

V.22(7)



# THE CASCADE CAVER

International Journal of  
Vulcanospeleology

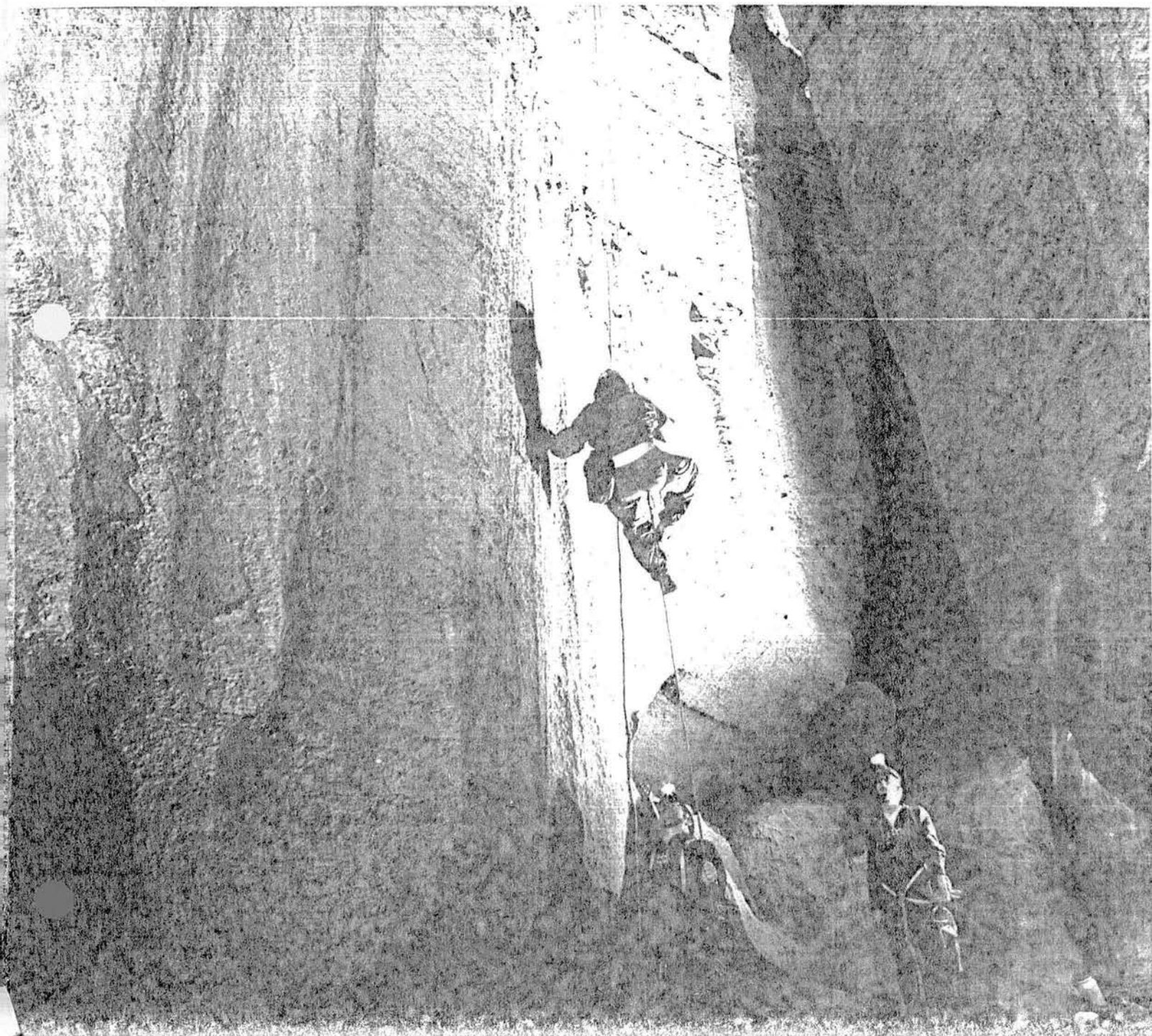


