

THE CASCADE CAVER

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Butter - Stairwell Trip by Maurice Magee

I left Seattle friday night and met my brothers at Vancouver. We arrived at the cave area at noon Saturday and started following the trail of breakdowns up-hill. We found several interesting places but finally went into Stairwell Cave. It had at least three levels and was more complex than most lava tubes we had been in. It was an interesting cave and seemed quite extensive. We went all through all of the passages and then decided to map it.

The second time through with compass and tape made it much less complicated and shorter than it seemed at first. It is amazing what a difference there is between a first impression and an actual survey. After completion of our futil survey we left the cave to get someting to eat.

At the cave entrance there was a note signed WRH saying to sing out when we got out of the cave. We did and were answered by WRH and three children who were making a surface survey from some breakdown farther on which was suspected to contain Red Cave.

After lunch we drove off through the boondocks closer to the other breakdown holes and started through this cave system. It was an interesting system with several breakdown holes in the ceiling or side and numerous side passages which we did not have time to explore. I went through one side passage which was probably parallel to the main passage, because it left it and came back into the main passage a little farther down. At one place just after a very low crawlway about a foot high it opened into a circular room probably 20 feet across and 4 feet high with other possible entrances and exits than the ones I used. It will take a lot of measuring and crawling to check out all of the possibilities in this system.

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Filler material:

Harry Reese's telephone number is 231-4235

Telephone operators don't as a rule know where Trout Lake is, but the gals on the switchboard at Hood River, Oregon do and can help complete your calls.

## VULCANOSPELEOLOGICAL ABSTRACT

"Breathing Cones" from an article in The Volcano Letter # 263, January 9, 1930 published by the Hawaii Volcano Observatory. by Don Rimbach

"The extraordinary lava activities of the year 1919 at Halemaumau, the fire pit of Kilauea, marked the peak of the eleven year cycle. To the tourist who sees the vast caldera of today, a thousand feet deep and three thousand feet across, it is hard to realize that glowing, molten slag was overflowing the edge of the pit a decade ago. The pit has a definite margin of cold rock but within that margin and overlapping it were lava lakes, pots, droplet spires, flow heaps, tunnels, stalactite grottoes, smoke holes, and breathing cones.

The east cone of the spring of 1919 was a low hillock, built up around a lava pot on the inner flow of Halemaumau. Visitors habitually walked over this floor which extended from the lakes inside the pit area to merge with the overflows outside. The pot was supplied with a glowing glassy melt through a tunnel leading from the main lake. With the rise and fall of the liquid lava a cone was built around the pot, and the interior ceiling of the tunnel became hung with huge gas-glazed stalactites three to four feet long.

One could stand on the rim of this conduit and gaze into the open pot where lava, of bright yellow glow was splashing fifteen feet below. Under the lip of the orifice the interior chamber was bright orange with incandescence hung with beautifully sculptured fiery stalactites shaped like long bunches of grapes. By night, a banner was visible, of blue-green flame, fluttering above the orifice sending off a pale blue transparent fume, acrid with sulphur. As a whole during this period, the lakes were rising, the inner floor was being overflowed in spasms, and the heaps, cones, and spiracles were building up. The East Cone hissed, and breathed, and roared at different times. Sometimes it would vomit up molten stuff like an artesian well, and give vent to a glowing flow. At such times the pot and tunnel were obliterated only to reappear when the outflow ceased with the stalactites reforming.

The grape-like droplets, and the grey, yellow, red, or brown glazes on the surface of these stalactites are not the result of direct spatter. There are other stalactites and drip curtains and frozen drop points which are the result of direct splash.

The grape-like bunches however, and the long worm-like stalactites are formed by the remelting of the roof of the cavern by slow action of the intensely hot burning gasses. The burning is converted into a blow-torch effect when air has access to the tunnel so as to convert the combustible gasses from the boiling lava into oxidizing flames. When air reaches the volcanic gas pipe suddenly the changes in the iron oxide in the glazes may be equally sudden and the whole cavern may be caused to glow by the access of air alone.

Plantz, Charles. 1965. Field trip to two large Icelandic lava tunnels. Netherworld News (Pittsburgh Grotto, NSS) pp. 172-176, Oct.

The writer visited Surtshellir and Raufarholshellir, and gives detailed directions (he spent 5 hours trying to find Surtshellir even though the location is shown on topographic maps). Surtshellir is about 3/4 mile long and contains fine flow patterns, ice and an alter.

Prior to the discovery of Apr Cave, Raufarholshellir was the longest known lava tube cavern (3200 meters according to Corbel - see below). The writer records three lava springs, ice and several lavafalls. Lava stalactites were more prominent than in Surtshellir but no stalagmites were noted in either.

The cover photo of the issue of Netherworld News shows the short section of Surtshellir where the original floor is not covered with breakdown.

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Corbel, Jean. 1957. Les karst du nord-ouest de l'Europe. Geog. Rev. de Lyon. pp. 258-263.

