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William Harvey Bowers

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The **ALASKAN CAVER**

VOLUME 10 NUMBER 1

FEBRUARY 1990



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Cover: Harvey Bowers and Curvin Metzler standing in main entrance to Byron Snowfield Cave,
October 29, 1989 - Photo by Bob Hallinen

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ICE CAVING

Underneath a glacier snowfield in
Byron Valley

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Daily News, November 5, 1989

Story by Doug O'Harra
Photos by Bob Hallinen

For all I knew, we were lost in
the labyrinth.

The cave pitched downward, disappearing into darkness beyond the range of our headlamps. Two passages forked upward, their ice roofs dripping. Low crawlways led to either side.

Spelunker Curvin Metzler was momentarily stumped. In half a dozen trips into the glacier caves of the Byron Valley near Portage, he had never seen so many passages converge in one place.

"Maybe you can get lost in a glacier cave," Metzler said at last.

I kneeled nearby, pointing my flashlight and headlamp first into one cranny and then another. I sure didn't know where to go. Daily News photographer Bob Hallinen had remained in the tunnel behind us, unable to get his camera gear through the small passage that led to our present position. In five hours, through almost a mile of subsurface passages, we had seen daylight only twice.

Metzler chose to continue his strategy of choosing whichever passage pointed uphill. "I won't even try to explore those other passages," he said to me. "We don't have time."

Moving uphill in a crabwalk, he reached a spot with a view of the farthest passage. I scrambled after him, kicking loose rocks that clattered like breaking plates on the slope below.

A tunnel almost high enough in which to walk upright rose uphill. A constant stream of air flowed back down. The exit was near. With Metzler in the lead, we climbed a perfectly arched tunnel that rose about 10 yards to a T-shaped intersection. The passage

in either direction led toward light.

To the left, the darkness was cut by a sliver of stark white light. The outside.

To the right, the light appeared fainter and bluish, as if illuminated by a neon sign. We decided to investigate. Stooping down the right-hand tunnel, we entered a 4 foothigh chamber in which the ceiling glowed.

In one spot, the ice was so thin you could almost see through it. If someone were to walk overhead, they would almost surely fall in to our laps. We turned off our headlamps and sat on the cold rocks. It was bright enough to read by.

A completely illuminated room. "Hallinen's got to see this," I told Metzler.

I decided to backtrack. It would only take a minute to reach Hallinen. Metzler continued on, exploring the passage to the exit.

But as I headed down the passage, it no longer seemed round and vaulted. With my headlight aimed down at the rocky floor, the dirty "ice" walls curved around me. I stopped. Was this the right way? It had to be. But which crawlway had I emerged from? And where was Hallinen?

I dropped to my hands and knees and twisted my head to light up the crawlways. They all looked alike: jumbled rocks, dripping water, glistening white ice.

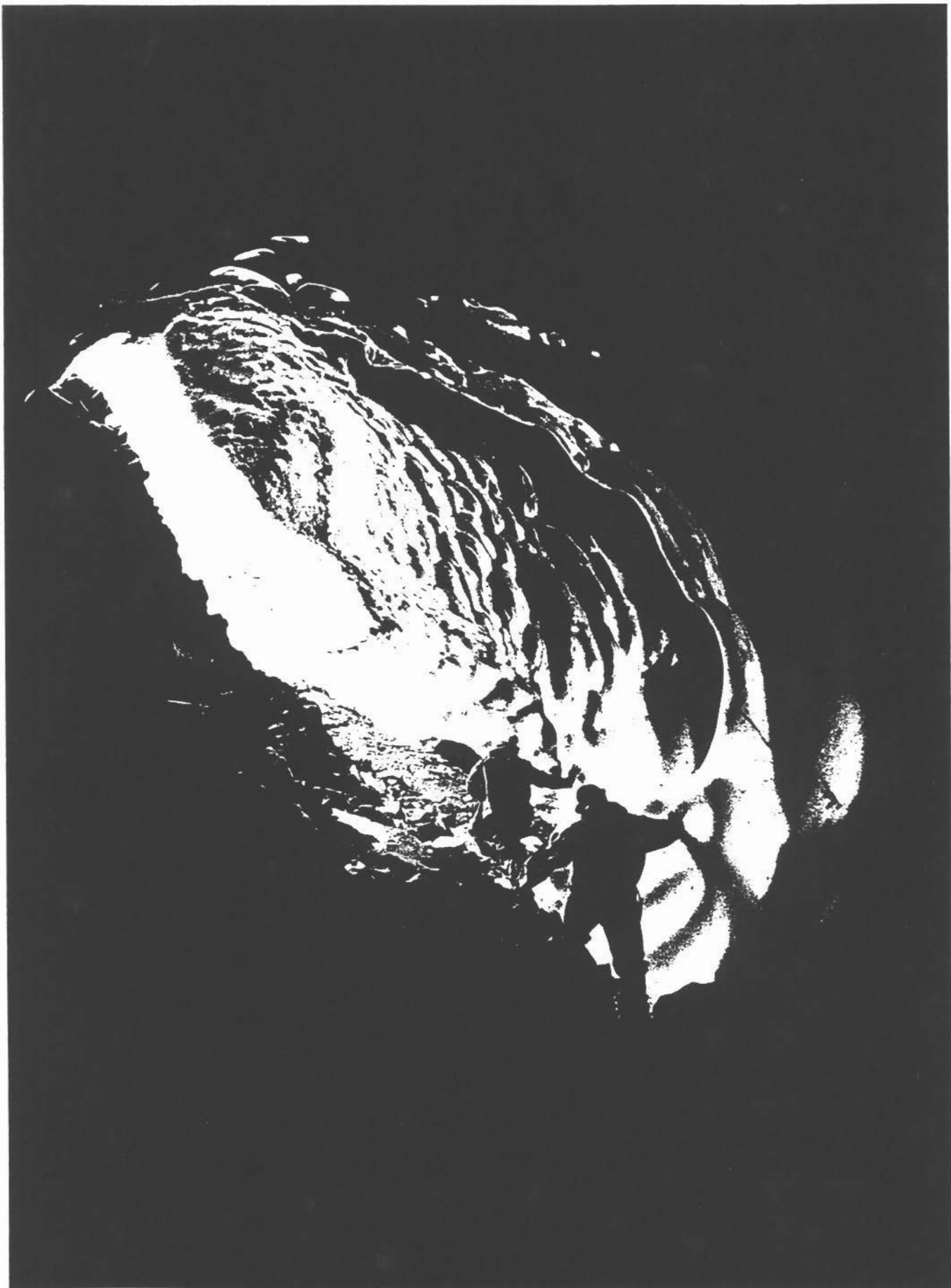
For a moment, I was lost.

