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Cascade Caver

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Cascade Caver

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GROTTO MEMBERSHIP

Membership in the Cascade Grotto is \$7.50 per year. Subscription to the *Cascade Caver* is free to regular members. Membership for each additional family member is \$1.50 per year. Subscription to the *Cascade Caver* is \$7.50 per year.

GROTTO ADDRESS

The grotto post office box should be used for both the grotto and the *Cascade Caver*. It is: Cascade Grotto; P.O. Box 75663; Seattle, WA 98125-0663.

GROTTO OFFICERS

Chairman	Jim Harp	206 745-1010
Vice Chairman	John Benson	206 877-5751
Sec/Treas	Ben Tompkins	206 546-8025

OTHER POSITIONS

Trips	Jim Harp	206 745-1010
Programs	Larry McTigue	
Map library	Rod Crawford	206 543-9853
Book library		
Editors	Mark Sherman	206 524-8780
	Ben Tompkins	206 546-8025
Cave registers	Mike Wagner	206 282-0985

MEETINGS

Regular grotto meetings are held monthly at 7:00 pm on the third Friday of each month at the University of Washington, Room 6, in the basement of Johnson Hall. Business meetings are held in odd-numbered months immediately following the regular grotto meeting for the month.

DUES NOTICES

Members and subscribers please note the date on your mailing label that indicates when your dues expire.

Drop: John Collins, Chuck Crandell, Jeff Forbes, Kevin Greenwood, Peter Henry, Alan Lundberg, Mark Wilson

Overdue: Kevin Bagley, Boyd Benson, Rod Crawford, Dr. Stephen Gates, Mike Ramey, Robert Stitt

Due: Walter Bjornstedt, Fredrick Dickey, Richard James, Marty Verbarendse

Coming up: John Benson, Alan Coakley, Phillip Erickson, Roger Garratt, Dr. W.R. Halliday, David Klinger, Curtis Rideout, Steve Sprague, Karl Steinke, Ben Tompkins, Mike Wagner, Kay Willhight, Scott Williams, Dan Zak, Louise Zak

OTHER GROTTOES IN THE AREA

Gem State Grotto, P.O. Box 1334, Boise, ID. 83701
Glacier Grotto, c/o Dr. Julius Rockwell, 2944 Emory Street, Anchorage, AK. 99508-4466
Oregon Grotto, c/o Mr. Roger Silver, 912 N.W. 50th Street, Vancouver, WA. 98663
Salt Lake Grotto, c/o Mr. Dale Green, 4230 Sovereign Way, Salt Lake City, UT. 84124
VICEG, c/o Mr. and Mrs. Graham Heslop, 1734 Albert Avenue, Victoria, B.C., V8R 1Z1, Canada
Willamette Valley Grotto, c/o Mr. Jim Mosser, 6002 N.E. Bryant Street, Portland, OR. 97218

COVER

Mervin Mitchell in "Close to the Edge of the Road Cave" on Vancouver Island. Drawing by Linda Heslop, VICEG.

UPCOMING EVENTS

Here is our current list of planned and proposed trips. There has got to be more than this going on! Just because it is snowing on Cave Ridge and the moose blasters have taken over Skamania county doesn't mean it is all over for the year. Call the Jim Harp, grotto trip coordinator, to find out what is really happening. Any other trip ideas are also welcome, contact Jim at (206) 745-1010.

- Nov 16 **Grotto meeting.**
Nominations for 1991 grotto officers.
- Dec 21 **Grotto meeting** or Christmas Party (?)
- 1991 Northwest Regional Meet (NCA), Trout Lake, WA, Memorial Day weekend (May). Hosted by the Cascade Grotto.
- 1991 NSS Convention in Cobleskill, NY
- 1991 August 5-11: 6th International Symposium on Vulcanospeleology, Hilo, Hawaii. Contact W. R. Halliday, 6530 Cornwall Court; Nashville, TN 37205.
- 1992 NCA Regional in Idaho

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Notes from Deadhorse Cave

By Jim Harp

My motives for visiting Deadhorse Cave and the town of Trout Lake on the weekend of Aug. 24th. were twofold. My sister-in-law and her children were visiting us from England and had expressed an interest in seeing what a lava tube cave looked like. I also wanted to check in with the Trout Lake rangers to get information regarding the proposed 1993 TAG timber sale.

