

# THE SPELEOGRAPH

PUBLISHED BY THE OREGON GROTTO OF THE NATIONAL SPELEOLOGICAL SOCIETY

Volume 17. Number 2





**THE SPELEOGRAPH** is a monthly publication of the **OREGON GROTTTO** (a local chapter) of the **NATIONAL SPELEOLOGICAL SOCIETY**.

Opinions expressed herein are not necessarily those of either of the above organizations. **THE SPELEOGRAPH** is distributed free of charge to Oregon Grotto members and is exchanged for the publications of other organizations with interests similar to those of the Oregon Grotto.

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Rick Pope

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Grotto meetings are no longer being held at The Oregon Museum of Science and Industry (OMSI). Until further notice, meetings will be held at the Southwest Washington Research Unit, 1918 N.E. 78th Street, Vancouver, WA. See directions on the calendar.



**COVER:**  
Jim Wolff aids Becky Taylor as she descends a ladder into the first room in Battle Creek Cave #1 in Northern California.  
*(From a slide by Rick Pope)*

# GUANOTES

I guess that this is an editorial goodbye, as this will be our last issue as Editors of **The Speleograph**. Charlie and Jo Larson have gotten itchy fingers and want it back, so we're letting it go. We certainly have enjoyed it, though!

Many thanks to everyone who helped make 1981's publishing year a success. We wish you all a great holiday and New Year!

*Rick & Becky*

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**NEW MEMBERS**

**Don and Helen Krehbiel**  
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Battleground, Washington 98604  
(206) 687-2452

**Randall Larson**  
10767 Jowacha Boulevard  
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Spring Valley, California 92078

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**Have a program?  
Contact our  
Program Coordinator  
Clara LaMarche**

DECEMBER						
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# Cavers Calendar

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December 18 - **Oregon Grotto General Meeting** - 7:30 p.m. at the Southwest Washington Research Unit, 1918 N.E. 78th Street, Vancouver, Washington. Heading north on Interstate 5, take the 78th street exit and head east ¼ mile on 78th. You will come over Hwy 99. The facility is on the right, directly across from the Grover Electric Building. Look for a cyclone fence. Parking in the rear. Agenda: Election of Officers for 1982. Slide program on the Marble Mountains and Shasta Cavers by Donald Denbo.

December 31 - **Oregon Grotto New Year's Party** - at the home of Roger and Patty Silver, 912 N.W. 50th Street, Vancouver, Washington. Keg will be provided, but bring your own snacks and other liquid refreshment. Call (206) 693-3600 for directions.

January (?) - **Oregon Grotto Executive Committee Meeting** - at the home of whoever survives the New Year's Party. Call an officer for further details.

January 15 - **Oregon Grotto General Meeting**, 7:30 p.m. at the Southwest Washington Research Unit, Vancouver, Washington. See directions under December meeting.

June 27 - July 3 - **1982 NSS Convention**, Bend, Oregon.

## Treasurer's Report

### RE-INSTATED:

Bruce Grant  
Jack Grant

### DROPPED:

Devines

### PAST DUE:

Bernie Czop  
Dave & Grace Jones  
Steve McCarroll  
Steve Urman

### DUE DECEMBER:

Erwin Sweighoefer  
Alice Knapp

## ELECTIONS COMING

A. Who may vote: Any Voting Member of the Oregon Grotto (See Constitution, Article III, E).

B. Who may be elected: Any member of the Oregon Grotto who is eligible to vote in Grotto elections, and who is an NSS member.

### C. Election Procedure:

1. Nominations for officers may be made by any member eligible to vote in a Grotto election:

- a. In person at the November General meeting.
- b. In writing if received by an Executive Committee member prior to the November General Meeting.

2. The order of nominations and voting shall be: Chairman, Vice-Chairman, Secretary, and Treasurer.

3. The Executive Committee shall mail ballots to the eligible Voting Members in reasonable time for a mailed return to any Executive Committee member prior to the December General meeting.

4. The counting of votes shall take place at the December General meeting, using the ballots received by mail, and those ballots submitted in person at the December meeting.

5. The candidates receiving a plurality of votes are elected. In the event of a tie, it is the responsibility of the Executive Committee to cast the deciding vote.

6. The election results are to be announced at the December General meeting.

D. Term of Office: Elected officers will start their term of office on January 1, following the election, and will end their terms on the following December 31.

## Oregon Grotto By-Laws Section 1.

# TRIP REPORTS



## TRANQUILITY SHATTERED Devil's Garden Geologic Area September 1-3, 1981

by Ellen M. Benedict

A huge truck thunders by. I peer at my watch in the dim light --- it is only 4:01 a.m.! WHAT ARE CONSTRUCTION TRUCKS DOING THIS CLOSE TO DERRICK CAVE? I fall back to sleep. Another truck RUMBLES by. I drift in and out of sleep as more trucks roar by. Then a road grader BEEPS about ¼ mile away from my sleeping bag --- beep, BEEP, BEEP, beep, beep, BEEP! How can anyone sleep? WHAT IS GOING ON?

"Where are the trucks coming from?" asks one of my students as she emerges from her tent at dawn. I am camped with my "Biota and Volcanic Landforms" class from the Malheur Field Station. Conrad Halling, Stacie Hanna, Carolina Lindstedt and Sally Martin all attend Portland State; Mike Holman, Pacific U.; Anne Johnson, Oregon State; and Cliff Schimett, Whitman College.

"I dreamed that large trucks rolled over my tent!" groans Conrad.

"That should be a welcome change from dreaming that you are caving all night in your tent!"

"Are the trucks going to wake us up tomorrow morning? Are they constructing a new powerline?" questions another student.

Having no answers, we fix breakfast as we watch more big trucks roll by and stir up dust. Fortunately, no dust drifts our way. We wave feebly at the driver of a water tanker sprinkling the road. Gradually we realize -- WE HAVEN'T SEEN OR HEARD ANY HEAVY EQUIPMENT FOR SOME TIME --- THE TRUCKS ARE GONE! Now we hear only the gentle breezes in the pine trees and birds calling. Tranquility returns to Devil's Garden as we warm our battered spirits in the September sun. We feel like basking longer, but duty calls.

At Derrick Cave, we collect two samples of amber rat for Dr. Pete Mehringer of Washington State University. Pete excited us about "the mysteries of the present and the secrets of the

past" during our trip to the Pine Forest Range of northern Nevada. He told us that pack rats (Neotoma) generally forage within a hundred yards of their den. The pack rats gather all sorts of materials, haul them into the den and pile them up. As the rats defecate and urinate, the pile (or midden) becomes encrusted and compacted into amber rat. Plant "microfossils" in these middens may be preserved for thousands of years. For example, Lanner (1981) mentions pinyon pine needles that are 30,000 years old. We take careful notes and small samples. How old are the middens in Derrick Cave? Only Pete's carbon dating will tell us the answer.

We stop at the Civil Defense Shelter. I explain its purpose (Larson and Larson, 1976; Larson, C., 1977).