Though I couldn't recognize any features in the ice walls, I could place that feeling - the primal, wordless fear of being trapped underground, having lost your way. It's the feeling of fairy tales and Edgar Allen Poe, the same feeling etched on the face of the man who starved to death in Tom Sawyer's cave.

But the feeling passed as quickly as it came. After all, there weren't that many choices the correct tunnel had to be one of



Curvin Metzler standing in a main passage of Byron Snowfield Cave. Large chunks of ice
breakdown in the foreground. Photo by Bob Hallinen



Looking up the upper avalanche entrance to Byron Snowfield Cave, October, 1989 - Photo by Bob Hallinen

three. And, as I told myself, I could always retrace my steps.

I dropped to my chest and squirmed into the lowest passage. Within feet, I glimpsed the glow of Hallinen's light. Calling over the everpresent sound of gurgling water, I told him about the room. Then, from behind me, Metzler appeared. We could reach the room from the outside, he said.

As we headed back out the way we had come, the feeling of that moment stayed with me. It was as though I had entered unknown territory and returned.

I was eager to go back.

For six hours one recent Saturday, Metzler led us on a spelunking expedition inside an ice field near the Byron Glacier. We had expected to find a cavern or two following streams of meltwater. Instead we found an entire cave system.

By the time we finished, we had climbed hundreds of yards up one shaft as large and vaulted as a train tunnel. We had traversed fields of ice boulders as large as automobiles. We had crawled in and out of deadend chambers. We had broken an ice shelf from the ceiling of a tunnel that snapped like a pistol shot. We had found eerie spears of contoured ice frozen in the darkness. In all, we had explored nearly a mile of passages and found entrances to a dozen more.

Glacier caves—including those of the Byron Valley, closely accessible to Anchorage—are relatively unexplored among the state's natural wonders. "There's probably only a handful of people in the world who have been in more than one," said Harvey Bowers, a Wasilla resident and editor of the Alaskan Caver, the newsletter of the Glacier Grotto chapter of the National Speleological Society.

At one time, the caves at Byron Glacier were among the best-known in the world, perhaps second only to the Paradise Ice Caves on Mount Rainier. Expeditions from Japan and Europe came to explore and chart them. Maps of the caves were published in a national speleological journal.

But glacier caves are constantly

changing. Some years entrances appear, some years they don't. Without much notice a cave might completely collapse to the ground. In the early 1980s, the Byron cave system did just that and thereby fell from public attention. When it reopened recently, only the small circle of cave enthusiasts in Alaska's spelunking community seemed to notice.

Glacier caves form for two reasons. As a glacier moves, the ice can be blocked by a knob of rock, causing a channel to form on the leeward side of the blockage. These "obstruction caves" are thought to be rare.

Far more often, glacier caves form when melting water carves a passage through the ice. Warm air then flows in to the passage and eats away at the walls. The process is called ablation.

Essentially the same thing creates limestone caves. But in a glacier, cave formation occurs a thousand times faster than in limestone. If limestone caves live and die over millennia, then glacier caves might rise, expand and collapse in a few seasons.