The Mt. Adams Ranger District has proposed the harvest of approximately 241 acres of timber in the vicinity of Deadhorse Cave along road 88 and Deadhorse Creek. The estimated value of the project being 2.75 mil. The proposed Forest Plan does designate Deadhorse Cave as a special geologic management area with 36 acres exempted from clear-cut to protect the cave. I have requested that the rangers send a map outlining the exact area to be preserved. There are also other caves within the planning area which are not mentioned in the proposal.

Other concerns expressed in the timber harvest proposal include the possible impact to fisheries, wildlife, visual quality, plants, recreation and reforestation.

We arrived at the spur road turnoff to the upper entrance just after dark on Friday night and proceeded to drive up the very primitive track with tent trailer in tow. About 3/4 up the road we found our progress blocked by several deadfalls across the road. Backing the trailer down the narrow road in the dark proved to be one of life's major annoyances - like walking

backwards without a headlamp in a cave while carrying five other guys' packs. We finally did get backed into a nice level spot and had things set up before the first raindrops fell.

The next day we stopped by the rangers station to get information regarding the proposed clear-cut and to request permission to remove the fallen trees. Permission was granted so we phoned John Benson to bring his chain saw when he came up later that day.

Deadhorse cave is an ideal place for a novice trip, it is just complicated enough to be interesting but not so difficult as to give anybody a bad experience - (or not too bad).

We started the ever popular trip at the register followed by a squeeze down the Rat Hole, then a ten foot free-climb to the upper end of the river passage. You should remember to warn your novices to listen for the tell-tell sound of rushing water, indicating that some freak rainstorm is flooding the cave. An underground stream does boil to the surface near the lower end of the river passage, with a water rushing sound which is heard a long time before you get there. This is when your unsuspecting neophyte's imagination takes over, causing hairs to stand on end while knees knock like castanets. Some fun, huh?

Eventually we encountered the lower cave passage which after a series of tight crawls, deposited us at the lower entrance, this area is best dealt with by keeping to the right - those cavers who allow themselves to drift left are frequently sucked into the place known as "Masochist's Maze" - a good place to get lost. Once I went into the maze with my son Ryan and Jerry Thompson for the purpose of checking the accuracy of the map and we promptly got ourselves lost, finding the map to be about as much help as a

motor oil rebate coupon. Upon exiting, we ran into Scott Linn of Willamette Valley Grotto and his friends, Mardi Keltner and Larry King who had just emerged ahead of us after spending five hours, rambling around in Masochist's Maze.

I am pleased to report that the condition of the cave was very good with no trash or other debris found. The register which was placed in 1988 was clean and dry with a number of names and comments having been entered.

Our friends, John and Coreen Benson arrived later that day with their children, Jay and Sarah. John's chainsaw made short work of the dreaded deadfalls. The trip was another good one, I can't remember being on a bad one, even when I have to back up the tent trailer in the dark. As of this date I have not received the promised map from the rangers but I'll keep after them and keep the grotto informed.

Spain 1990

By William R. Halliday, M.D.

1. Salt Caving

During the 1986 International Congress of Speleology in Barcelona, I wanted to go on two field excursions. One included the Cova de Salnitre, a fascinatingly extensive cave in beautiful conglomerate. The other included the Cova del Forat Mico, a surprisingly extensive solution cave in salt in the Muntanya del Sal at Cardona, 50 or 60 miles northwest of Barcelona. Unfortunately the trips were at the same time and I chose the

former. I vowed to come back and see the cave in salt. In September 1990 it became possible through the kind assistance of two of Barcelona's leading international cavers: Toni Nubiola and Montserrat (Montse) Ubach i Tarres. (If you students of Spanish think I have the spelling wrong for a lot of these names, I don't. The language here is Catalan, not Spanish.)