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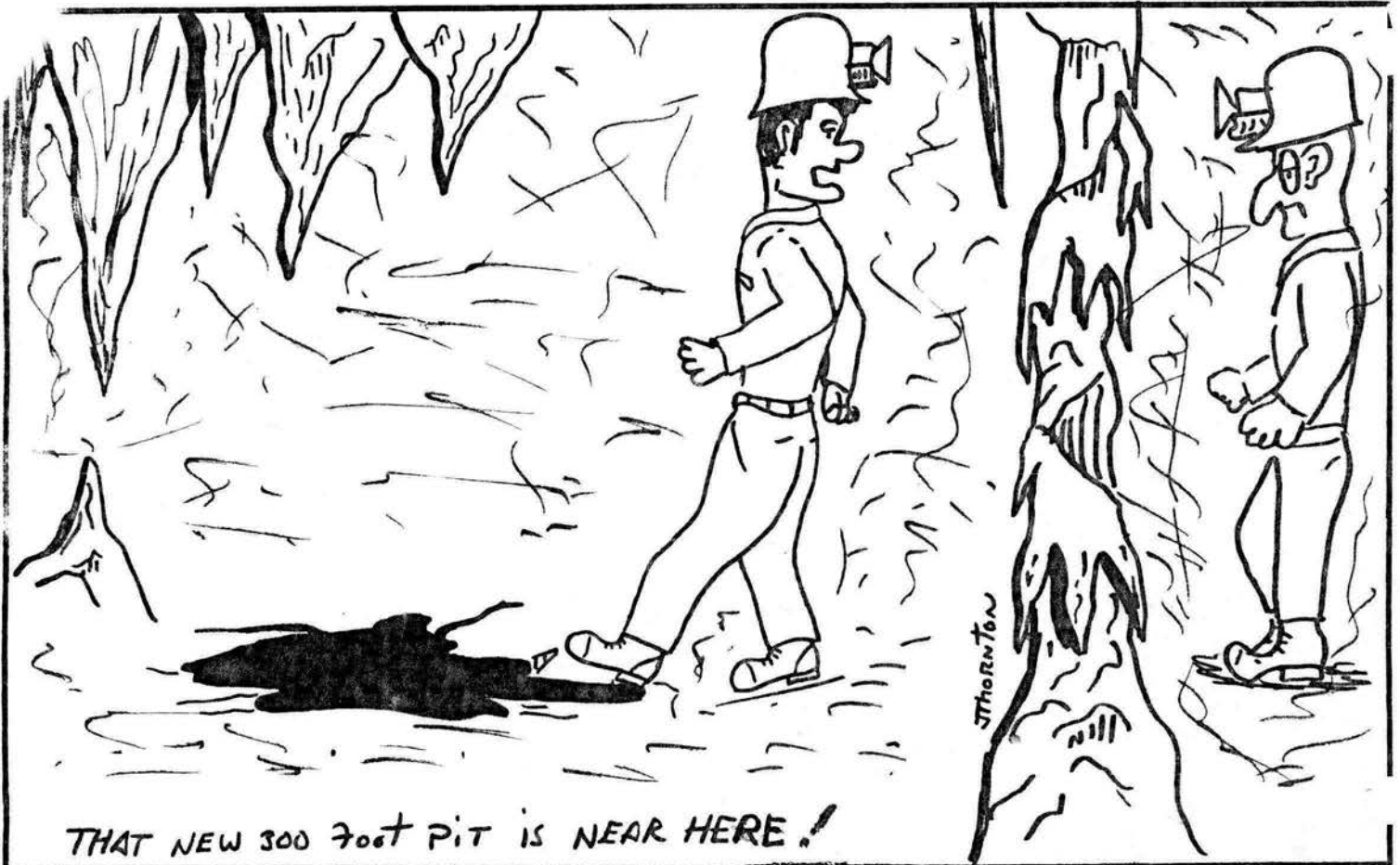
Editor: Mark Sherman