To a spelunker, the prospect of studying the same cave through all its phases is irresistible.

"You see the same thing in a glacier in two to three years as you would in a limestone cave in 5,000 to 10,000 years," Bowers said.

Glacier caves house the same variety of formations found in limestone caves, Metzler added. "But you can see them grow and change. In a limestone cave, that would take thousands of years."

Glacier caves have probably been explored in Alaska for as long as people passed by the streams emerging from glaciers and studied the yawning caverns beyond. The Tlingit Indians have a legend that in ancient times, people annually migrated through an "ice" tunnel near the Stikine River.

But the first published account of glacier caves occurred in 1860, when a scientist described two in the European Alps. Shortly afterward, explorers found a large tunnel in the Malaspina Glacier

near Yakutat.

Though caves at Byron Glacier were first mapped 20 years ago by members of the Glacier Grotto, they weren't systematically explored until Bowers came to Alaska in 1971 to study geology at Alaska Methodist University. On one of his first weekends in town, some friends took him climbing at Byron Glacier. At the front of the middle snowfield, Bowers saw something he never expected to see: a cave in the ice.

He had grown up on a farm in the heart of West Virginia's "caving" country. He'd been "caving" most of his life, exploring the hillside above his family's farm including caves where saltpeter had been mined during the Civil War. When he entered college, he joined the National Speleological Society and began helping with exploration and expeditions.

In the "caving" world, Alaska was a blank place on the map. Bowers had never heard of any caves in Alaska. Yet here was a gaping hole.

Within a few weeks, Bowers returned to the Byron Valley, leading an expedition of three or four people into the cavern.

"It was very exciting," he said later. "You felt like you were on the edge of exploration."

They crawled into a damp tunnel along a streambed that stretched for nearly 50 feet then ended. The cave was in its final stages of collapse.

The group then found a second entrance, at the top of the snowfield. This time Bowers had better luck. A low, broad chamber followed the stream for 200 yards, deep into the snowfield. Though 30 to 35 feet wide, thousands of tons of compacted snow and ice above had pressed the ceiling to within 4 feet of the ground.

Bowers and the others noticed speleothems - pale draperies of translucent ice - stalactites and stalagmites. In the creek were tiny insects - what Bowers and the others called "snow fleas."

Then, about 6 feet above the stream, an arched chamber opened up and stretched another 150 feet into

the snowfield. Then it was over. The cavern was pressed to nothing.

"In a way, it was a disappointment," Bowers said. "It was interesting that I was in ice, but I was used to fairly large caves. Here you could only go a half-mile."

But Bowers kept returning until avalanches closed the valley, as they do every winter. He was able to map the cave. A copy was published in the journal of the National Speleological Society. He found several other caves, including a 200-foot-long chamber underneath the upper glacier itself.

The following year, the cave collapsed in a concentric sinkhole that was rimmed with 70-foot-deep crevasses. Judging from the size of the collapse, the original chamber must have been mammoth-larger than a high school gymnasium. The resulting crevasses were treacherous, and one skier even fell into one, prompting an organized rescue.

Over the next few years, Bowers continued to explore the caverns at Byron Glacier. He became friends with Julius Rockwell Jr., a professor at Alaska Pacific University who serves as president of the Alaska chapter of the National Speleological Society. Over the years, Bowers, Rockwell and others also found a shaft and tunnel in the Eklutna Glacier - in which the ice could be heard to move, slowing grinding its way downhill. Caves were also discovered in the Matanuska, Gulkana and Valdez glaciers - as well as eight others.

With the publicity and the access, the caves at Byron Valley attracted expeditions from Japan and Spain. Two years in a row, Japanese university students spent several weeks mapping and exploring the area.

But as the Byron caves began to collapse, members of the Glacier Grotto began focusing more on charting and exploring the state's little known limestone caves in the Wrangell Mountains and southeast Alaska, where club members have since discovered extensive cavern systems on Prince of Wales Island.

When the Byron caves reappeared, only a small group of spelunkers in

the Anchorage area paid attention. Cavers such as Metzler and Rockwell continue to visit Byron during the brief "caving" season in late fall -after freezeup solidifies the ice, before avalanches close the caves and make the valley too dangerous to explore.

Imagine climbing an icy mountain at midnight under an overcast sky. Exploring glacier caves requires similar skills - scrambling in the dark.

But there is a difference. On the mountain, a one-ton chunk of ice won't fall from the sky. In a glacier cave, the roof can fall on you at any time.

"It isn't quite like playing Russian roulette," said Rockwell. "If you keep your wits about you, then you're probably safer in that cave than you are in a car."

Yet Rockwell's assurance begins to sag some when the novice caver confronts a chamber littered with shattered boulders and girders of ice.

Again and again, you're reminded: The ceiling of a glacier cave can fall on you.