The famous Salt Mountain at Cardona was mined for hundreds, perhaps thousands of years until the day before we arrived. Huge tailings show the extent of operations which are said to extend to a point 3,000 feet below the surface. Karstification is prominent on these tailings.

Following the mountainside road from the middle of Cardona we soon came to a main gate. Here we told the watchman we were going to the cave, turned left, and parked cautiously between new-looking sinkholes atop a flattened tailing. Below and to our right was a steeply sloping, tightly-banded wall of rock salt a few hundred feet high, looking much like a well-crevassed multicolored glacier snout. On its face and along the switchback trail down the tailing were innumerable karstic openings and karren. At the tip of the "glacier" was an artificial tunnel. To its right was a supersaturated stream trickling from a fissure and busily depositing white to tan encrustations on its way to a quicksand-like salt flat pockmarked with shallow sinks.

The cave lies along the far side of the "glacier". As we scrambled up the trail, details of the bedding became increasingly clear. Glass-clear salt was rare but tan, pink, apricot, ground beef, and white were common colors in the bedrock; the last also appeared in the form of flowstone and crusts.

"It's different every time we come," Toni observed.

He and Montse restrained me from checking several short segments of what had once been part of the cave some 20 years ago. Along their course I could see segments of a larger stream on its way to the salt flat.

Ultimately we found the stream emerging from what is currently the lowest entrance of the cave. Here it flows over beautifully banded salt with white salt flowstone and crusts overhead. Along the stream canyon passage I noted two dome pits (one opening to the surface), a domed chamber, stream flutes, and phreatic pockets. At one point a contorted crawl was necessary, involving undue familiarity with sand, gravel, stream cobbles, and supersaturated water.

But it was worth it. Soon we could clamber up into a small canyon complex and admire multinodular salt stalactites up to a foot in length, white to mud-colored.

Many of them were angled, like the gypsum chandeliers in Lechuguilla Cave. From several, water was dripping slowly. In general, there were no corresponding stalagmites but rather some small, stubby stalagmites elsewhere in the cave.

Ultimately we clambered up into a short but spacious upper level with two main rooms. Here the salt bedding and salt speleothems could be admired more comfortably. Here also was a convenient upper entrance with spectacular crusts of white salt.

My impression is that speleogenesis in salt – at least in this cave – is more complex than I had expected. Gravel and large stream cobbles are present even several feet up the walls of the upper level. This is not a big cave, but I found it fascinating and want to study others of its genre. Lake Mead

flooded the only ones known in the United States, but Colonel Cave in Israel is reported to be a nice example and others are known in North Africa. Maybe also there are some natural caves exposed in Poland's famous salt mines at Wieliczka.

But I'd like to have a shower available next time I crawl through supersaturated salt water and salty gravel. After a while, it really makes its presence known in and inside caving clothes.

2. Conglomerate, Concerts, and Karsts

On September 9, the day after my first salt caving, my host Alfred Montserrat and other members of the AGIP Club were scheduled to haul scuba gear into L'Espluga de Francoli, about 60 miles west of Barcelona. Also known as Cova les Aigues, the cave became the third longest in Catalunya as a result of mapping on this trip even though the attempted scuba dive was unsuccessful. Alfred suggested something of a tourist trip in the cave for me with two members of his club plus a visiting Swedish caver, and this worked out well.

Like many Catalunan caves, Francoli Cave is in conglomerate with a few lenses of grey limestone that form fine vertical karren. The conglomerate matrix here appears much more calcareous than at Cova del Salnitre and the individual pebbles and cobbles in the bedrock project much more into the passages. I found its overall pattern indistinguishable from that of ordinary solution caves.

Beyond the gated entrance on the outskirts of town, a spacious, lighted, ex-commercial walking passage soon changes into a series of low, muddy

near-parallel routes. One of these leads to a stream passage mostly 3 to 4 feet high, then to a large chamber. The chamber is the site of an underground reservoir, mostly empty at this time. Beyond is an upstream continuation of the stream passage, gradually lowering until us "tourists" decided that we had enough mud on our helmets and turned around.