"Who would want to shelter here? Could anyone even survive?" Temperatures in Derrick Cave approach freezing (Benedict, 1977). I once spent three days here during a cold rainstorm (Garlock, 1977). I shiver at the thought of using this cave as a fallout shelter. We wonder, "How anyone could get way out here in time to avoid a nuclear attack?"

Leaving behind such depressing thoughts, we explore the main part of Derrick Cave. "What beautiful wall, ceiling and floor linings!"

Deeper into the cave, we see tiny invertebrates --- millipedes, springtails and spiders. I relate another bit of history about some space age experiments in Derrick Cave (Larson and Larson, 1976; Larson, C., 1977). The American Aviation attempted to detect underground heat sources by burning fuel oil over railroad rails. The heat was to be detected by aircraft flying over Derrick Cave when these materials "burned!"

"I wonder how many cave-adapted invertebrate species were wiped out?"

During the afternoon, we go our separate ways, some to hike on the surface and the rest of us to explore additional dark holes. I sit in a small cave while two students crawl "way back" into tiny passages half filled with packrat pellets.

I think back over our past three weeks --- the class is almost over! My leg is almost healed --- only a tiny scab remains from my brown recluse spider bite gotten while we were at the Pine Forest Range. Typical symptoms developed (Larson, P., 1977). My leg looked awful! I soaked in Bogg Hot Springs and sun bathed the festering wound. Back at the Field Station, I soaked in Epsom Salts and applied Aloe Vera Lotion to the wound. I was determined to carry on with the class --- unconventional treatment? Yes, but it seems to have worked!

Then there were our days at Diamond Craters! We spent a lot of time looking over the August 5th burn. A wildfire between the Central Dome and the Aspen Grove burned 3,100 acres of the public lands within Diamond Craters. It should be very educational to observe the revegetation.

This part of Diamond Craters has been burned before --- it is on the dry, southern side. Excitement ran high as we turned our attention to volcanic features, especially the caves! We explored North and South Lava Pit, Stew's, Surprise and Littlefield's Caves. We found Malheur Maar perfect! And then we hiked up Graben Dome! Diamond Craters is an excellent outdoor teaching laboratory.

Now our class is almost over! We are on the eight day trip to the "Bend Area." We have visited Arnold Lava Tube System, Lava Butte, Lava River Cave, Lava Cast Forest, Newberry Volcano, South Ice Cave, Hole-In-The-Ground, Fort Rock, Crack-In-The-Ground, and Four Craters Lava Field. We stopped at the Cabin Lake Photographic Blind where we sat within inches of red crossbills, pinyon jays and white-headed woodpeckers. Sally even saw a badger drink water; she was so close that she could have touched it.

On Friday, we return to the Field Station for our boat trip on Malheur Cave Lake (Benedict, 1981). WHAT A REWARDING THREE WEEKS!

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## New Cavern Discovered

BEND (Special) — A huge cavern from which blows a strong wind has been discovered in the Sheridan Mountain country southwest of Bend by a crew of U.S. Forest Service timber cruisers.

Bill Jarrell, a member of the crew, virtually stumbled on the cave when he stopped to investigate a verdant spot in the hemlock woods and found a "skylight" opening in the lava. The four cruisers looked into a dark vault, which

they described as a huge chamber.

Because the opening is in its ceiling, the men were not able to get into the cavern, but by dropping rocks determined it was deep.

The brushing wind coming from the entrance made it difficult for the men to look into the dark tunnel. Bend's two top spelunkers, Phil Coyner and Jim Anderson were notified of the discovery, and plan to explore the cave.

The cave is in the volcanic country about five miles south of Bachelor Butte.

## NOVEMBER AT MT. ST. HELENS

By William R. Halliday, M.D.

The Thanksgiving weekend trip to Mount St. Helens had to be cancelled because of difficulty in organizing a radio crew, but Clyde Senger and I made a special trip on Sunday, November 14th, at the request of the Mount St. Helens Protective Association. The Krehbiels and George Milner served as radio operators, and Oran Ewing again was the base station.

On the 14th, the Association had scheduled a press tour of various important areas for about 30 northwestern journalists plus Congressman Bonker. The plan was for them to reach the cave area about 3:00 p.m., via Babyshoe Pass. Eight inches of new snow turned them back at the pass, however. They radioed us when they couldn't get through and we rushed from Mud Pond Cave to Longview in 90 minutes to meet them, but it was too late. The group was cold, wet, and tired, and didn't want to wait for anybody.

Despite this problem, Clyde and I were able to make some further observations in the cave area. Numerous small streams were running on the surface of the Hopeless Cave Mudflow. Several small channels in the rip-rap barrier at the hairpin curve at N816 above the main entrance of Ape Cave showed that it had been overtopped (probably during the previous day's storm), but still was holding.

While Clyde was making measurements of the Hopeless Cave Mudflow, George found a complex little surface tube cave which promptly became George's Cave. It is close to the edge of the mudflow downslope from the big broken lava area about ¼ mile northeast of the curve. Total passage length appears to be less than 100 feet.

In the lower section of Ape Cave, much clear drip was present. It formed trickling water and small pools in many areas. A new rivulet channel was present at the bottom of the metal steps, but some old footprints were still visible nearby and in some other areas, so no floodwaters had entered recently. Several stubs of red flares were found in the cave. The fill at the lower end was very soggy and stations L2W and L3MW had fallen. The coffee can at our trench was within 4.9 cm of the rim of having refilled since the October trip.

In the Ape Cave parking lot, only local trickles were present, but recent flood debris indicated recent high water here. Most of the Hopeless Cave Mudflow streams reunited a short distance northeast of the main entrance of Ape Cave, and their water flowed about 30 m east of the entrance, thence across the cave and under N816 (the culvert now is working well). It returned to the west side of N816 near the curve west of the Lava Cast turnoff. Here, a sizeable brown creek

was enlarging the gully that used to be a logging road. Farther east, toward the turnoff, considerable sand and silt had been deposited since the October trip, then eroded. All recent drainage appeared to have been west of the lava cast area.

In the Upper Caves area, one of the large dead trees at the east side of the N818 Mudflow (where it crossed road N818) had snapped about five meters above the mudflow surface. We saw several other recent treefalls, one of which had blocked N83 until a maintenance crew had cut a truck-sized gap in its trunk.

Clyde confirmed that the lower entrance of Sand Cave is now completely filled. The mud tongue which has been enlarging into its general vicinity was impressively larger than earlier in the year. In the upper section of Sand Cave, only the top 8 cm of our station extended above the mud; it was extracted and replaced with due ceremony. The large mud tongue deposited inside this entrance just prior to the October trip had undergone considerable lateral and headward erosion. This mud is entering the Sand Cave sink from the east.

At Mud Pond Cave (discovered on the October trip), much downcutting had occurred since October along the east side of the entrance which now was almost a walk-in. The level of the gucky pond inside appeared to have slumped several inches, especially at the sink along the west wall of its main room.

Small streams were running in several gullies in the N818 Mudflow, and also in a new gully about 100 yards east of the old caves area trail, on the west side of the mudflow tongue which extends into the area of Little Peoples and Flow Caves. A much larger stream was running along the north side of what formerly was N818, then crossing it and flowing down the gully downslope from Sand Cave.