As a result, Rockwell, Metzler and Bowers say people should probe the underside of a glacier or snowfield only with an experienced caver who can recognize instability in the walls or ceiling. Vertical shafts and steep passages may require scrambling skills or ice-climbing equipment. Warm weather can cause the cave entrances to collapse without warning.

"It's just amazing to me that there haven't been a lot of people killed there," said Bowers. "Sometimes we could record a series of collapses from one week to the next."

In the Byron Valley, persistent avalanches on the route toward the glaciers makes exploring the caves even more dangerous. Some of the ice fields lie at the base of a slide chute, and the upper valley is overlapped by avalanches every winter. Often, no safe route to the Byron caves exists.

In midOctober, our first attempt to explore the caves at Byron was a

lesson in avoiding such dangers.

The rain fell in sheets and waves. The three of us - Metzler, Hallinen and myself stood at the mouth of the middle ice field in Byron Valley. The creek boiled out of an opening large enough to drive a car through. A curtain of dripping rainwater guarded the entrance.

Metzler motioned us forward. "Get ready to run," he said.

Ice boulders were scattered across the ground at the entrance. We picked through them and looked inside. The cave appeared capable of collapsing at a half-dozen spots.

"It's not safe," Metzler said.

We stepped back out to try another cave. Scrambling up-valley about a quarter-mile, we reached the front edge of Byron Glacier itself. There we found a cave opening as large as an airplane hangar, falling sharply to a creek bed about 30 feet below. From our vantage outside the cave, it was difficult to see how far it extended.

Rocks and chunks of ice sprayed from the opening into the hole. Every few minutes, something large enough to smash a skull plummeted and cracked on the debris below. There was no safe approach.

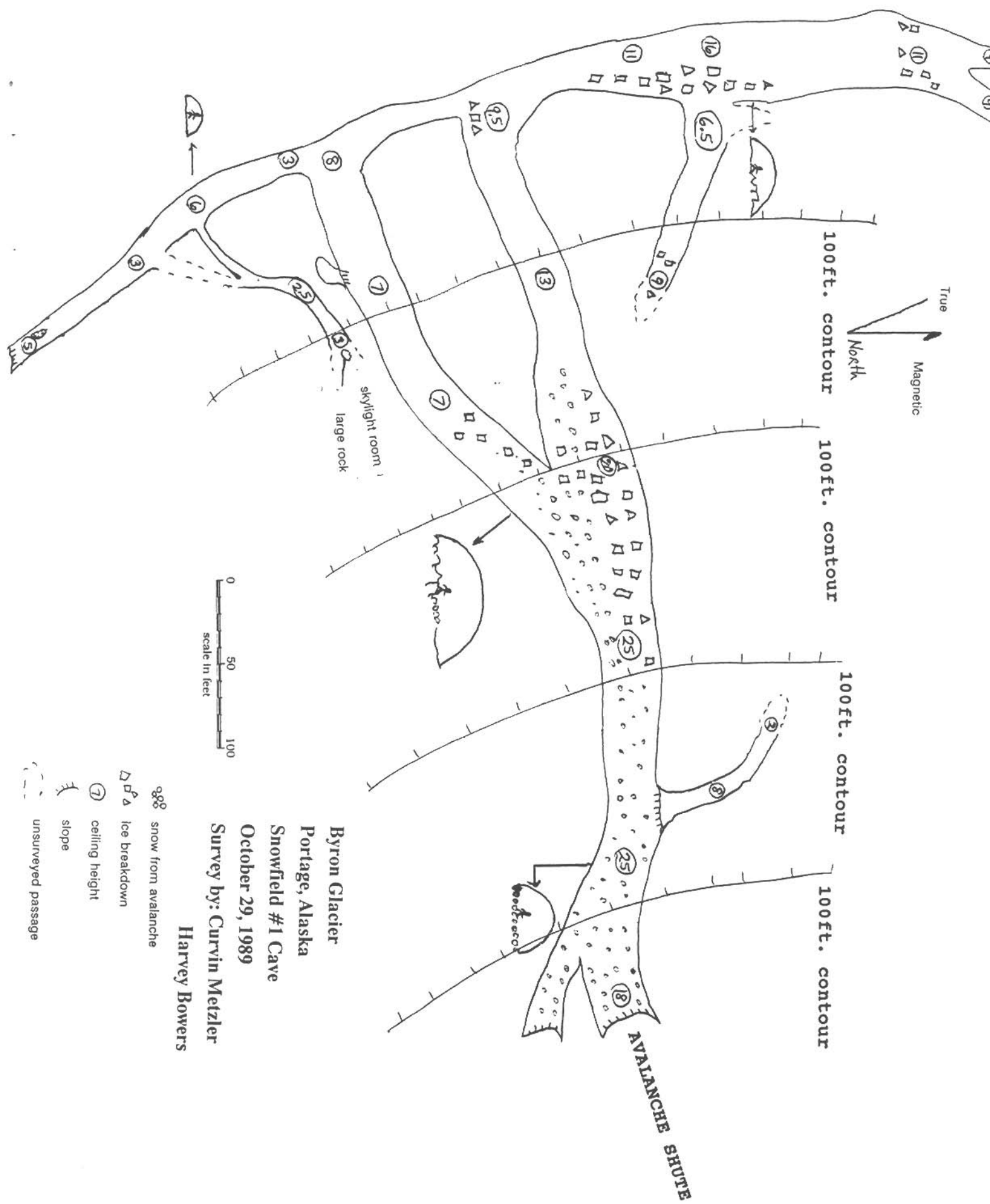
We moved back to the middle ice field. Metzler led the way down a scree slope, sliding to some boulders. "Watch Out!" he called up. "There's a cave here."