JULY 1983



COMING EVENTS

- SEPT-OCT ?? Searching for Glacier Caves on the South side of Mt. St. Helens. The date has not yet been set. Call Bill Halliday for details at 324-7474.
- SEPT. 3-5 Regional, The Lehman Cave area, Nevada.
- SEPT. 6-14 Post Regional Trip to Utah's Canyonlands. Contact Bob Brown (569-2724) or Mark Sherman (524-8780) for more details (see the flyer in this issue).
- SEPT. 20 Grotto Meeting 8:00, 1117 36th Ave. East, Seattle
- OCT. ?? Trip to Cody Cave in British Columbia. The date has not yet been set. Contact Bob Brown for more information.
- OCT. 18 Grotto Meeting 8:00, 1117 36th Ave. East, Seattle
- NOV. 15 Grotto Meeting 8:00, 1117 36th Ave. East, Seattle



### GROTTO NOTES

Starting with this issue, the Grotto will be holding a contest for the best trip report of the year. A panel of three judges, made up of the Grotto Chairman, the editor of the Caver, and Rod Crawford (you should have been to the last meeting Rod) will choose three finalists. The grotto members will vote at the August 1984 meeting for their favorite -- the TRIP REPORT OF THE YEAR. Oh yeah I forgot to mention, first prize will be \$50.00. Bribes will be accepted and are encouraged (just kidding folks).

William Halliday has received a Certificate of Appreciation from the President of the NSS, Robert Stitt. The following paragraph was taken from a letter to Bill.

"Your certificate has been awarded to you for your work with the Mt. St. Helens CTF, in studying and working for the protection of the cave area around Mt. St. Helens. The Society, and myself in particular, deeply appreciate your efforts in furtherance of the Society's goals."

Robert R. Stitt  
President

The Cascade Grotto also very much appreciates your efforts and congratulates you on your award.

### NEW ADDRESS

Carolyn Cilek  
100 E. Allison  
Seattle 98102  
329-1892

The cartoon for this month was drawn by Jerry Thornton.

Following this year's regional in Ely, Nevada, there will be a week long trip exploring the Canyonlands National Park in southeastern Utah. One group returns on Sept. 13th. The other group is continuing on to Mesa Verde National Park and up western Colorado and Wyoming to the Tetons and getting back home on September 18. If you are interested in going please call Bob Brown (569-2724) or Mark Sherman (524-8780).

## DELUGE AT RAINY CREEK

or

### ANOTHER CAVE HUNTING TRIP WASHES OUT

By Jan Roberts

Larry McTigue called me up during the middle of the week (July 20th) and wants to know if I want to go CAVE HUNTING (ie SINK HOLE DIGGING) at the Rainy Creek Limestone deposit west of Lake Wenatchee, and south of the old limestone quarry near Soda Spring Campground.

It seems there are several large and deep sink holes in this area and Larry wants to recheck them, his last visit was 10 years ago. Invited along on this trip was a new Cascade Grotto member John Conrad, who was staying in a cabin on the south shore of Lake Wenatchee that weekend. Larry wanted an early start so we left my house at 7:00 in the morning! John wasn't expecting us to arrive until 11:00, needless to say John was surprised to see us arrive so early.

With little delay we all left John's cabin for the short drive to Rainy Creek and surprise, we found the right "overgrown" logging road to the sinkholes. We even found the sinkholes without too much brush beating - helped along by consuming numerous huckleberries (the high point of the whole trip).

From there on everything went downhill (pun intended), the sinkholes had heavy undergrowth mixed with that hikers delight, Devils Club. Also mixed in was an all too abundant supply of flies and mosquitoes for which insect repellent had little or no effect even after numerous applications of same. Perhaps if you had them all stand still you could drown the bugs in the repellent. The mosquitoes had a field day, we served as the main course, the insect repellent served as dessert.

When Larry found a hole in the bottom of one of the sinkholes (a hole he found after he fell into it .... just after warning John to watch his step) a thunder cloud started building over the nearby mountain peak. Larry was busy digging (only room for one) while we swatted away the bugs from each other. A short lunch break then more digging .... by Larry of course, and the thunder cloud continued to build. It had been mostly sunshine, but with that big cloud and the thunder behind us .... "Hey Larry, I think we better head for the cars." "We will as soon as it starts to rain", he says. The rain came in buckets, BIG buckets plus hail plus flashes of lightning above. "Let's leave", said Larry. Soaking wet long before we reached the cars, only I brought extra clothes, and no one had brought rain gear. "Strange", says John, "It nevers rains in eastern Washington". Ah but this is a Grotto Cave Hunting Trip and ...