Despite intermittent showers, the weather was not inclement. A few tiny patches of snow were all that were seen in the cave area, and the problem with snow in Babysheo Pass was unfortunate. At times we were able to see about 1/2 of the main slopes of the volcano. Plenty of snow up there.

## BOOK REVIEW

By Ben Benedict

**VOLCANOES**, By Robert Decker and Barbara Decker, Dartmouth College. 244 pages. 1981. W. H. Freeman and Company. Paper.

The earth's surface rips, buckles, and folds now just as it has been doing for hundreds of millions of years. Its crust moves dynamically, creating new ocean floor through sea floor spreading and simultaneously destroying old ocean floor and continental margins by compression or subduction. The consequent earthquakes and volcanoes periodically display an awful, ostensibly incomprehensible violence. Not surprisingly, molten heat bursting through the crust has historically inspired much fear and perhaps less understanding.

Today, thanks to a whole range of precise scientific observations, measurements, and deductions, the ordinary man or woman has access to a real understanding. One major point of access is a well-written book, such as Robert and Barbara Decker's **Volcanoes**, for it clearly presents the latest geological consensus in graceful prose, with numerous easy-to-understand diagrams and graphic photos. Their book penetratingly looks at some major volcanoes around the world, describes plate tectonics, and tackles a few of the unanswered questions. In particular they focus on significant volcanic events like Surtsey in Iceland (1964), Krakatoa (1883), Kilauea (1959), and Mt. St. Helens (1980). They write about volcanoes under the sea, hot spots, types of volcanic emissions and formations, effects of volcanoes on climate, and forecasting of volcanic eruptions.

For us living in the "Ring of Fire" - the Cascades are, after all, volcanic mountains, none of them really dead - **Volcanoes** is a basic manual literally about our backyard. However much we may think we already know, **Volcanoes** is bound to give us a greater appreciation of lava tubes, craters, cones, fissures, ash deposits, mud flows, and other formations we encounter in our treks onto and past the strato-volcanoes with which we have become so familiar.

An excellent bibliography on pages 237-240 rounds out this very fine book.

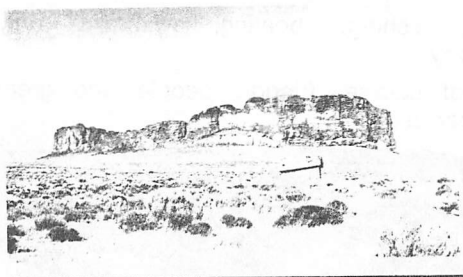


**OREGON GROTTOS**  
**NEW YEAR!**

**AT THE HOME OF ROGER & PATTY SILVER**  
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Keg Provided      693-3600      Bring Own Snacks

Sleep Over  
If Needed



## ***GET OREGONIZED IN '82!***

# **NSS CONVENTION 1982**

## **BEND, OREGON**

Bend, Oregon, noted for its invigorating climate, rugged beauty, excellent drinking water, and friendly, hospitable people, is located in Central Oregon's Cascade Range at an elevation of 3,628 feet. Population is 17,912, and it is the Deschutes County seat, situated by the beautiful river of the same name. Unique volcanic and geologic attractions abound and visitors will discover variety and unusual beauty in the area's 100 plus caves and geologic sites.

### **WE WELCOME YOUR PARTICIPATION!**

*Your Hosts:*

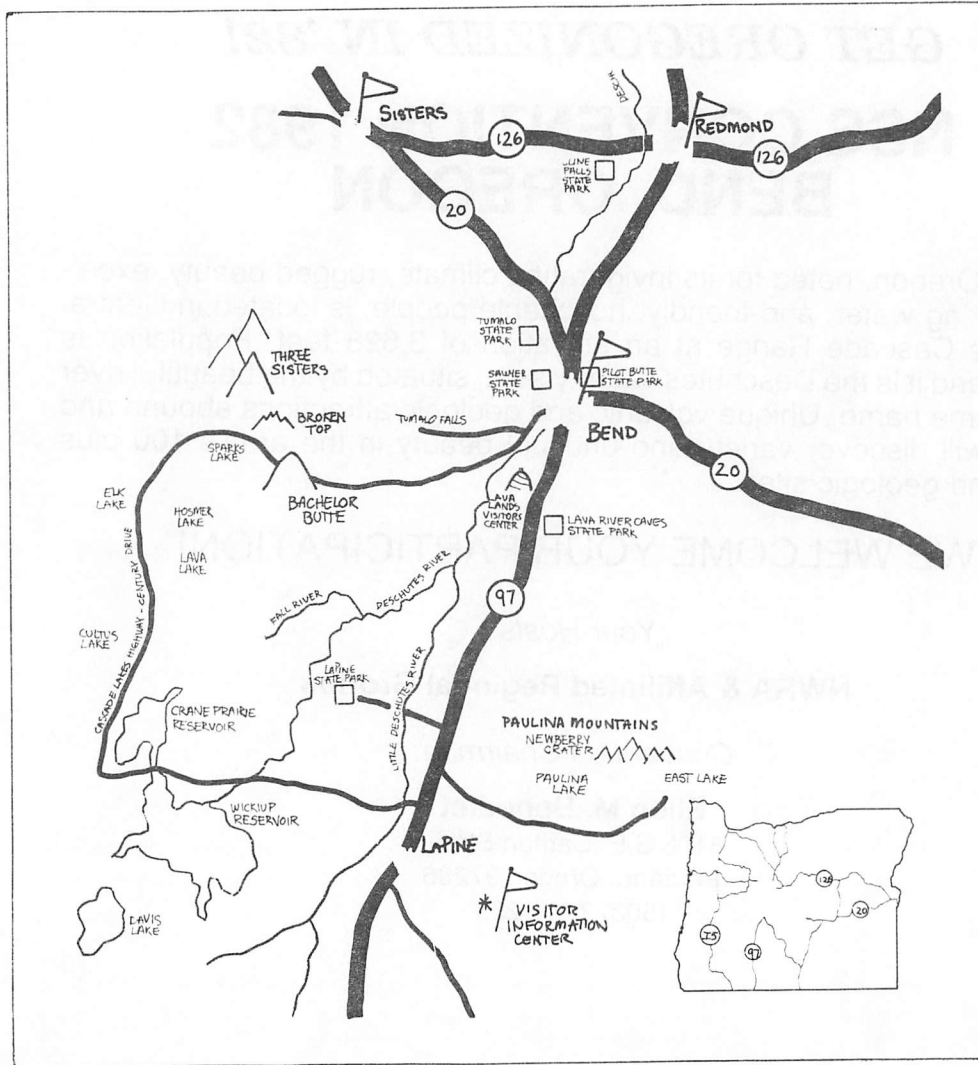
**NWRA & Affiliated Regional Grottos**

*Convention Chairman:*

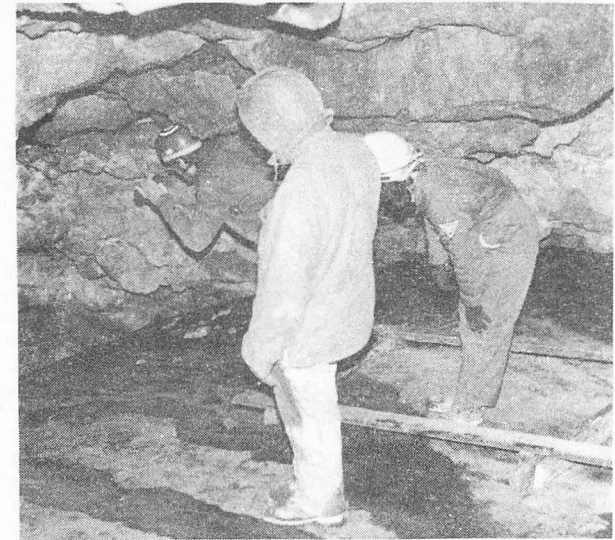
**Ellen M. Benedict**  
8106 S.E. Carlton Street  
Portland, Oregon 97206  
(503) 774-1233