Down under the boulders a creek flowed into the entrance of a cave, yawning beneath a lip of hard, dirty ice.

The three of us strapped on our headlamps and half-crawled into the cave. It extended for 30 yards -then ended in a shelf of ice, where the ceiling had collapsed.

It was a new cave, one whose location had never been recorded before, Metzler said. Maybe it had just been carved or recently opened. At any rate, it didn't go very far. And it was wet.

Still, Metzler was cheerful about it. Like Bowers, he grew up on a farm in cave country - Lancaster County in Pennsylvania. He had explored caves in West Virginia and



Kentucky before moving to Alaska 12 years ago.

In caving, Metzler said, sometimes you find an endless maze of chambers with fascinating formations. And sometimes you find a blunt tunnel to nowhere.

The following week, we returned. The weather had turned cold with the area's first snowfall. The creek had dropped. This time we could cross the lefthand ice field, where Metzler had found caves before.

Arriving there, we found the promising signs of a cave system. Two entrances, each 10 feet high, opened into a large chamber.

We approached the threshold and topped, transfixed.

"It's like a science fiction film," Metzler said.

Walking inside, we found an ice chamber as large as a garage. It was dry. A steady stream of cold air flowed toward us out of a dark tunnel that veered to the right. Metzler suited up - pulling on knee pads, hard hat and headlamp - then led us down the corridor.

Just beyond the light from the entrance, massive ice chunks lay jumbled over the rocks where the ceiling had collapsed. Later, we would discover that an alternative passage lay buried on the other side of the jumble. But we continued on.

A fork. A level passage to the right led toward the faint light of another entrance. It was in this direction that we would later find the glowing room and the labyrinth of tiny passages. But the brunt of the flowing air came downhill through a 30-foot-wide passage that rose sharply to the left.

We began climbing. The tunnel would eventually rise about 600 vertical feet from the cave entrance. Along the way loose rock shifted underfoot. The icy walls, scalloped with large indentations, reflected strangely in our lamp-light.

Sound seemed to change. A rock kicked loose clinked like breaking glass. A shout lasted longer, not quite an echo but elongated and extended. Gradually, we began to see the top - at first a dim light

with no more strength than a streetlight seen through fog from a block away. But the more we climbed, the brighter it became.

We tried to cross a field of ice boulders, too slippery for footholds. We wiggled and squirmed our way over them until they began to shift. Several kicked loose and rolled, filling the cave with their rumble. At Metzler's direction, we backed off, crossing 20 yards to the other side of the tunnel, where we found gravel and slate.

Climbing closer to the uphill entrance, we saw how huge the cave had become - seemingly as large as a high school gymnasium.

By now the entrance was clearly visible above us: two massive arches, each with a stream tumbling down the rocks into the cave. We climbed faster, often in the stream itself. Finally we reached openings that were 30 feet high and 20 feet across.

Daylight. We snapped off our headlamps. By then, we'd been in the cave for three hours. With Metzler in the lead, we scrambled across the frozen creek and emerged at the top of the snowfield.

Portage Lake lay slate-gray in the distance. Beyond the lake, the hanging glaciers above Bear Valley glowed orange with the late afternoon sun. The cold air was clear enough to see the glimmer of flowing water in Byron Creek, half a mile across the valley. I had my bearings now.

But at our feet, the ice field dove hundreds of feet in a long, concave slope to the ground below. Except for a few shallow fissures, nothing broke its smooth surface. It looked solid, but I knew it was riddled with passages - and the promise of the unknown.

Doug O'Harra is a staff writer for We Alaskans. Bob Hallinen is a Daily News staff photographer.



Ice formation in north/south main passage of Byron Snowfield Cave. Photo by Bob Hallinen

AMERICAN/CANADIAN FIELD
CONFERENCE ON SMALL CAVES

By Robert Sattler

A field conference was held in mid-June along the lower ramparts of the Porcupine River. Attending were several scientists working on the paleoecology and archeology of the Porcupine, Trail Creek (Seward Peninsula), and Bluefish (Northern Yukon Territory, Canada) rivers frost-pocket caves. Discussions focused on the speleogenesis in the calcareous terrains of Alaska and the Yukon Territory, and the history of the small caves filling with fine-grained sediments.