Here we saw the only large dripstone in the cave, undergoing resolution. The narrow downstream section of the stream passage recently was forced and the explorers emerged at the town's famous cavernous Font Major (Big Spring). Since its official establishment in 1079, the town has borne the name of the cave but archaeologists have shown that humans have lived in and around the cave since prehistoric times. Espluga is a cognate of the Latin word spelunca and it is not at all unlikely that the cave was well known in Roman Spain.

The next day I flew to the island of Mallorca where I was warmly received by the Ginès family and given a fine tour of Palma. Alas! The little show cave in town was closed. On September 11, however, they provided me with a wonderful tour of the spectacular karsts of the Serra de Tramuntana in northern Mallorca between a point above Sa Calebra to Formentor and Alcudia. Oddly for a Mediterranean island, the highest ridges reminded me of an alpine karst with bare, heavily eroded limestone cliffs gentling out into lightly-vegetated flats. These flats are heavily dissected by amazing dendritic gorges, some said to be so narrow and so overhung as to exclude all light as they near the sea. Locally, vegetation is dense. Elsewhere the limestone is bare with a wide variety of exceptionally developed karstic forms including stone forests.

Some towers resemble those of Australia's Chillagoe but are not hollow.

At the seaward end of a large, shallow blind valley, less than a quarter mile from the sea but maybe 1000 feet above it, we visited two shafts more than 100 meters deep – the Avenc de S'Aigo and Avenc des Llorer – the latter a miniature Sotano de las Golondrinas. We finished the day with a commercial tour of Cova de Campanet, in a conical limestone hill between Inca and Alcudia. Despite "green death" growing around many of its lights, the tour was well worth the cost with exceptional straw stalactites, tall thin stalagmites, shields, helictites, and huge welt deposits. Diner was in a cavers' hangout in Inca with delightful Mallorcan food and "avinya negra."

My plane did not leave until 10 pm on September 12, allowing enough time for visits to the other three show caves of the island. First was Coves dels Hams – Cave of the Fishhooks – referring to helictites found here in beautiful profusion in one small room. Elsewhere in this cave is a wide variety of fine "pretties". The other leading attraction here, however, is a sound and light show on a little saltwater pond. A violinist and pianist with a rowboat-sized piano play three romantic melodies as the boat is sculled along. Applause was scattered. Just beyond is a glass jar containing several isopods about 1 cm long collected in the cave for tourist inspection. Despite annoying wire fences and the pitiful imitation of the show in Coves del Drach (see below), I found the tour worthwhile. Visitors emerge into a big sotano-like sink, probably used throughout history and

some prehistoric times. Now it is the site of evening folk programs.

Located right in the tourism area of Porto Cristo, the Coves del Drach (Dragon Cave) is different. Here enormous crowds are herded rapidly through an extensive Bermuda-style cave to an auditorium at one end of a U-shaped salt lake for a short classical concert performed by two violinists and another mini-pianist. Here there are three boats and they are rowed, not sculled. Applause was generous. Afterwards a few people have the chance to be rowed along the lake to the exit. Having been told of this I was close enough to the head of the line to be among them. The others file out with hardly a word about the cave and its impressive speleothems, some of which extend below the present water level. It looked like there were more than a thousand tourists in my particular group. Maybe it is better in the off-season. It is a unique spectacle and most visiting cavers and speleologists will want to see it once.

Both Drach and Hams are in a porous, poorly consolidated young limestone unlike that of the Serra de Tramuntana and Arta.

Although located in the same part of the island, the Coves d'Arta is a different matter from Hams and Drach. The huge entrance is high in a towering sea cliff of well-consolidated older limestone. It must be visible far out to sea and may have been the inspiration for the age-old legend of the cave of Polyphemus in Homer's Odyssey. Though not lengthy, it has huge rooms splendidly decorated by towering thin stalagmites and groups of columns. Many notable shields are present and waterline mammillaries can be seen high above the floor. The cave has been visited and inhabited since prehistoric times and so makes

much of it a study in black and white. Nevertheless, this is a cave for connoisseurs. Nearby geology is delightfully complex, also. Arta is not to be missed.

For caver and speleologist alike, three days on Mallorca is far too short a time. What a place it would be for a meeting of Friends of the Karst!