# EXCITEMENT IS JUST AROUND THE BEND IN 1982!

## SEE YOU THERE!



- ☒ Over 100 caves
- ☒ Unsurpassed Scenery
- ☒ Wilderness Areas
- ☒ Volcanic Landforms galore, including **Diamond Craters, Fort Rock, Newberry Crater, Lava Cast Forest** (featuring the largest forest of lava cast trees in the world), as well as interpretive centers and tours.
- ☒ Smith Rock State Park . . . Multi-colored rock cliffs and columns - a rock climbing challenge
- ☒ Terrific facility with plenty of camping space
- ☒ Hiking, fishing, boating, swimming only minutes away
- ☒ And, of course, friendly people and great activities, per usual





## 31 CAVES IN 7 DAYS!

(continued from November)

**WEDNESDAY, SEPTEMBER 30**

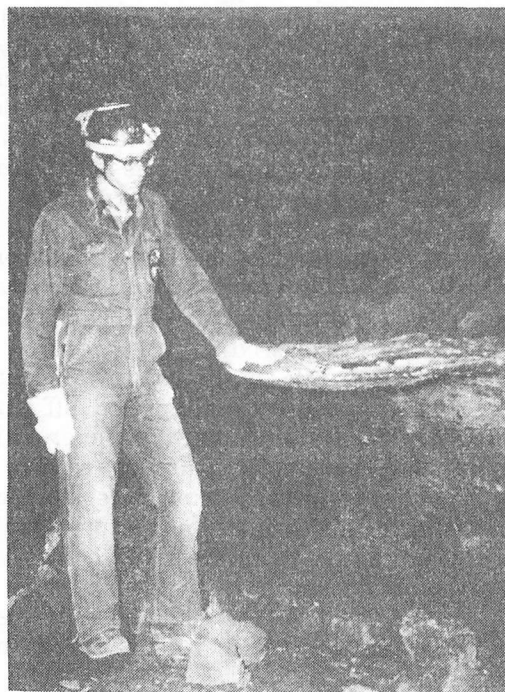
(Becky)

The target for the day, of course, the Gaping Holes System, and since the Double Window necessitated ropework, we decided to try to locate the Moss Carpet Entrance first. Although it is only ¼ mile southwest of Double Window, and is gigantic and highly visible, we managed to miss it after an hour of searching, and so we capitulated and returned to the first entrance. Using Rick's 150 ft. Chouinard rope anchored to a tree and a safety line, attached to the same source (gee, hope no one decides to cut it down) I rappelled 35 feet to the top of the first level, where Rick joined me, then 20 feet to the second level. Of course, after descending the first drop, I whipped off my swami seat so that I could practice tying it again. Little did I know that an extremely rare and beautiful sunbeam was appearing for a limited engagement at the bottom of the second drop and we had to get there pronto to photograph it. So much for knots. Rick did my harness up again and we shot down drop two, and began madly photographing.

The Gaping Holes System has quite large passageway with delicate shelves along the sides. As we approached the Walk-In Entrance, the shelves became sturdier and it was possible to travel along them, rather than crawl over breakdown. This area is aptly named The Catwalk.

Two exploding flashbulbs later, we emerged and returned to reclaim Rick's rope and eat a late lunch at the car. By 3:30, we were on the road again and hot on the trail of the mysterious Mayfield Ice Cave. This one's main claim to fame was that no one seemed to know much about it, including where it was. Rick commented that he'd heard it was near an old campground, and we headed out what we had been told was the correct road, looking for tents, trailers and RVs.

After some backtracking and poking around, we found an old wooden post on which the letters ICE had been painted. We split up and headed out over a rift system, not unlike Parkdale or the one in Bend along the Deschutes. Eventually, I detected a triumphant yell from somewhere to my left and followed it to find Rick, happily gesturing toward more painted ICE markers, a pit and a rather dilapidated ladder. We descending the wooden relic about ten feet and found ourselves in a small room with ice in the rear (as advertised). A large crevice was spitting cold air, and so I volunteered to attempt and crawl through it - no cushy task, as it was filled with mud and debris and sloped upward. Rick confidently exited the cave to await my appearance on the surface, and moments later, I found myself lying on the floor of



**This delicate shelf, examined by Rick, was one of the most fascinating features of Catwalk Cave, Gaping Holes System.**

*(From a slide by Becky Taylor)*

an entrance room a few feet away. It went nowhere, except back to where we had been. I hardly consider this a cave, but at least we found it, which is more than anyone else we mentioned it to could say!

At 6:30, we pulled into McCloud via a circuitous route over repaired roads (yay for 4-wheel drive!) and were welcomed into Jim and Liz Wolffs' home for the night.

**THURSDAY, OCTOBER 1**

(Rick)

Today we had the good fortune to have Liz Wolff as our cave guide. After Jim went off to work and the kids to school, we embarked on an all day, five cave tour of the Shasta National Forest. The weather was once again clear and I couldn't help but stop to get a few shots of Mt. Shasta on our way to the first cave of the day. It will remain nameless in this report because no one could agree on the correct one (McCloud Ice and Close are the two best contenders). Anyhow, it's only seven miles out of town and has a challenging downclimb at the entrance. It was also amazingly clean for a local cave. The passage length seemed to be about a thousand feet and it was very roomy.

We pressed on through an endless maze of firelanes, 2% of which show up on any given map. I was glad several times that we had Roo, mainly for the ground clearance. Our second stop was sugar Pine Ice Cave near the butte of the same

name. Unfortunately, we were again visiting an ice cave at the wrong time of year as there was no ice in sight. However, it was a cute little cave.

Our guide recommended a lunch spot called the Trout Creek rift. It was not too far away and we headed for it pronto. The rift was formed in 1977 when an earthquake split the ground and a line of trees slumped downward. It is still quite traceable for a long distance and varies from 5 to 10 feet wide. I couldn't resist driving Roo over the old fire lane that crosses the rift as a test of its 4-wheelability (it passed).

Returning to the main road, we continued deeper into the forest and pulled off into the boonies to visit Harris Mountain Cave. While not far off the road, it appears to receive little visitation as there are some nice sand castles developing on the floor and no footprints in sight. The ceiling is quite impressive too with large areas of drip form stalactites. Time for more photos and then we scrambled up over the entrance ledge (on which I nearly broke my leg when I slipped).