The conference included American and Canadian archeologists and geologists working on fossiliferous arctic caves. Canadian colleagues Jacques Cing-Mars (Canadian Museum of Civilization) and Bernard Lauriol (University of Ottawa) have been conducting research in the northern Yukon Territory for the past several years dating very ancient speleothems (ca. 1 million years) and archeological and paleontological remains (ca. 25,000 years-present). Dale Vinson, graduate student at the University of Alaska Fairbanks, has analyzed archeological mammal remains, and bone and stone tools from small caves on Seward Peninsula in western Alaska. I'm conducting a paleoecological study of a Porcupine River cave including inorganic sediments consisting of the loosely compacted dirt, and various types of organic fossils consisting of vertebrates (fish, rodents, birds, and large vertebrates), mollusks, insects, and woody charcoal.

There are a few true karst features on the American side, but more extensive karst features (caverns and dolines) are found in the northern Yukon, where the bedrock is higher in elevation and more conducive for karst to form. A recent publication describes a couple of the Yukon caves (B. Lauriol et al. 1988. Topoclimatic Zones and Ice Dynamics in the Caves of the Northern Yukon, Canada. Arctic 41:215-220).

The common characteristics of these high-latitude small caves is

that they are filled with varying percentages of gravels, sand, and silt, the deposits are relatively shallow (<2 meters), and the sediments contain the remains of fossil vertebrates including ice-age mammals roughly dating between 23-14,000 years ago. These shared features demonstrate the enormous importance of these arctic caves for understanding the terrestrial response to natural climatic variations since the last ice-age, especially for understanding the glacial/interglacial transition, and the entry of humans into the New World. Because of this importance all of us ought to be extremely careful not to disturb the sediments or remove bones of artifacts from caves during explorations.

RADON GAS IN EL CAPITAN CAVE

by Harvey Bowers

In a chance conversation with a fellow geologist, Kerwin Krause, who has been involved with a number of aerial uranium ore surveys around the State, he noted high readings on the Northern half of Prince of Wales Island. Due to the breakdown of the State ferry Aurora we had approximately a one week wait in Ketchikan before we could get to Prince of Wales Island. While waiting in Ketchikan I decided to try to find a radon test kit. One hardware store sold Radon test kits from Key Technology, Inc. of Jonestown, PA.

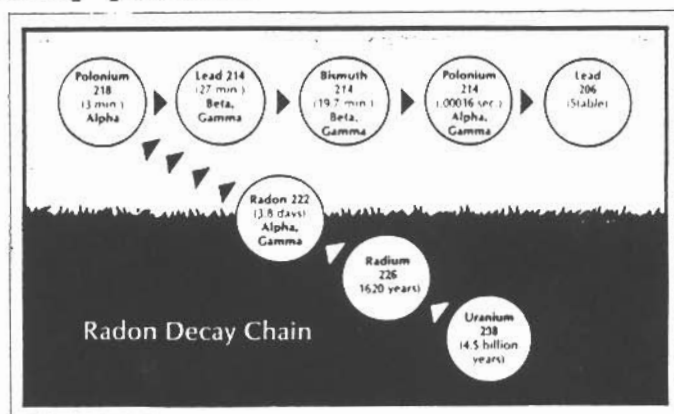
Radon concerns emerged from studying energy efficient homes and at first was thought to be a problem because buildings were becoming tighter. It is now understood to be a source problem. I placed the kit in El Capitan Cave at the entrance of the sand crawl on the north side of Hatfield's Pit, approximately 800 feet from the entrance in the main passage. The main passage has a high volume of

air movement. I would estimate from 300 to 500 cfm, but in the area of the sand crawl there was no detectable air movement. The test began at 1:00 pm, 8/5/89 and was removed at 1:30 pm, 8/9/89. The test kit was mailed 8/10/89 from Ketchikan and the test results were sent to me on 8/22/89.

The Radon test results were 63.6 picocuries per litre. This is a good indication that the radon level in the cave is a concern but a single test is only an indication and follow up surveys would need to be performed to more accurately evaluate the risk level. Since radon abatement in caves is unlikely we must evaluate the risk based on the amount of exposure time.