John went back to his cabin and his lovely wife, to dry out. Larry was still anxious to look for caves so I showed him the limestone outcrops in the Rainy Creek Canyon. No holes, no caves, no sinks, no flies, no mosquitoes, just rain storms!

So then I show Larry the Soda Springs and the abandoned limestone quarry for a finale to the trip. Again no caves but there were three nice sinkholes in a line with the soda springs. Maybe the springs are the visible evidence of a still inaccessible cave system. The quarry only removed half of the nearby limestone hill. "I wonder", muses Larry, "what the Forest Service would say if we dug out the Soda Springs?" "You're under arrest!" was my reply.

BURIED GLACIAL ICE AND OTHER COMPLEXITIES FOUND IN THE SPIRIT LAKE  
PSEUDOKARST, MOUNT ST. HELENS, WASHINGTON

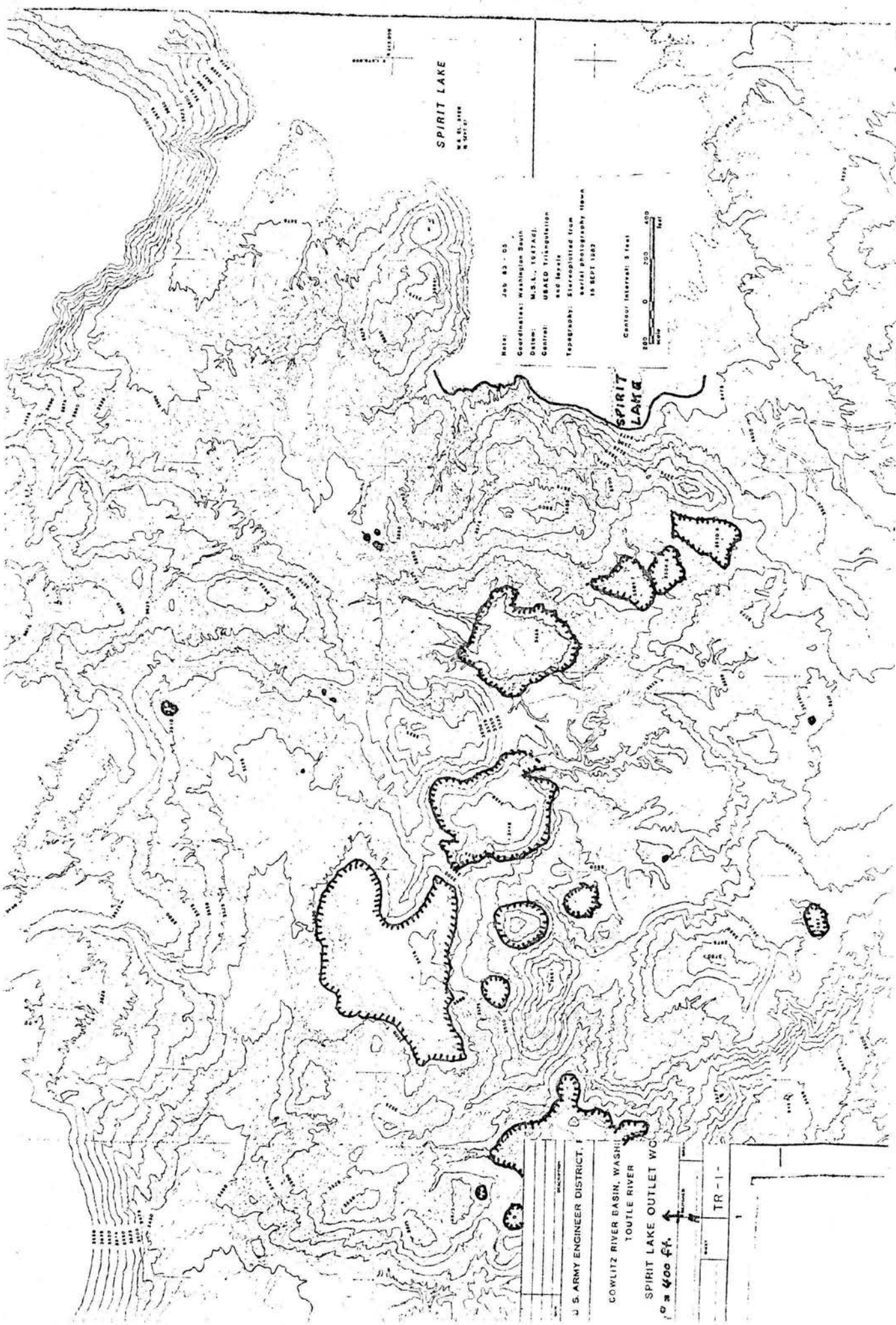
By William R. Halliday

On July 2 and August 7, 1983, Western Speleological Survey field parties returned to the Spirit Lake Pseudokarst, and July 3 we did some aerial photography. The landscape and subsurface here continues to undergo rapid change and so do some of our concepts. On July 2 we found a wall of glacier ice exposed in the wall of one medium-sized sink, confirming the theory expressed previously in this and other speleological publications. But we also found that some of the most impressive sinks probably have a different origin. And on the July 3 flight, we found that the pseudokarst is limited to an area of about 0.5 sq. mile (as shown on the map in this issue), Plus some lesser development in the up-slope part of the Coldwater Ridge lobe of the May 18 debris/pyroclastic flows. Farther down the May 18 mudflows are a few eroding remnants of shallow explosion pits and one large resurgence. But the Spirit Lake Pseudokarst clearly is a unique and sharply limited section of the May 18 deposits of Mount St. Helens, and the landscape and subsurface here continue to undergo rapid change. On July 2, we checked the entire shoreline of Spirit Lake, contiguous to the pseudokarst and found no active swallets like those observed in October 1982. At this time the lake level was slightly higher than in October, and additional Corps of Engineers bulldozing was noted in the area of the swallets. We did observe a few small bubbles, rising occasionally in the clear water. Quicksand was annoying in several flat areas near the lake.

Area of Sinks 3458 and 3446

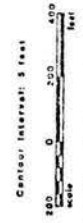