Coin Slot Cave

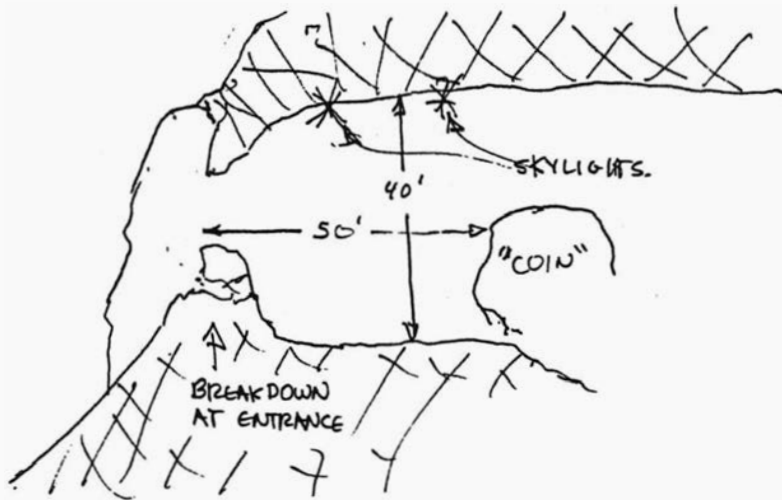
by Karl Steinke

While scouting out rock climbing areas late last June on Mount Washington, I discovered a fissure cave, Coin Slot Cave, when I was attracted to the cool air breeze from the entrance. It appeared to extend more than fifty feet. I returned later with Carl King to investigate further.

The entrance to the cave is a scramble over some breakdown. The passage is narrow, about 18", and can be followed along the floor for about fifty feet to where a large exfoliation bisects the passage. Looking along either side it appears the passage drops down past the exfoliation (the "Coin"). It was apparent from the entrance that the passage extended well past the Coin (probably at least another fifty feet) but unless you are very slender obtaining the balance of the passage requires going over the top of the Coin.

A large quantity of fungus killed moths were in evidence and there was no evidence of previous discovery.

As a further note, if you follow along the railroad grade which is below the cave there is a blown trestle (about 200' high???) that can be used for vertical practice.



COIN SLOT CAVE

Rough cross-section (from memory) is a fissure with width of 18 inches or less along the floor. I appeared to drop down past the "coin" and continue for at least another 50 feet.

Papoose Cave

by Howard Hoyt

Friday morning of Labor Day weekend saw Jerry Thompson, Larry McTigue, and me packing Jerry's van chock tight and heading eastward to Idaho. Jerry made the long trek more entertaining by taking us to Paloose Falls, to a friend of his in Clarkston (a town which has the most imaginative and grandiose names for its alleys, dirt roads and lanes), and to Lucile Cave.

The latter is a very attractive grotto with a short take-your-life-in-your-hands path up to it. It exists behind a waterfall with large windows looking out on the waterfall and the Salmon River Valley beyond. It was hard to believe it wasn't created by Disney as the evening sun perfectly illuminated an interior complete with beautiful flowstone, tites and mites, and pools with sandy shores. Truly a movie set cave, the kind with buried treasure in them.

We stopped in downtown Riggins at the Lariat Cafe where the servings of French fries are enormous, and then

continued up to camp where we discovered that pine firewood doesn't put out much. (Someone said that it was because it was virgin pine.)

Cavers go to bed and rise incredibly early. This is diametrically opposed to my idea of camping and I didn't get much sleep. First thing in the morning we signed our lives away with Gem State Grotto waivers and were off to the cave. The "trail" is from Hell. I was exhausted by the time I got there. And - worse yet - my heavy shoes were also from hell. Never again. My feet were killing me. Anyway, Jerry and Larry, and I were given the "easy" tour by Gem State Grotto member Thomas Curry, whose birthday provided a great excuse for cake later on. This included the famous pit (fortunately no waterfall), a side trip to the Rimstone Extension where the lower pools were dry, lunch in the Sand Room, up the cliff and over the pit to Grandmother's house we go, uh, I mean to the Big Room and on to Baseball Bat Falls. There were several well-decorated places along the wall including helectite bushes, snowballs, forests of soda straws up to 2 feet long, and oodles of flowstone culminating in

gorgeous Baseball bat Falls with its tiers of rimstone pools.