The risk due to exposure is based on the health histories of underground uranium miners. Radon gas is a decay product of uranium. Trace amounts of natural radioactive nuclides are present in soils, rocks and even building materials and living organisms. Radon-222 is a noble gas and is the heaviest known gas. It cannot be detected by human senses and is relatively soluble in water. There are four radon decay products, radon daughters, polonium-218, lead-214, bismuth-214, polonium-214 each having a half-life of less than 30 minutes.¹ Radon-222 is radioactive, emitting alpha particles, with a half-life of 3.8 days.¹ Breathed either directly or attached to dust specks, those solid daughters can lodge in the lung, where they will emit radioactive alpha particles, which may cause cancer.¹ It is generally assumed that radon has a "linear dose-response", that is the likelihood of dying of cancer is directly proportional to total radon exposure.¹ Radon is measured in pCi/l. "pico", a prefix meaning one-trillionth, and Curie, a unit of radiation. 1 pCi/l works out to be about 2.2 radioactive particle emissions a minute in every liter of air.²

Decay process:



The daughters of radon become attached to dust particles; if inhaled they can increase risk of lung cancer. It is thought that the alpha emission (energy) from these particles produce tissue injury (kills or transforms cells) in the lungs which results in malignancy. The real danger of radon gas is its decay in the lungs. Working level months (WLM) are the measurement units for judging exposure. A WLM expresses exposure based on a 170 hour work month. The longer the exposure, the greater the risk. Since the time spent in the cave is limited the exposure is not as great a concern as it would be if it was a home.

Estimating a caver's dosage of radiation is difficult because of the complex variables - presence of alpha particles, exposure time, breathing rate, and retention rate. One (WL) = where one liter of air will ultimately release 1.3×10^5 mev (million electron volts) of alpha energy during decay.

1 pCi/l = 0.005 WL

1 WLM = 1WL for 170 hours

In El Capitan Our WL = .318 therefore, 1WLM = 534 hours in El Capitan Cave.

A passive radon badge (Terradex Track-Etch) is available and suitably accurate for most indoor microenvironments. 8 pCi/l is the recommended action level for the general population by the National Council on Radiation Protection (NCRP). This will give you one more thing to worry about when you cave.

It is not known if you can effec-

tively wear a dust or particle mask to reduce exposure. Some theorize that larger particles attached to dust will probably be deposited in the upper regions of the lungs where they can be continuously cleared by ciliated mucous lining. This theory predicts the smaller particles that would get through a mask may have a higher probability of being deposited deep in the lungs which would increase damage to the lungs.

I would be interested if anyone knows of any other radon surveys of caves. Since the level of radon is of concern we should do some follow up surveys.

- ¹ EPA Indoor Air Quality ERA/
600-8-87 1014
- ² Consumer Reports, July 87

1990 NORTHWEST CAVING ASSOCIATION REGIONAL MEET

The Northwest Caving Association 1990 annual regional meeting will be held in eastern Nevada over Memorial Day (May 26, 27, 28) hosted by the Utah Grottos. The campground is on Baker Creek about a mile south of Lehman Cave in the Great Basin National Park. Because Memorial Day weekend is the Park's busiest time of the year all camp spaces must be reserved so pre-registration by cavers will be required. Unfortunately, the campground's sites are small and will not accommodate most trailers or RVs. The number of sites is also limited.

A guidebook is being prepared which will include maps and road-logs to most of the larger, well-known caves including Anetlope Spring (UT), Baker Creek System, Cave Valley, Crystal Ball (UT), Goshute, Indian Burial, etc. Many, many other smaller caves are also nearby.

More information will be distributed at the end of February. In the interim, more details can be obtained from Dale Green, 4230 Sovereign Way, Salt Lake City, UT 84124, (801) 277-6417.

GLACIER CAVING - BYRON GLACIER by Harvey Bowers

On the October 29, 1989, trip to Bryon Glacier Snowfield #1 Cave there were two events that were significant.

1) While surveying the southern arm of the steep sloping drainage channel we, Curvin Metzler, Bob Hallinen and Harvey Bowers, were surprised by a major breakdown or avalanche. We heard a loud bang and roar coming from up slope. Fortunately, most of the debris went down the main tunnel but we did have a couple of very large blocks of ice that flew by us as we hugged the left hand wall. Fortunately none of us were hit, but it did increase our heart rate and this was the closest call I've had in many years of glacier caving.

ICEWORM/OLIGOCHAETE

2) Curvin Metzler and Bob Hallinen were photographing the skylight room (named because of the shallow snow and ice surrounding a large rock which allows the room to be illuminated by natural light) they noticed ice worms around the area. When they returned to the main passage they told me of their discovery and I returned to the area. Although I have looked for ice worms in glacier caves for almost 20 years, this is the first I have seen. They were somewhat sparse compared to the number you see on the glacier surface in summer, but they were wide spread. They were in the ceiling and walls and could be seen in over 50 feet of passage. There appeared to be many hundred in this section of passage and a great deal of red algae was also noted. Although the algae were seen throughout the cave this is the only area that appears to have ice worms. Curvin collected samples for identification.