Gullies draining centripetally into sinks 3458 and 3446 were markedly wider than in October 1982, and the floors of both of these large sinks were at a higher level. On July 2, shallow water was present at the south end of sink 3458. No descent was attempted into what appeared to be a quicksand bottom elsewhere in the sink. Vertical pipes noted in its floor in October 1982 were obliterated.

In sink 3446, similar pipes and inner sinks also had been obliterated. One vertically walled inner sink about 20 feet in diameter and about 4 feet deep had appeared near its northwest embayment, as well as some smaller ones nearby. It was terminated by muddy water of uncertain depth. Farther west, near the wall of the main sink, a large boulder had impacted the new floor, forming an impact sink 4-5 m in diameter and of uncertain depth, with an adjacent bulge from deformation of the surface. All these structures appeared newly formed on



**SPIRIT LAKE**  
 U.S.G.S. 1968  
 1:50,000

Note: Job #3 - 05  
 Coordinates: Washington South  
 Datum: M.S.L. 1929 ADJ.  
 Control: USAD Triangulation  
 and Level  
 Topography: Stereoplotted from  
 aerial photography 18mm  
 15 SEPT 1962



U.S. ARMY ENGINEER DISTRICT,  
 COWLITZ RIVER BASIN, WASH.  
 TOUTLE RIVER  
 SPIRIT LAKE OUTLET WORKS  
 400 ft.  
 TR-1

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↑

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July 2. By August 7 the walls of the larger inner sink had slumped considerably and centripetal gullying had begun to erode them locally. It is tempting to attribute development of all these features to the impact of the boulder on a semirigid surficial layer of partially dessicated material on the basis of their similar lack of erosion on July 2.

#### Area East and Southeast of Point 3681

Proceeding west, then southwest from sink 3446, two sinks northeast and southeast of point 3661 (on the Sept. 1982 Corps of Engineers map) were found to differ dramatically although separated only by a knife-edge of eroding material. The southern sink appeared to be a smaller version of sinks 3458 and 3446, largely walled with May 18 material. The other sink was essentially free of such material; only a small mudflat was present at its base. This closed depression has the internal shape of a steep-walled cone and its walls are of dark volcanic rock and rubble. It has the general appearance of a recent explosion pit in basalt. This also was true of another conical vertical depression about 100 m farther west, readily seen on the September 1982 map. A third closed depression of this type was noted on August 7; this one is shown on the Sept. 1982 map, at the top of the left-hand box. Another potential depression of this type, farther north, has not yet been visited.