The next cave is hardly worth mentioning but it *is* on all the maps. Yellowjacket Ice Cave is about ten feet long plus a few dozen feet of too-tight ice squeeze. It is in a nice location being on the edge of a recent lava flow with a crater nearby.

We drove right by Jot Dean Ice Cave on our way to the last cave of the day, Three Level Ice (or Mummy Ice). Can't miss the entrance - 30 feet off a paved road. It really does have three levels in it, the bottom two containing ice. Each level is reached via a free climb down a short pit. The end of the last level had a register maintained by the Bay area folks and it's right next to the "mummy" of alternate name fame. It is really a curled up tongue of pahoe-hoe about the size and shape of a person.



Three Level Ice Cave's "Mummy" agrees to pose for a crass, tourist shot.

(From a slide by Becky Taylor)

That was all the time we had for caving that day since we still had a 45 minute drive back to McCloud. We arrived to the sounds of a crackling wood stove and a hungry family.



The two lower levels of Three Level feature much ice and frozen floors, like this one - year 'round.

(From a slide by Becky Taylor)

## FRIDAY, OCTOBER 2

(Becky)

Jim Wolff had been talking up a visit to the Battle Creek limestone almost since we had arrived in McCloud and he was making it sound mighty enticing. And although both Rick and I had decided to get an early start towards the Marbles today, we let ourselves be talked into a drive to McCloud Reservoir for a closer look.

After a drizzly, but interesting drive, during which Jim explained that we were in for a rare treat because the reservoir had been lowered and more of the caves were exposed, we arrived at the entrance area.

Compared to lava tubes, the entrances were angular and small; and since I had only ever been in one other limestone cave (guess which one) I was anxious to check these out. The first cave visited was Battle Creek Number One, an unfortunate victim of heavy visitation. We entered with cameras and rigged Jim's ladder over the first drop. From then on, we made our way carefully over the mud to a room which still bore some lovely helectites, although most of a major drapertys and formations had been autographed or broken. I was amazed at the lightness and colors of the interior, and also with the wealth of mud! Limestone is a LOT more organic than lava!

After taking a number of photos, we exited up the ladder, derigged, and left for a brief lunch before heading towards Battle Creek Number 2. Jim purposely preceded us, warning that there was a certain way to enter this cave, and we might have trouble trying to scoot right down. Rick, detecting promise of slime and mud, promptly refused to take his camera gear in, but I couldn't resist and hung onto mine. Rick entered first, doing his best to imitate a corkscrew, and I soon followed. We were immediately faced with a number of domes, holes in the floor, various angled passages, and mud. I checked out a couple of small tunnels, while Jim and Rick crawled up into a pretty little dome above me. Backing out of a particularly tight one, I spied a natural bridgelike passage into another area and headed for it. Pretty soon, the rest of the crew came out of the dome and I was told that the slimy pit that I was admiring under the "bridge" had never been pushed.

Well! I'm sure Jim was sorry that he'd ever said that over the next twenty minutes, as I clambered down as far as I could safely cling and tried to figure a way down that would allow me to get back up. There was plenty of walking room below and a big passage obviously going somewhere, but it was just too slimy - like clay dirt. One step further and they would have had to haul me out with ropes. Curses!

I withdrew and we visited another couple of lovely little rooms - one simply teeming with indescribably beautiful baconrind, drapery and delicate soda straws. I learned to respect two things about a limestone cave - one: to be careful around the treacherous mud, and two: to resist the urge to clamber and crawl wherever I liked, as in lava tubing.

One more futile attempt to enter the virgin passage, abetted by Jim and Rick who pulled out large rocks, and we were ready to leave. I hate to admit that I had found a second passage into the area that was actually too small for me - by about a quarter of an inch!

We had emerged in time to scurry back to McCloud and depart for the Marbles, however, we didn't. The weather looked poor and the warm stove and guitar music, singing and good food made us not at all anxious to brave the elements. Did we stay on? You bet. And we didn't awaken until the Bay area people began to arrive at about 2:00 a.m.

### SATURDAY, OCTOBER 3

(Rick)

The drizzle had stopped but we still were not confident that the Marbles would be a nice place to visit. The Bay area group had grown finally with the addition of Dave McClurg and his van-full. They left for the Water caves area and shortly after the Wolffs were ready to mount an



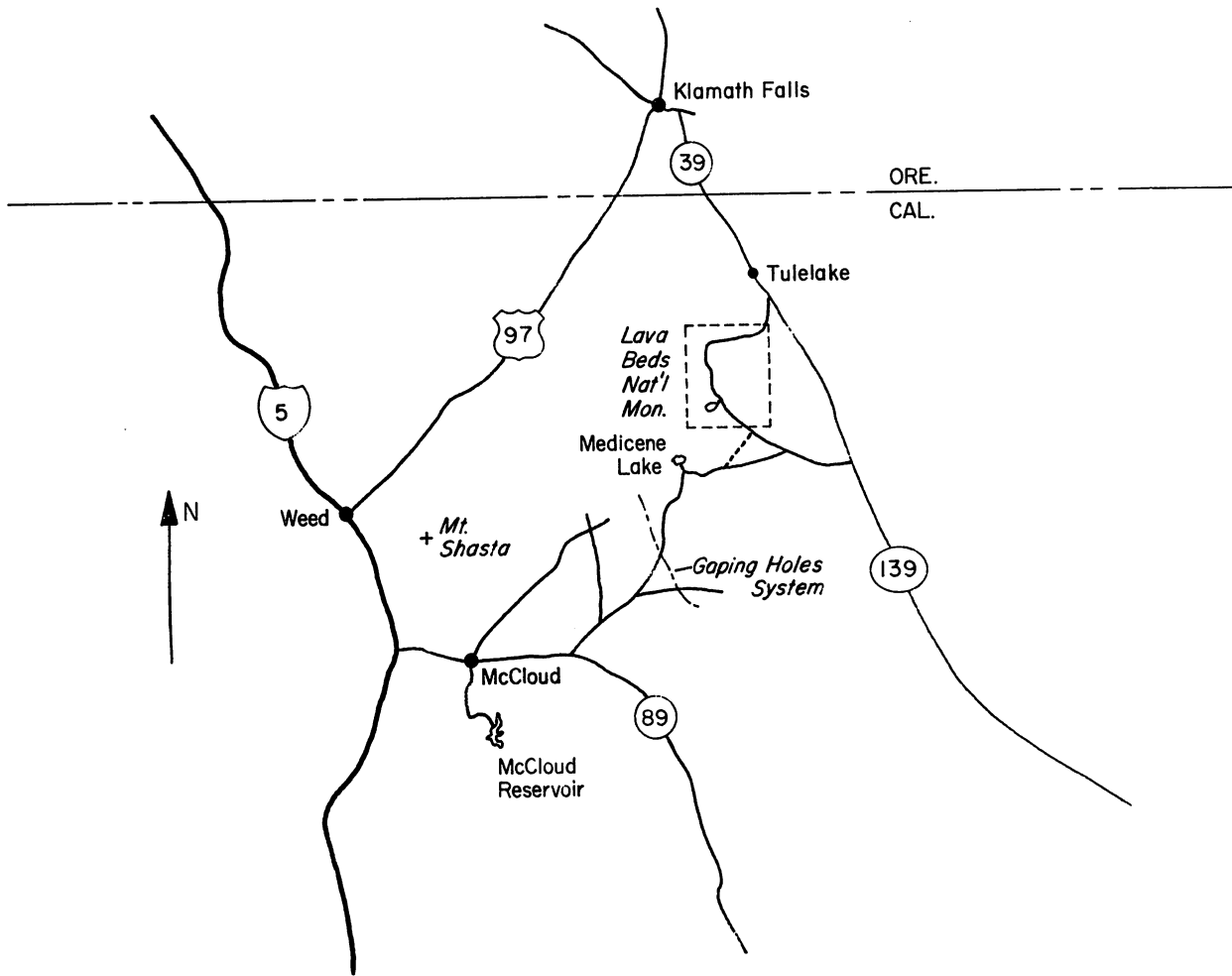
Delicate helectites live on in Battle Creek Cave #1, on McCloud Reservoir's banks, as vandals go after larger game.