TWO POW ADVENTURES

by Carlene Allred

1. THE ALASKA ROOM'S BIRTHDAY PARTY (AUGUST 1): Thanks to Rick Bridges there was a helium cylinder at the camp for us to fill our balloons with. Eight of them were the regular kind with Mickey Mouse pictures on the them and the ninth was a foil balloon in the shape of a heart. Once they were filled, Kelly Kelstedt, Norm Thompson, and I headed into El Capitan Cave, carrying eight balloons apiece. It must have been a comical scene to those back at camp who watched the clusters of balloons slowly make their way up the hillside. Our intentions were to measure the ceiling height of the Alaska Room with the balloons after finishing the survey in there, which had begun five days ago by Bob Bastasz, Kathy Tonnessen, and me. When we entered the long crawlway we really expected some of the balloons to pop in the tight passage, but miraculously they all survived. The survey in the Alaska Room revealed another washed in log partially embedded into the cobble and rock heaped floor, making three logs forced inside here. We also found more small hoodoos with wood chips or cobbles balanced on their tops, and in a niche in the wall about five feet above the floor. They were growing seedlings that had washed in recently.

Once we finished with the tape and compass we began measuring ceiling heights with the balloons. At first only a few balloons were needed to lift the string upward. At one point the foil balloon broke loose and disappeared upwards never to be seen again. As the day progressed the line became wetter and therefore heavier, and soon all the balloons were needed to lift it up. Our final measurement was near the sump and this failed entirely because there were too many drips from a large chimney above that knocked the balloons back down. The highest ceiling measurement was 116.5 feet.

The Alaska Room is L shaped and about 230 feet long, and at its widest point, 85 feet across.

2. SHELOB'S LAIR AND THE HONEY-COMB (AUGUST 23):

This was my last caving trip of the year. Steve Lewis and I headed into El Capitan Cave to check and map leads along the El Camino Real (passage between the cathedral room and the Alaska room). After locating a survey station we began mapping our way into our first chosen lead, which turned out to be a horrible sticky mud crawlway. We were relieved that it ended very soon and we were able to quickly get on to the next lead. This one was just as bad, so we skipped it and went on to the next one. It was a good thing we didn't map this middle lead because it turned out that someone else had already mapped it.

The third lead was a downward trending canyon that enlarged as we penetrated deeper. After a steep descent for which I rigged a hand-line, we came to a fork. One way was a tube that soon sumped and the other one led into a complex maze of parallel and intersecting chimneys. The wall surfaces consisted of closely packed knife-like protrusions that stuck out sharply between the myriads of small solution pockets everywhere. The bedrock was the usual fossiliferous marbalized breccia, and in one place there was the strangest fossil (or what?) that I have ever seen. It was egg shaped and about two inches long. I carefully sketched it in the notebook and then we continued our exploration up and down the jogged walled chimneys. Once we had it all down in the notes we continued surveying along the cobble floored bottom passage. We called this complex the "honeycomb". There was a steep drop down into a canyon like room with a cobble floor that is about nine feet wide, 30 feet long, and 54 to 24 feet high. Numerous passages branched off some too high to reach. We later named this room "SHELOB'S LAIR". Three of the

leads were completely plugged with stratified mud that began suddenly as a wall blocking the way into them. Two leads were horizontal but began high on the wall. To get to them, one will need lead gear. Another lead was a chimney heading upwards, and three more took off as high tubes. Steve poked around in two of them and discovered, to his surprise, that there was noticeable blood smeared on the wall of a chimney, this mystified us for a while until we figured that it was Steve's own, deposited there when he had entered the chimney via the other hole, not knowing that they led to the same place. He could hear the roar of a stream from below him.

One more lead headed off as a low cobble crawl. After establishing a permanent station we entered this crawl and mapped our way back to a place where we had been earlier today, completing a small loop. Once done, we headed back to El Camino Real. Steve checked one more lead and it quickly ended in a boulder choke. Enough for one day. We headed out of the cave having surveyed 37 stations and over 500 feet of virgin passage.

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Address Correction Requested

MEMBERS IN THE NEWS - Julius Rockwell, Jr.'s article, "Everything open at Byron", in The Alaskan Caver 8(6):12-13 was cited in Current Titles in Speleology, Number 21 - the literature of 1988, a publication of the British Cave Research Association, page 26.

MEMBERS IN THE NEWS - Richard A. Bridges, W. Harvey Bowers, and Julius Rockwell were mentioned in the September 1989 DC Speleograph 25(9):8 in a half page review of the April 10, 1989, Anchorage Times article. The title of the review was "Yes, Virginia, there are caves in Alaska."

MEMBERS IN THE NEWS - Carlene and Kevin Allred, Richard A. Bridges, W. Harvey Bowers, James Nicholls, Miles Hecker, Julius Rockwell, Jr., Denise Ward the Glacier Grotto and the NSS were mentioned or illustrated in Elaine Johnston's fine article, "Explorers find world-class cave on Prince of Wales Island," which appeared in the September 25, 1989, issue of South-east Alaska's Island News Vol 8, Number 38, pp.1, 8 & 9.