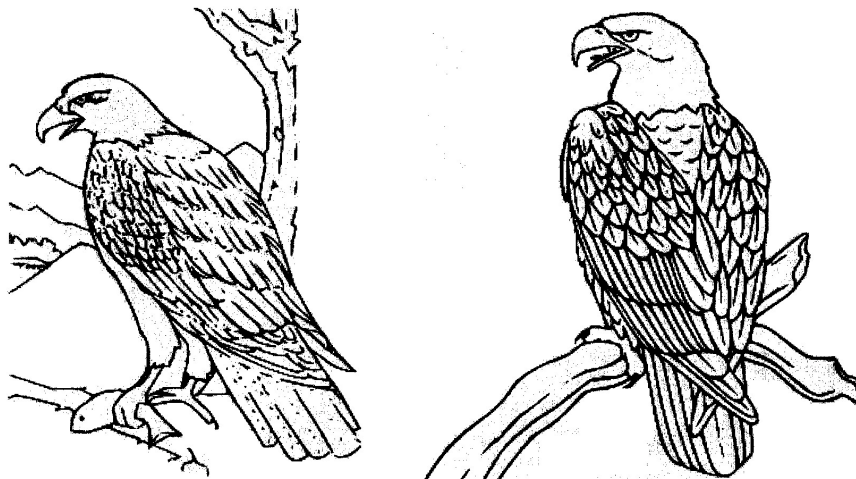
Suuntos & Tape surveys by
 E Bobrow S Hobson M Jackson
 L Wolff R Yoder 6-27-2009

Map: Eagle Lake Ice Cave, Packrat Cave, Snaked Cave

a small hole leading steeply down hill. The cave drops 26 feet over breakdown for the first 35 feet of slope, then levels out in a couple of chambers. The first chamber is about 20 feet long and five feet high, with its north wall exhibiting numerous 1" thick laminations. Through a two foot high crawl the final chamber is entered. It is largely breakdown floored and ends in a dirt fill. In the 1956 Bulletin article, Given describes the room: "It terminates as a dirt slope suggesting sectional collapse of the lava tube. ... Earth, fungus and sprouting grass were found in crevices along the floor; animal droppings were plentiful." We found no grasses, suggesting further dirt fill now fully blocks the ancient exit. Packrat droppings and fungus were present at the time of the survey. When the two caves are plotted together, it is found that the lower end of Pack Rat is directly under the edge of the dirt slope leading into Eagle Lake Ice Cave. Pack Rat was surveyed by Ed Bobrow, Steve Hobson, Melanie Jackson and Liz Wolff. It taped out at 139.5 feet long and is 46 feet deep. When our surveys were plotted, the caves very nearly join one another.

Eighty two feet above Pack Rat is Snaked Cave, so named for the gopher snake that startled Mel by slithering out from under a rock her foot was going to be on as we set up the survey shot to the next cave. The next entrance is an obscure hole in the end of the shallow trench leading from Pack Rat Cave. The dirt floored crawl contorts around obstacles then drops down a dusty slope to a tight spot, The Steve Philter, a nine inch high by two foot wide duck-under leading to the spacious skylight chamber. This chamber has two skylights, one is four by eight feet, the other is two by two feet. The larger skylight has three logs leaning against the side of the skylight but the smaller is more easily climbed by shorter people. A low wide crawl continues to the west and another entrance. The tape was passed through this low spot, not as tight as The Steve Philter, and a couple of shots taken to the final entrance. Just inside this small entrance is an occupied Black Widow Spider web, causing Steve to be less than enthusiastic about taping the width of the passage. Snaked Cave was surveyed by Mel, Steve and Liz and taped out at 130.7 feet long and is 16 feet deep. Outside the last entrance is a "wall" eight to ten feet tall that can be seen from the entrance to Pack Rat Cave. Above the wall the flow surface is much flatter than the slope containing the caves.