(From a slide by Becky Taylor)

expedition to Sunbeam Pit. Speaking of sun, it was now showing through the clouds but we were still convinced that we made the right choice by heading back to the lava.

More than a few minutes were spent trying to find the entrance to the pit which is several hundred yards off the road. However, it's only six feet in diameter and easily hidden by bushes. Just about the time we stumbled across it, the Bay area troops paid a surprise visit. Guess they couldn't pass up a chance to rappel Sunbeam if it was already rigged. Of course we hadn't even dragged the rope out yet, but with the extra help it went quickly and one by one cavers began to descend into the blackness below. The drop overhangs on all sides and forms a thin lip that must be negotiated before swinging free. Then, it is a 61 foot free drop to the floor which is barely visible at first. The descent is really pretty as you slide past the ever widening walls covered with moss. Finally the touchdown on a floor of scattered breakdown. I had to wait to the last because we were sharing gear and most of mine was at the bottom already, but soon I joined Becky who was still bubbling with excitement after the longest rappel of her life.

There isn't a whole lot of cave at the bottom. Basically, Sunbeam is like a huge, narrow-mouthed jug with one passage several hundred feet long off in one direction. The passage is well decorated with soda straws, stalagmites, and



small draperies. We photographed a few and then rushed back to the bottom of the drop because the first few cavers were ready to ascend and I wanted to make sure I got a good shot. I tried several photos using #22 flashbulbs to make certain I got enough light on the subject. Soon, it was time to send Becky up the rope and I helped her climb into my Gibbs rig. She scampered up the rope like she had been doing it all her life and got over the lip with no problems. I waited while she unrigged and sent my gear down. While waiting, I contemplated prussiking out but decided it might hold up the whole party so I strapped on the faithful Gibbs and sailed out in hyperdrive.

Once we were all safely out, SFers continued on with their plans and we returned to McCloud with the Wolffs. Since the Roo was nearly packed, all we had to do was throw in the caving gear and wave goodby (plus a big thanks for their hospitality). It was already late afternoon, but we decided to get a head start on the drive home. We splurged on a Kentucky Pucky dinner in Yreka and made it to Rogue River for the night. Since they wanted \$5.00 for a few hours of tent sleeping, we parked down by the river and curled up in Roo for some fitful sleep.

### SUNDAY, OCTOBER 4

(Becky)

What more can I say? At about 7:00, we were awakened by a migration of fishermen to the boat ramp. A quick tussle with the sleeping bag which had entrenched itself in the lower reaches of the car and had a death grip on our feet, allowed us to emerge and eventually make our way to the upper parking lot. After a quick (and brrrrrr - cold!) breakfast, we were on the road again and eagerly anticipating a hot shower and clean clothes.

En route, we stopped briefly at the Wildlife Safari in Winston, but were not even tempted to take the tour (\$5.00!) and instead, roamed their exhibits and gift shop. There were some darling baby pygmy goats and other rare animals. I even picked up some information for convention planning (i.e. areas in central Oregon).

The entire week had been a tremendous treat for both of us, and although we will probably never surpass our newly set record of "cave bagging," it is something that I will always remember. Incidentally, we arrived home at 3:00, and Rick calculated that we had driven approximately 1,100 miles. Whew!

# THE COUGAR MOUNTAIN CAVES

## *Twelve Thousand Years of History In the Upper Fort Rock Valley of Oregon*

R. Craig Skinner

Eleven miles east-southeast of the well-known Reub Long (Fort Rock) Cave in the Fort Rock Basin of Central Oregon is Cougar Mountain, a 700-foot high rhyolite dome that rises abruptly from the desert floor. Wave-eroded cliffs line the south and west sides of the 4.3 million year old dome (McKee and Walker, 1974), and near the southwestern corner are two large rockshelters, Cougar Mountain Cave No. 1 and Cougar Mountain Cave Number 2. Both of these caves have proved to be significant Oregon and Great Basin archaeological sites.

The entire Fort Rock Basin, like many other Great Basin fault-block depressions, was covered, in the Pleistocene, by a large, shallow lake known as Pluvial Fort Rock Lake (Allison, 1979). Wave action at the border of the lake carved the Cougar Mountain Caves, as well as Reub Long Cave, the numerous Connley Caves and the Table Rock Caves, all large rockshelters that were occupied by the early inhabitants of the basin.

The caves at Cougar Mountain were located at an elevation of about 4,450 feet, and as the water level dropped, they likely became habitable in the vicinity of 14,000 to 15,000 years ago. It was about this time that large-scale climatic changes began to dry out the Great Basin and to shrink the huge lakes, leaving only the few small remnants that remain today.

Cougar Mountain also had its own special attraction for basin occupants of the time - it was (and is) the source of large quantities of fine-grade obsidian. The area above the cliffs that the caves are located in is littered with obsidian flakes, cores and cobbles. The natural glass from this site probably provided much of the raw material for the thousands of obsidian artifacts that have been recovered in the Fort Rock Basin. It was, in fact, my research in obsidian hydration dating and obsidian source characterization (the latter being important for determining accurate hydration dates) that had brought me to the caves and to Cougar Mountain. The back seat full of obsidian that I hauled home with me will, with luck, help to more accurately date obsidian artifacts found in this area.

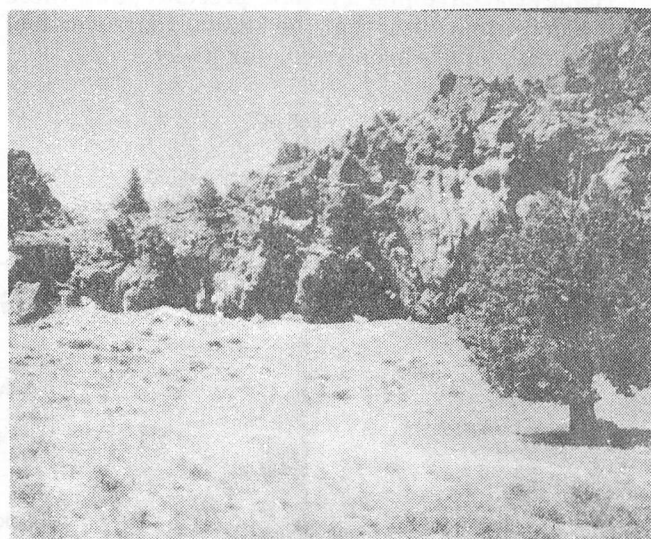
Archaeologists and pseudo-archaeologists have struck at the Cougar Mountain sites on several occasions.