My strength failed me on the way out along with memory of how to attach ascenders and then my main helmet light. By the time I got to the exit culvert 6 hours after entering it I thought I would expire in it. Blue sky never looked bluer. I finally got out only to face the torturous hike out.

Jerry and Larry meanwhile, still bursting with energy, explored the upper entrance and started preparing their itinerary for the next day's caving. I started preparing for bed, thankful for having survived previously undreamed of perils. I actually ended up with some weird electrolyte imbalance which left my head glowing red and burning up. The others said that my nose looked like Rudolph's. Five hours later I was better.

The next day my compatriots willingly returned to that vicious man-eating cave but Blithe Strong and I went on a perfectly lovely hike to the crest of the Seven Devils Peaks. We saw a mountain goat up close, ate a sumptuous lunch, and oh yes, I wore my comfortable old tennis shoes.

I had a wonderful time. Wished you were there.

Spider and Little Red River Caves

by Howard Hoyt

My friends Rick Smoot, Adam Levine, and I headed down to Mt. St. Helens on Friday, August 24. After setting up camp on a charming dirt road somewhere below Ole's Cave, we admired the crystal clear sky with its zillions of stars, the Milky Way glowing overhead, and went to bed confident that our caving weather for the next

day would be perfect. Then came the all-night cloud-burst. I couldn't sleep because being inside the car was like being inside a snare drum. Rick and Adam in the tent were soaked and Adam's air mattress had promptly gone flat. Note that every previous Little Red River Cave report in the Cascade Caver mentions horrible rain. There must be a lesson here, maybe the secret curse of Little Red River. The early, drizzly morning found us negotiating our next move over breakfast at Cougar. We elected to go caving and then head to my parents' place in Camas to dry out. Adam had never been caving and didn't want to cancel even though I was tempted to. It poured with renewed vigor as we packed the soggy tent and sleeping bags.

Slogging through the soaking underbrush to Spider Cave was a thrill. It took a bit to figure out that we were on the wrong road and then when we finally got there we couldn't find the entrance. The hole that you have to creep into for forty feet while being eaten alive by the lava only to find that it stops, isn't the one. Ah, there it is, one sinkhole beyond the sinkhole beyond the sinkhole indicated by the directions. It was a pretty cave with lots of lavacicles and even little stalagmites.

We exited into sunlight which cheered us on to Little Red River. The path is well beaten down and we had no problem finding it. What a great cave! No Ralph rabbit (I or II) that I could see. There was a lot of graffiti in the upper cave but fortunately no trash. Two thirds of the way through we encountered a large pack of cavers from Seattle - men, women, and children - who miraculously still had fingers intact although none of them

were wearing gloves. They were from Seattle but not from the grotto.

Adam tried to pass them too quickly, fell, and really did a number on his leg. Fortunately not sprained or broken. The little red river was very little and the "lake" was a pool so clear that I walked into it by mistake. The trip out seemed endless and my muscles hurt for days. Maybe that's because of my new lava crawling technique; its called rolling. I'm still humming "This Old man."

Death in hot water

According to a note in *Outside Magazine*, October 1989, there is a danger in visiting a cave fed by a warm spring. *Amoeba Naegleria Fowleri* is a commonly found amoeba that thrives in hot water. Entering your nose, it crawls up the olfactory nerve and into your cranium. It lives on protein, in this case your brain. Death occurs in five to seven days. Diagnosis is usually made during autopsy.

(Reprinted from the *D.C. Speleograph* which credits it to the June issue of the *Cleve-O-Grotto News*, which hasn't arrived here yet.)

Take care with lantern mantles

Coleman gas lantern mantles are made with radioactive thorium salts and the average mantle gives off between 300 and 500 microrentgens per hour as compared to the natural background levels in homes of between 5 and 25 microrentgens per hour.