While these last two surveys were being done, Arley and Dave went to scuba dive in Eagle Lake, finding no underwater caves or fish; Jim went along as support. Vern and Russ went up to the area that is supposed to contain Indian Cave, also mentioned as being found in the Bulletin article. They found a dense brush field with no obvious caves or even very much exposed lava, and enervating heat. Vern returned to the ice cave area (thankfully) and waited somewhat patiently for the surveyors to return to the road, not forcing them to trudge the three HOT miles back to camp. **LW**



CRF LAVA BEDS JULY FOURTH, 2009 EXPEDITION

By Bruce Rogers, Pat Helton, and Heather McDonald

Pat Helton and Bruce Rogers drove north, arriving at the Lava Bed Research Center (RC) at 11:30 PM Wednesday and spent the next 3 hours cleaning up the mess left by the last researchers before considering the place fit for habitation. The following day was spent setting up the RC for the incoming hordes. CRF cavers from SFBC, Shasta Area Grotto (SAG), Mother Lode Grotto (MLG) and Diablo Grotto (Diablo) filtered in during the afternoon and evening and all were safely tucked in bed by midnight.

Sentinel Cave was the objective for two teams on July 3rd. Brian "Beej Jorgenson" Hall (Diablo) led Bruce Rogers, Marc Hasbrouck (MLG), Kaedean Doppelmayr (MLG), Tom & Catherine & Abigail Purciel (MLG) into The Basement to continue the Memorial Day expedition survey. They spent a couple of hours getting thoroughly chilled while surveying around the Imagination Traverse. On the return journey, very small Indian Red-colored lava cave blisters in the chimneys area plus a small room within the chimneys area with a very small diameter, triangular cross section tube and an exposed, bright red-orange-colored basalt dike in the ceiling were noted. The crew managed to complete a total of 103 feet surveyed passage.

The other team of Matt Leissring (MLG), Heather McDonald (MLG), Jim & Liz Wolff (SAG) entered the Wabbit Entrance of Sentinel Cave to survey in some side passages near that entrance. During the process of relocating the stations, three flying bats, probably solitary male Townsend's Big-eared bats, were seen, so the crew decided to leave the area. As a result, only twenty-eight feet was surveyed before leaving the cave. Returning later in the afternoon, the crew tied the Sentinel Lower, the Pit and Bridge, and the Wabbit Entrances together in an overland survey. A short surface tube adjacent to the Pit and Bridge Entrance – named the Sentinel Attic – was also surveyed since it led to yet another skylight entrance into the lower main passage of Sentinel Cave just upstream from the Pit and Bridge Entrance. To make up for the earlier chiropteran stone-walling, nearly 980 feet of cave and surface survey was logged.

After assisting in the Valor in the Pacific Tulelake Internment Camp Unit dedication all morning, Ed Bobrow picked up Pat at the RC, then returned to Sentinel Cave to join Beej's team, arriving in time for the partly frozen crew to exit the cave's lower levels. Virginia Bobrow, showing more sense, stayed at the RC to complete preparations for the night's dinner. That evening, Bryan Culbertson, Chantae Lucero, and Will Moffet from SFBC arrived just in time for the large BBQ dinner. Later that evening, the much-vaunted Order of the Pink Flamingo was conferred upon Pat and Bruce by the assembled masses (Don't even ask about it ...)

Since returning to Sentinel Cave was out of the question for Saturday the Fourth, Bruce entertained suggestions for the Cave Destination Of The Day. After strenuous lobbying by Matt Leissring, Hercules Leg Cave was decided on as a target (it turns out in later discussions that Shane Fryer had also thought that Hercules Leg would be a good next target after completing Sentinel Cave). Matt then led Jim, Marc and Kaedean in surveying and inventorying from the Entrance pin through the upstream maze portion, netting 350 feet of lava decorated passage. They were joined mid-survey by Pat Helton to help with inventory.

The second team of Will Moffet, Beej, Heather, and Bryan Culbertson began at the Second Skylight, surveying back toward the main entrance and netting 220 feet of the main passage. The team left the large Birds Head side passage to be finished on another trip.

The third team of Liz, Bruce, Chantae, and Ed Bobrow began at the Barrel Skylight and surveyed back toward the rest of the teams. They picked up the side passage well decorated with gold and silver slime, that Bruce dubbed Constellation Hall for the reflective water drops on the jet black-colored ceiling. This black, domed 20-foot-diameter chamber was of some interest as it was a former lava pool fed from a low, pahoehoe-floored crawlway. After filling nearly 5 feet deep, some sort of plug in the lower passages gave way and the pool drained quickly, leaving a deflated floor of foot-thick lava plates. The last dribbles of lava formed a five foot high lava falls and frozen waterfall of aa. An adjacent, lower crawlway led to a similar pahoehoe-floored rounded chamber a few feet high that voice connected back to an alcove in the main passage. Chantae quickly picked up CRF survey techniques and was honored by naming the upper level crawl off Constellation Hall, Chantae's Loft. The total survey for the day was 286 feet.