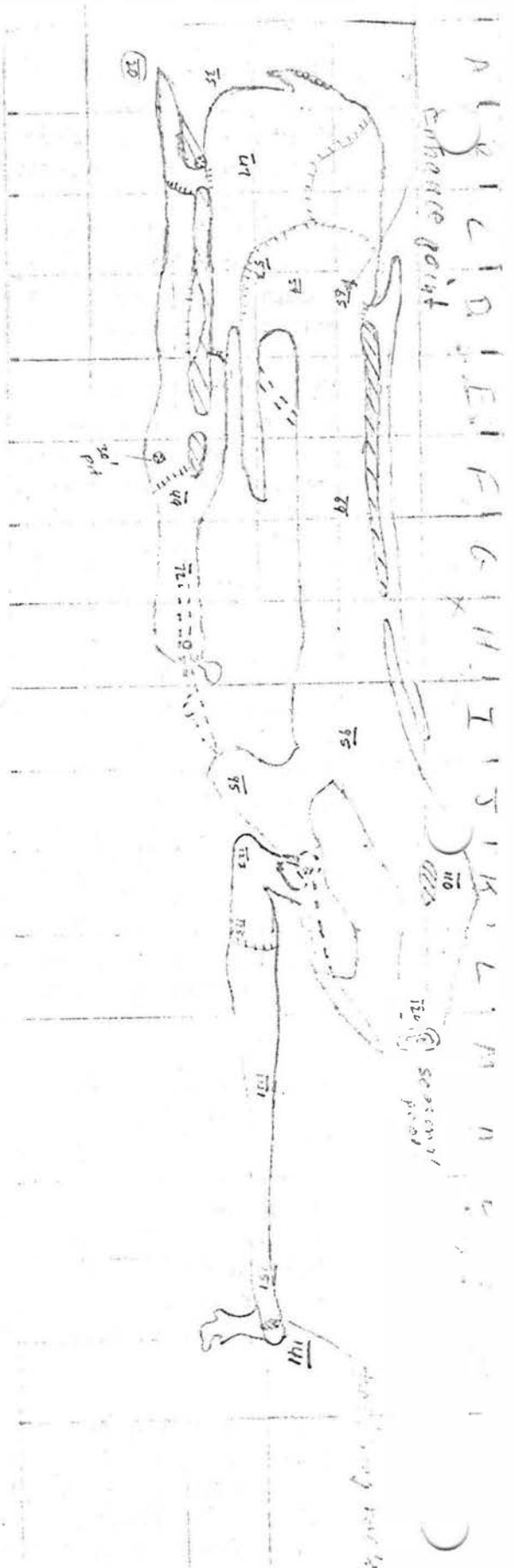
The lava tubes of Iceland occur in two grouges: the southwestern peninsula and the Surtshellir area. Raufarholshellir is 3200 meters in length, and is in a flow which occurred in the year 1000. its elevation is 200 meters. Its average temperature is around freezing. Breakdown segments are plentiful. Surtshellir is 1250 meters long and is known from legends of the 10th century. Both of these caves are basicly unitary. Nearby Stephanshellir however has the form of a labyrinth. Vidgilmir Cave closely resembles Surtshellir. Other smaller caves are mentioned. Theoretical considerations will be presented later.

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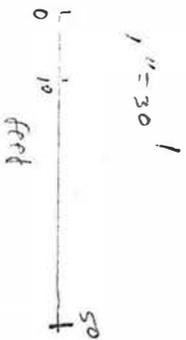
Spry, A. H. and Hale, G.E.A., 1964 A cave in dolerite at Wayatinah, Tasmania. Univ. of Tasmania Dept. of Geol. Pub. # 149, Dec. This is not a lava tube but is in a volcanic rock - dolerite. 60 feet long, 30 feet wide and 4 to 30 feet high, it was intersected by a tunnel and is 600 feet below the surface. It was full of water when intersected, but the presence of "small conical masses of calcite" indicated that the filling was a recent phenomenon. Unfortunately, the cave is no longer accessible; it appears to be an unusually interesting pseudokarstic phenomenon meriting much more detailed study than was possible.

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Fish, John and Reddell, James, 1965. Field trip report: States of Hidalgo, Veracruz and Guerrero. Assoc. for Mex. Cave Studies Newsl., 1(8):75, Aug. First investigation of lava tube cavern reported near Jalapa, within a night's drive of Cacahuamilpa Cavern (an enormous limestone cave). Elevation 10,000 feet. "The sink is about 600 feet long, 100 feet wide and 50 feet deep. It appears to represent the sollapse of an upper level tube into a lower level". The opening of a lava tube about 15 feet in diameter was observed but could not be reached without special climbing gear.



508'



Hellhole Cave, King County, Wn.  
Grade 4 Map by Cascade Grotto, N.S.S.

CORRESPONDENCE

Dear Dr. Halliday,

In answer to your letter about caves in the area of our quarry deposits near Concrete, Washington, I know of no natural caves excepting those near Three Mile Creek and east of Everett Lake.

I have told our company geologist, Mr. Ed Via, who is now doing some prospecting work in our area, to report to me any caves he might find. I will keep your address on file and let you know of any finds we might make in the future.

/s/ Tom D. Stokes,  
Quarry Foreman  
Lone Star Cement Co., Inc.  
Concrete, Washington 98237

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RECEIVED  
JAN 18 1967

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THE CASCADE CAVER  
1117-36th Avenue East  
Seattle, Washington 98102

THIRD CLASS MAIL

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