John Cowles, an amateur archaeologist, extensively excavated Cougar Mountain Cave No. 1 in 1958 (much to the later dismay of professional archaeologists - this turned out to be

a really nice site) and recovered the skeleton of a child, basketry and sandals (similar to the famous ones recovered in the 1930's at Reub Long Cave) and hundreds of stone, bone and obsidian artifacts. A radiocarbon date of  $8510 \pm 250$  years B.P. (before 1950 A.D.) was determined from a sandal fragment found near the bottom of the cave (Fergusson and Libby, 1962). Cowles published a short book describing his excavations (Cowles, 1960) and in it mentions another cave, 25 feet lower in elevation and on the west side of the mountain, that had been previously dug by another collector. I didn't look for this one when I was collecting obsidian above the caves, but there are steep cliffs on the west side.

John Atherton, a University of Oregon graduate student, visited the site in 1966 and briefly described the caves and obsidian quarry in his Master's degree thesis (Atherton, 1966).

A party from the University of California at Berkeley, also in 1966, performed some limited excavation in or near the cave worked by Cowles. A number of Cowles' donated obsidian specimens were also subjected to obsidian hydration dating studies in an attempt to more rigorously classify the obsidian artifacts that had been found in Cougar Mountain Cave No. 1 (Layton, 1972).



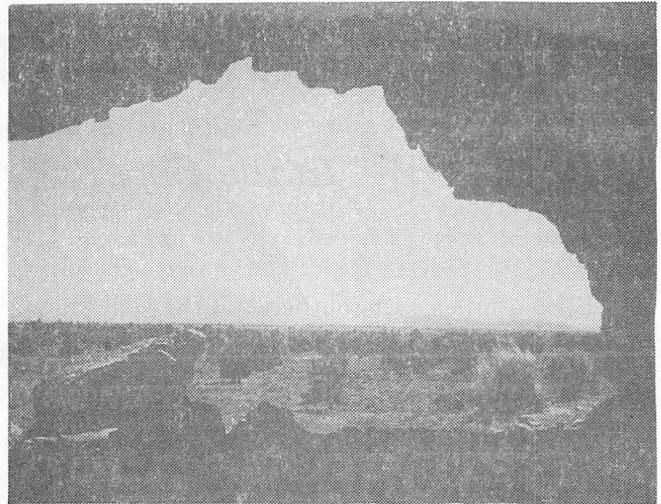
Looking north at Cougar Mountain and the two largest littoral caves. Just to the left of the Juniper tree and at the base of the cliff is Cougar Mountain Cave No. 1. 80 feet to the left is the smaller entrance to Cougar Mountain Cave No. 2. 15,000 years ago, I would have needed a boat to take this picture.

*From a slide by Craig Skinner*

In 1967, a team from the University of Oregon excavated at Cougar Mountain Cave No. 2, another deep rockshelter located just west of Cougar Mountain No. 1. A radiocarbon date of  $11,950 \pm 350$  years was later published and described as being associated with materials in the cave. The date is one of the oldest radiocarbon dates tied to an Oregon archaeological site (Reub Long Cave claims the oldest at  $13,200 \pm 720$  years B.P.). The same University of Oregon group also dug at Reub Long Cave, several of the Connley Caves and in two Table Rock caves. The results of this research eventually appeared in a Doctoral Dissertation dissertation (Bedwell, 1970) and later, in a somewhat more readable version, as a book (Bedwell, 1973).

In short, the Cougar Mountain caves are some of the oldest solidly-dated archaeological sites not only in Oregon, but also in the United States (thought there are a number of other sites in California, Alaska and Mexico that may be quite substantially older - archaeologists are having some trouble agreeing among themselves on these).

In an attempt to get a feel for what it might have been like to live in this place 12,000 years ago, I spent a June night sleeping in the entrance of Cougar Mountain Cave No. 1. The cave sits at the top of a talus slope and provides a fine view of the desert to the south (imagination provides the old lake). The slightly amphitheatre-shaped cliff face, with the cave at the center, funnels all of the night sounds of the surrounding sert into the cave, giving the impression that the cave itself is the source. Even with this rational explanation of the strange sounds coming from the cave (this was concocted late at night with the full moon rising) the cave has a strong presence, and there is a definite feeling that the 12,000 years worth of former dwellers aren't very far away.

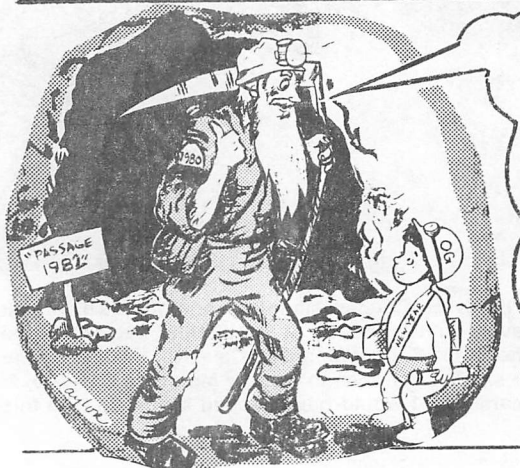


Facing South out of the entrance of Cougar Mountain Cave No. 1. Much of the typical Juniper and sagebrush landscape that you can now see from the entrance was covered by an immense, shallow lake (Pluvial Fort Rock Lake) when this site was first occupied by man about 12,000 years ago. In the far right background are the Connley Hills, the home of several more archaeologically-rich caves and rockshelters.

(From a slide by Craig Skinner)