#### Area of Sink 3475

The westernmost line of reconnaissance to date is the ridgeline of a large sink partially obscured by the lefthand title box on the September 1982 map. No descent has yet been made into this sink. On the slopes between sink 3446 and this other large sink and along the low ridge leading north, are numerous unmapped smaller sinks in May 18th deposits. The ice wall was found in one of these near the head of a gully extending west from sink 3475. A nearly vertical face of very hard crystalline ice about 5 meters in height and width was found on the southwest wall of the sink which otherwise was walled with loosely slumped rubble. By August 7th it was necessary to dig through 15 cm of rubble to expose the ice. On July 2nd we encountered Corps of Engineers personnel who showed us photos confirming their statements that a few days earlier, a cavernous space had extended underneath the ice wall for a distance of 10 or 15 meters. They said that the sink had appeared a few weeks earlier and that many of the small sinks in the area had also appeared in recent weeks including the one we observed along the edge of the road atop the buried Spirit Lake drainage pipeline.

Sink 3475 itself is no longer recognizable as a closed depression because of the construction work by the Corps of Engineers. The artificial resurgence of the pipeline and pumping plant complex is just north of the west end of this former depression. Its northwest end and a small adjacent plain are extensively modified by activities here. This included dumping of unneeded river pebbles over a large area south of the artificial resurgence.

On July 2nd the pumping operation was active and a large flow had scoured a new channel down to what appeared to be bedrock in the general vicinity of the pre-1980 course of the Toutle River. By August 7th the operation had been shut down. A much smaller stream was found resurgng amid boulders in the middle of the new streamcourse a few dozen meters downstream from the artificial works. Its volume was slightly augmented by trickles resurgng along the south wall of

the gully. The small residual pond at the artificial outlet appeared much too small to be the source of this midchannel resurgence and it may be draining (at least in part) Spirit Lake despite the lack of visible swallets at this time. Currently we do not know of any water tracing or measurements here.

On August 7th we were able to descend into sink 3458 and found new vertical pipes. Some were in the general areas of those observed in October 1982. Of special interest was a bell-shaped pit about 8 feet deep and 12 feet in maximum diameter with an entrance about 75 cm in diameter. Exposed in one wall was a cable which was on the surface in October 1982 and now was 75 cm below the surface.

Surficial pseudokarst was especially well developed southeast of sink 3458 and west of sink 3475. In these areas were innumerable small vertical shafts, natural bridges, lapies-like ridges with grooved near-vertical walls, kaminitza-like basins, and even mud speleothems. Cavernous openings of barely human size were fairly numerous, but on close inspection, none to date has been found to qualify as more than a natural bridge. Surficial pseudokarstification here appeared more intense than in October 1982, but objective comparisons have not been made.

Further Western Speleological Survey studies are planned in order to consider and document the evolution of this unique little pseudokarstic area. A graduate student currently working out of the U.S.G.S. Cascade Volcano Observatory, Harry Glicken, is also studying the area. Hopefully his studies will clarify the puzzling nature of the steep-walled pits which look so different from the other closed depressions in this area.

#### LETTER TO THE EDITOR

With great interest I read the article about standardization of length measuring in lava caves. Having a keen interest in this kind of cave, I would like to give my opinion on this matter as well.

I am strongly against considering a cave as two caves as soon as a roof collapse occurs. To the cave itself the collapse does not really change the length, as long as a man can continue on, of course. When you follow a lava cave and the floor, walls, and everything continues except the ceiling, why should it suddenly become another cave?

In this world with too many people it is quite common nowadays to chop people and tear them to pieces. However, why should we do the same to our caves. The whole article sounds to me as: The cave is not really important - it's the system which has to work. As said on page (nr 4): "...scientifically defensible, but ignoring standards..". If something is scientifically right IT IS THE STANDARD. To me, a 10 yard long nice cave is more interesting than a 10 mile long boring one. If the cave system is mapped, who cares about the real length. Caves are to be enjoyed - not to be used as competition.