Mantles should never be carried in your pocket or in backpacks close to your body. Extra mantles should be

packed with the lantern and kept as far away from members of your party as possible. Take extreme care when replacing a mantle not to breathe the ash. Properly dispose of the ash and wash your hands a number of times to be sure you are free of all of the radioactive materials.

Broken mantles and glass are often found when doing cave clean-ups and extra care should be taken with these materials.

(from the Oregon Grotto *Speleograph*, Oct 1989.)

Meeting notes

September grotto meeting

Chairman Jim Harp conducted September 21 grotto meeting at the University of Washington.

Mark Wilson announced a trip planned for September 29 to Prince Albert and Dollar-and-a-Dime Caves, including cleanup work in Ape Cave.

A vertical practice is planned for October 21. Jim Harp will lead the beginners while Chuck Crandall will lead the non-beginners.

Dave Kesner from the Gem State Grotto showed slides of Papoose, Pot of Gold, and Helen's Hideaway Caves. The latter is a lava tube with limestone formations.

September business meeting

1. A regular business meeting of the Cascade Grotto was held immediately following the September regular grotto meeting at Johnson Hall, University of Washington. It was called to order by Jim Harp, grotto Chairman. Other members attending were John Benson, Vice-Chairman, Jerry Thompson, Rod Crawford, Larry McTigue, Howard Hoyt, and Mike Wagner.

2. Rod Crawford made a motion that he be placed in charge of the grotto slide show. 2nd by J. Thompson, motion passed.

3. The grotto library was discussed. It was agreed that the books need to be available. It was agreed that a list of books and magazines should be published in an upcoming cover.

4. Rod Crawford made a request for help in putting the map library in order.

5. Discussion of the 1991 NCA Regional Meet, hosted by the Cascade Grotto, included:

5.1 Rod Crawford agreed to edit and type an updated guidebook.

5.2 Rod Crawford agreed to talk to the Nielands regarding a side trip to Mt. St. Helens caves on Monday, Memorial Day.

5.3 It was generally agreed that the NCRI Chuck wagon should be invited to cook for the regional.

5.4 An auction was suggested with the proceeds benefitting the sellers.

5.5 Mike Wagner agreed to check prices on logo tee shirts for sale. J. Harp will contact Linda Heslop requesting a picture for the shirt. Shirt sales are to benefit the region after expenses.

5.6 Jim Harp agreed to devise a list of planned trips during the regional. The list will go to Rod Crawford for inclusion in the guide book.

5.7 Dave Kesner (Gem State) agreed to arrange a vertical contest if he is able to attend the regional.

6. Jerry Thompson moved that the grotto honor Mark Sherman's written request for \$150.00 to cover Cascade Caver production and mailing costs. 2nd by Crawford. Passed.

7. Rod Crawford moved that the business meetings be held immediately

following the odd-month regular grotto meetings and that the grotto operating policy be changed to that effect. 2nd by Benson. Passed.

8. Larry McTigue requested \$25.00 to cover monthly program costs. 2nd by Hoyt. Passed.

9. The meeting was adjourned. Meeting notes were recorded by Jim Harp.

Materials received

Alaskan Caver, Jun, Aug 1990, Glacier Grotto

CIG Newsletter, Oct 1990, Central Indiana Grotto.

D.C. Speleograph, Aug, Sep-Oct 1990, D.C. Grotto

Explorer, Sept, Oct 1990, Southern California Grotto

Minutes Board of governors meeting, NSS, July 1990

Nittany Grotto News, Fall 1990, Nittany Grotto, PA

NSS News, Sept 1990, NSS

SFBC Newsletter, Aug, Sept 1990, San Francisco Bay Chapter.

Speleograph, Aug 1990, Oregon Grotto

UIS-Bulletin, 1989 1/2, Union Internationale de Speleologie

Underground Express, Winter 1990, Willamette Valley Grotto, OR.

Valley Caver, Fall 1990, Mother Lode Grotto, California

WVG RAG, Aug-Sep, Sep-Oct 1990, Willamette Valley Grotto, OR.

Take nothing but
pictures,
Leave nothing but
footprints,
Kill nothing but time.