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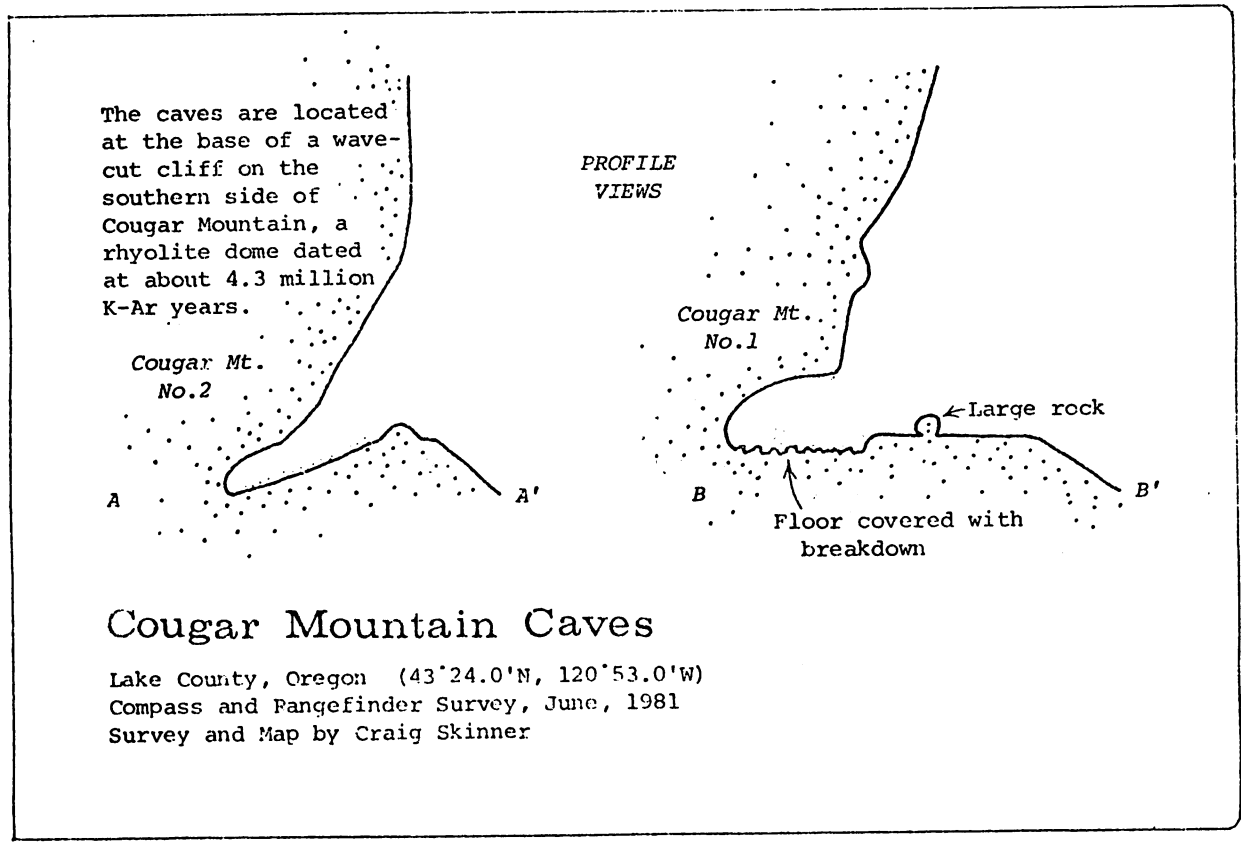
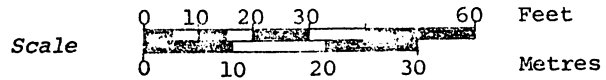
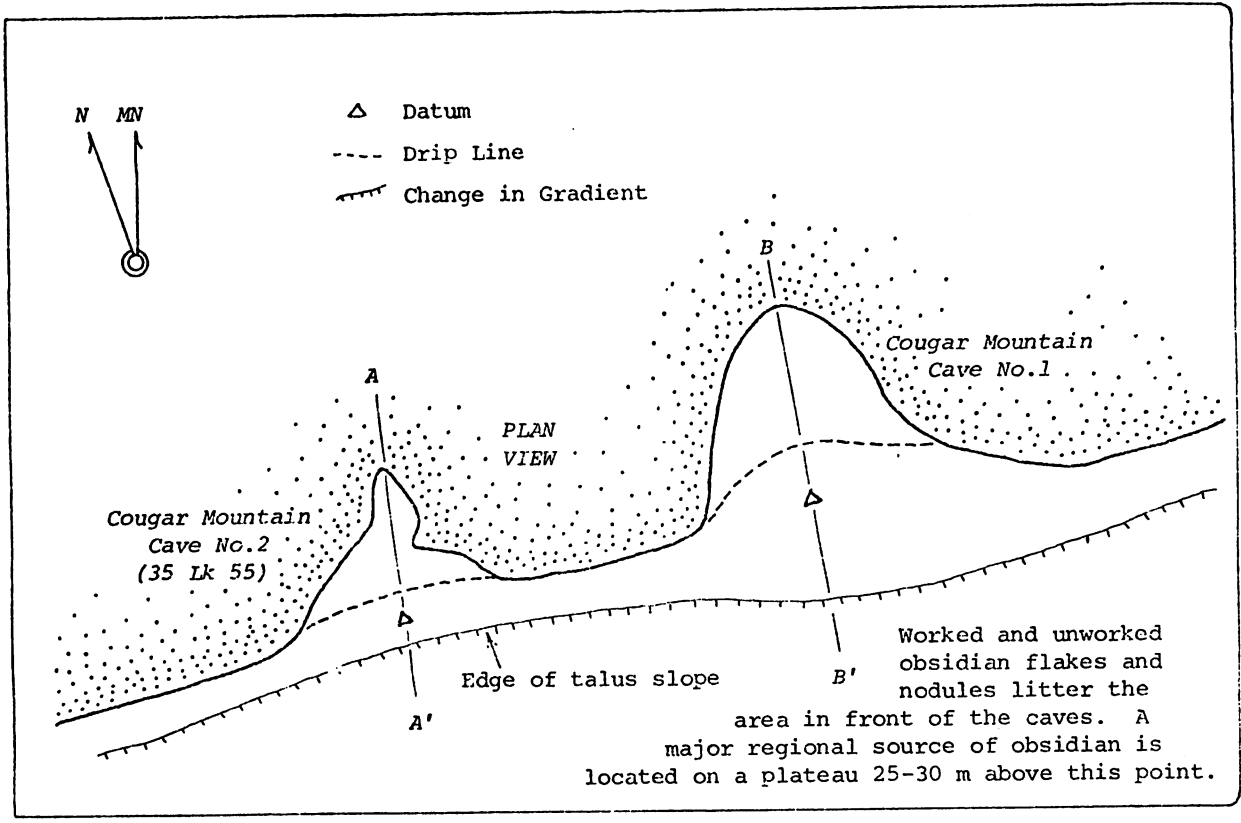


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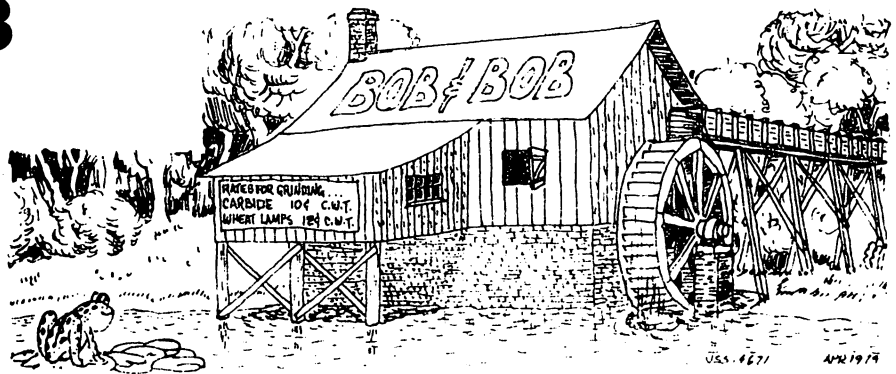
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