I immensely enjoyed the part taken out of a letter by Bill Halliday to a "supervisor". Having my own experiences with "political" thinking people, I just wonder if they even react.

Please keep your "Cascade Caver" going!

Jan Paul van der Pas



## CAVING I DID AND DIDN'T DO

by Carolyn Cilek

From the end of May thru mid July I went on a journey across America and came back in love with our country whose beauty is abundant. While in Yellowstone with it's steamy waters I thought, "Hm, a steam room cave would be wonderful". With a fast drive by the Tetons and thru Wyoming's red earth tones I pushed on to the Nebraska panhandle in time for my parents' 45th wedding anniversary family dinner.

My traveling partner was now in Boulder, Colorado from whence we flew low across Kansas and began our circuit of visiting friends and family across the country winding up in Chatham, N.J. to visit Andrew Foord, his twin Barclay, and parents. Andrew and Barclay wanted to take me to their local cave of which the name escapes me. Alas there was not time and my only subterranean activity was traveling the subways of NYC.

Time to head west again and as my traveling partner needed a ride to the annual Rainbow Gathering in Michigan, I gave up going to the NSS Convention in Elkins, W. Virginia. I continued on to Hay Springs, Nebraska in time for my 20 year high school reunion over the 4th of July.

Finally, no milestone dates to meet, no traveling partner, I am free to do whatever, whenever. After a short hike in the Badlands of So. Dakota I went on to - yes - a CAVE - Jewel Cave. I decided on the Historic Tour so I could get the "feel" of caving again. This tour begins at the natural entrance, which has been blasted larger, and the brochure says "Colors and formations are not as apparent as on the Scenic Tour" which was an understatement. The color was basic brown and I saw one short soda straw tucked in a high corner which was not pointed out -- and I didn't care, I was happy to smell Underground! I opted to take a short side passage that quickly rejoined the main passage, but the exit opening looked to be only about 8 inches high, body width and the thought of dry powdery dust in hair and face with a hot drive ahead did not appeal nor did I care to demonstrate to 25 other people how to get stuck - so I gladly returned the way I entered. Of course the way to go is the Spelunking Tour (which was booked 5 days in advance when I was there) that goes to see the hydromagnesite balloons which are currently known only in Jewel Cave and Carlsbad Caverns. The exploration of Jewel Cave continues and new passage was being pushed that same day. I have a map (dated 11/20/82) for anyone interested in seeing it. That day ended at Devil's Tower in Wyoming which I found to be completely magical.

The Lewis and Clark Caverns near Bozeman, Montana afforded me with an abundance of cave decorations and amusing tales of the fellow Morrison who first commercialized the cave. He led groups up steep slopes from the Jefferson River and built a 90 ft spiral staircase to accommodate their vertical passage - quite a feat! Then a federal agency was given authority and locked the entrance. Morrison cut the locks and continued his tours, about every couple months a new lock appeared, was cut, etc. until Morrison died. Montana State now has control and I was impressed with their audio-visual presentations and informational display. My appetite is whetted for the upcoming Regional in Ely, Nevada.

CAVE CREEK CAVE

Jerry Thornton, Chairman of the NSS Conservation Committee, recently sent a letter to the grotto asking for our support on the proposed Cave Creek Cave Wilderness Area. The Cave Creek Cave System in the Daniel Boone National Forest of Kentucky is being considered as an underground wilderness. "The cave is definitely significant. It is more than 13 miles long, placing it among the 50 longest in the world. It is unspoiled and almost untouched. More importantly, its designation could set a precedent for the future."

Anyone interested in supporting this effort should mail their letters to:

Richard H. Wengert, Forest Supervisor  
Daniel Boone National Forest  
100 Vaught Road  
Winchester Ky 40391

Your letters must be mailed by September 20, 1983!

For more information on this issue just give me a call at 524-8780 and I will send it to you, or you can call Jerry Thornton at (208) 383-9275.

Cascade Caver  
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University of Washington  
Seattle WA. 98195

GROTTO MEETING SEPT 20 at 8:00