Lacking any good sense at all, on Sunday, July 5th two teams returned to Hercules Leg Cave to finish the complexity in their surveys. Matt led Heather and Jim to the crawly portions of the Wabbit maze and netted 335 feet of snug passage.

Liz led Bruce and Ed back to finish the main passage to the Second Skylight. A low alcove was pushed by Ed, which led to an even lower crawlway studded with lavacicles and aa floor. Showing almost human intelligence, the crew shoved a tape in for distance and took compass readings from either end. At another tiny skylight near the Tree Skylight, a tape was innocently and gently pushed up into the ceiling. A lone bat fluttered around the tape, then returned to snoozing, satisfied it was no threat. Pat joined them later in the afternoon to help with the survey and inventory. The survey ended at the Second Skylight tie-in point set on Saturday; the survey totaled another 445 feet of lava tube.

That morning another team led by Beej and composed of Bryan, Chantae, and Will went out to Heppe's Ice Cave to recon the ice pond and prepare for the coming survey of the cave. The ice pond was, indeed, gone. Shane Fryer had mentioned it drained and dried late in the fall of 2008, but Beej managed crawl under the floor breakdown and find footstool-sized ice blocks and foot-long icicles among the bocks.

Marc led Kaedean, Tom & Catherine & Abby Purciel over to Doc Yock Cave and field checked the survey data and map. This was Abigail's first cave survey trip and she did very well, even correcting her dad's survey shots. By early afternoon, most all CRF folks had left for home.

On Monday July 6, Pat, Bruce, Jim & Liz sat down in the morning to start to revamp the current Cave Inventory Form. At 3 PM the four of us met with Superintendent Dave Kruse, Resource Manager Dave Larson, Physical Scientist Shane Fryer, and Resources Ranger Shawn Thomas to talk about CRF's role in the park; the use of the RC by other researchers and their responsibility of cleaning up; the Park's responsibility in monitoring the RC's condition; the soon-to-happen CRF National Expedition on October, and, more importantly to SAG members, the upcoming 2010 Western Regional meeting to be hosted by SAG. Jim & Liz then left for home. Beej, after a morning of data reduction, joined Pat and Bruce to finish off cleaning the RC, then he left for home, stopping for a quick hike up Goose Nest (peak) above Grass Lake. Later that evening, Bill, Judy, and Becky Broeckel arrived at the RC and all collapsed for the night.

Tuesday morning, July 7, Broeckels left for the Bertha's Chimney area. Bill managed to squeeze into a small pit and crawlway combo that roughly slanted down parallel with the surface of the chimney for about 35 feet of passage. Bill, after a little cogitation, named the

32-foot-long cave Ethmoid Cave (for more about one's sinuses from Ph.D. candidate Shelly Batts(!) see: <<http://tinyurl.com/l4nzzt>>

Broeckels left for home after a huge veggie and salad meal; Pat and Bruce stayed at the RC dealing with yet more paperwork.

On Wednesday, July 8 and after a thorough cleaning, the RC was secured, various items left with the NPS folks, and Pat & Bruce traveled south to home; only a total power failure of Pat's truck at midnight near Woodland slowed them (fortunately an uphill push off the freeway and field repairs allowed them to reach home just after 1:30 AM).

A total of 1892 feet of cave survey in both Hercules Leg and Sentinel Caves and 978 feet of surface survey were done during the 186 hours of caving this trip. Pending final survey data compilation, it appears that the Labyrinth Cave system may be the second longest lava tube in the Continental US, only Saddle Butte Cave system near Bend, OR, being longer. Ape Cave in Washington is now third in length. **BR PH HM**



Crumbly 6'x2' entrance to Ethmoid Cave 7-7-09

HAVE A GOOD FLIGHT JIM KOTTINGER



U.S. ARMY AIR CORPS



WWII Vet Jim Kottinger (NSS#26621) assisting youngster entering Sand Cave on January 21, 1990

SAG RAG

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TO: