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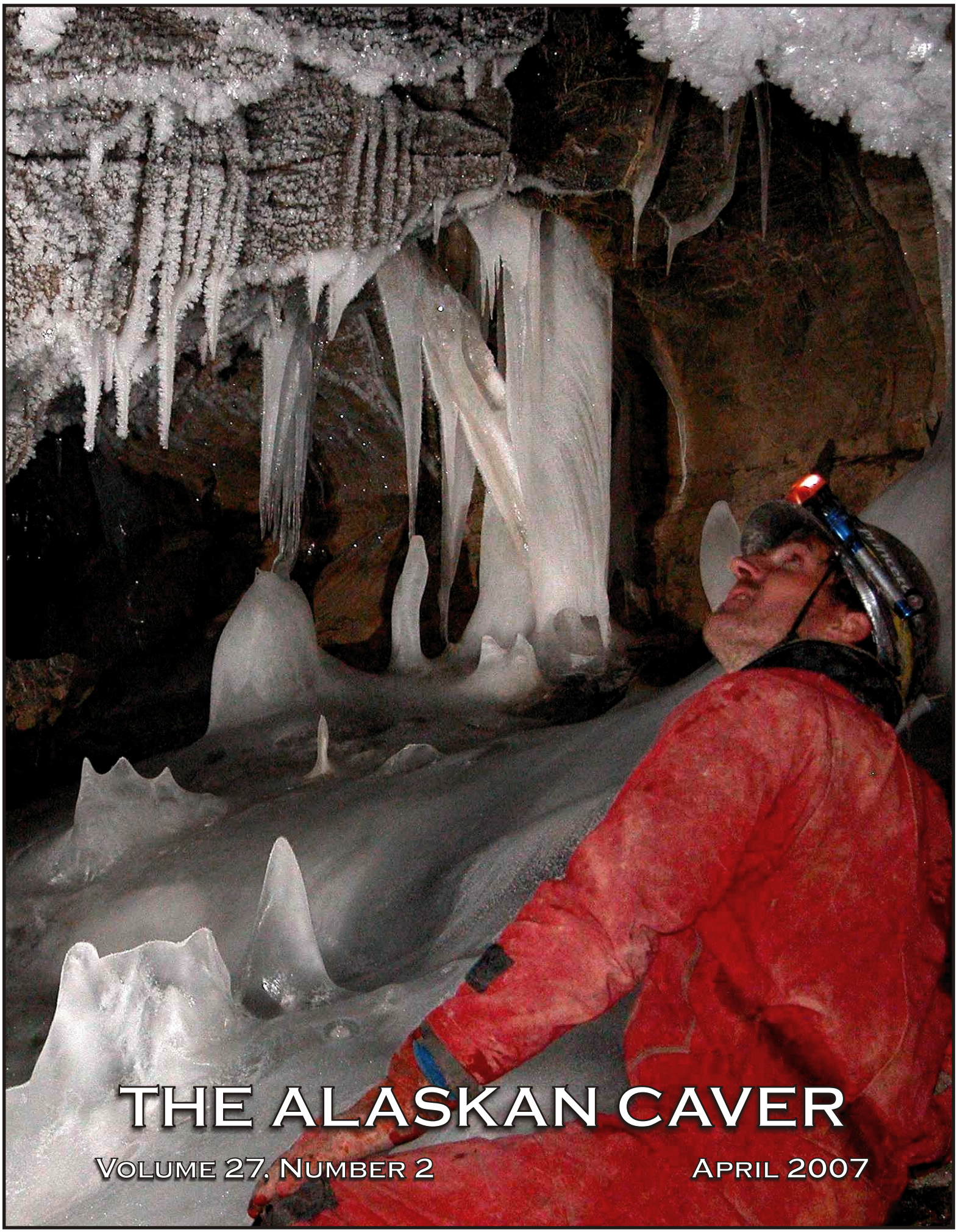
Alaskan Caver, Volume 27, No. 2, April 2007

Carlene Allred



THE ALASKAN CAVER

Volume 27, Number 2 April 2007

THE ALASKAN CAVER

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FROM THE EDITOR:

These past two years of my editorship have been very enjoyable for me and I thank the members for re-electing me. I would especially like to thank Rebecca Valentine and my husband, Kevin, for their help in proof-reading. And I would like to remind readers that this publication also comes in digital form, which contains color maps and photos. Please let me know if you want it this way in addition to, or instead of the regular hard copy form.

JUNEAU'S U.A.S. CAVING CLUB HAPPENINGS

by David Love

This past year, UAS student Louis Hoock and fellow students at the University of Alaska Southeast Juneau campus organized the university-sanctioned University of Alaska Southeast Caving Club (UAS Caving Club). In conjunction with active membership of the Glacier Grotto, UAS Caving Club members have organized several rope practices, a cave mapping seminar and several Glacier Grotto presentations.

The UAS Caving Club is a student organization with the intent of teaching students about Archeology, Geology, Hydrology, Speleology, Caving Methods and Safety and Cave Conservation through expeditionary environmental studies. The UAS Caving Club brings Southeast Alaska's caving and geological experts (The Glacier Grotto membership, UAS Geology and Anthropology professors Dr. Cathy Connor and Dr. Daniel Monteith, and friends) together to give students the opportunity to get hands-on experience mapping, exploring and researching cave and karst systems in Southeast Alaska. Approximately 12 to 24 students and Glacier Grotto members participate in meetings held on the UAS campus. To date, UAS and Glacier Grotto-Juneau have been fortunate to have Kevin and Carlene Allred travel to Juneau to speak

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Front cover: Kevin Allred admires ice formations inside Whispering Cave, Chitistone area, Alaska. Photo by Steve Lewis.

Back cover: Loading up to depart from Peavine Bar, Chitistone Canyon. Photo by Nick Olmstead.

CHITISTONE EXPEDITION REPORT

Aug. 28 through Sept. 6, 2006
by Donald G. Davis

In April 2006, the NSS gave us a Sara Corrie $250 grant to aid in reaching and exploring a virgin cave lead in Wrangell-St. Elias National Park in eastern Alaska. The grant was shared equally among the five participants (Kevin Allred, Donald Davis, Steve Lewis, Nick Olmsted, and Pete Smith) to partly defray transportation, food and equipment costs. Below is a summary of the results.

Our reasons for the expedition, as stated in my grant application:

> "You may recall my article in the NSS News of August 1996 about a winter visit to Whispering Cave in the Wrangell-St. Elias National Park & Preserve. What I did not mention in that article (in order to forestall "scooping") was a large frost-rimmed entrance, in a ledge directly above the Whispering entrance but hundreds of feet higher, that we saw from the airplane as we were being flown out at the end of the trip. [See Fig. 1.]
>
> "Whispering Cave ends in a sump, but had strong inhaling airflow during our winter visit. This wind was going up an impenetrably narrow fissure above the main passage before the sump. It probably goes to a "fossil" upper-level gallery whose entrance is the big lead we saw from the air. Cave moisture freezing as the rising "chimney effect" cave airflow exits this hole would account for the frost ringing the opening.
>
> "If the respective entrance sizes are any indication, this upper cave may be a larger passage than Whispering Cave, and (because its stream has been pirated to the Whispering level below) may be faster and easier to explore, and is expected to bypass the Whispering terminal sump. Once the entrance has been reached (it will probably take some technical climbing), large passage could continue for miles toward glaciers above the cave ridge, and possibly beneath the glaciers, in the manner of Castleguard Cave, Canada. The geomorphology here suggests potential for the longest cave in Alaska (if not in the entire Far North!)"

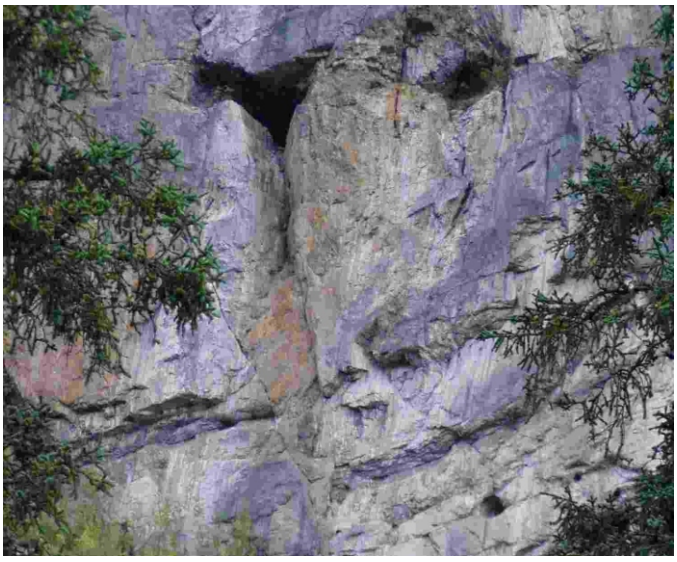

Figure 1. Whispering Cave area from below. Triangular entrance is Upper Sheep Cave (a blind grotto), with Frost Ring Cave to its right; Whispering Cave is directly below Frost Ring. Photo by Nick Olmstead.

Figure 2. Main public use cabin at Peavine Bar backcountry airstrip (expedition HQ). Photo by Nick Olmsted.

After assembling at McCarthy, we flew to the Peavine Bar airstrip in the Chitistone valley on Aug. 28, 2006, spent the following eight full days based there at a free public-use cabin (Fig. 2), and flew back out Sept. 6. During that time, Kevin, Pete and Steve reached the cave lead (~150 feet directly above Whispering Cave up a sheer cliff; more than 200' above the cliff base) via a difficult three-day rock climb (Figs. 3, 4). They then rigged a rope for survey teams, and Kevin, Pete, Steve and I returned to survey on Sept. 2.

The exploration verified some of our original observations and working assumptions. The entrance

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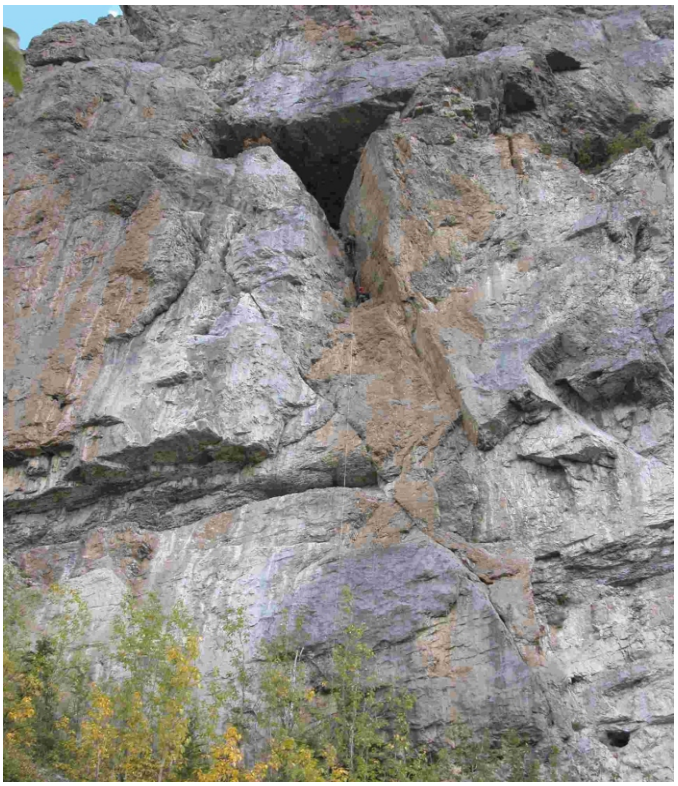

Figure 3. Kevin Allred and Pete Smith climbing "open book" into Upper Sheep frost pocket. Aug. 29, 2006. Photo by Steve Lewis.

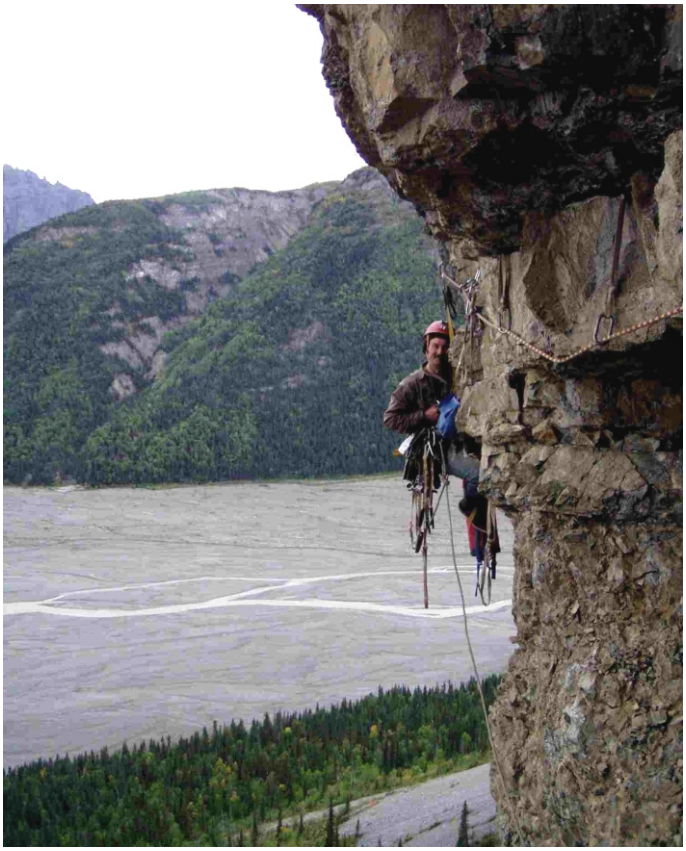

Figure 4. Pete Smith traversing from Upper Sheep around shattered buttress into Frost Ring Cave. Looking north; braided Chitistone valley and west flank of Chitistone Mountain in background. Photo by Kevin Allred.

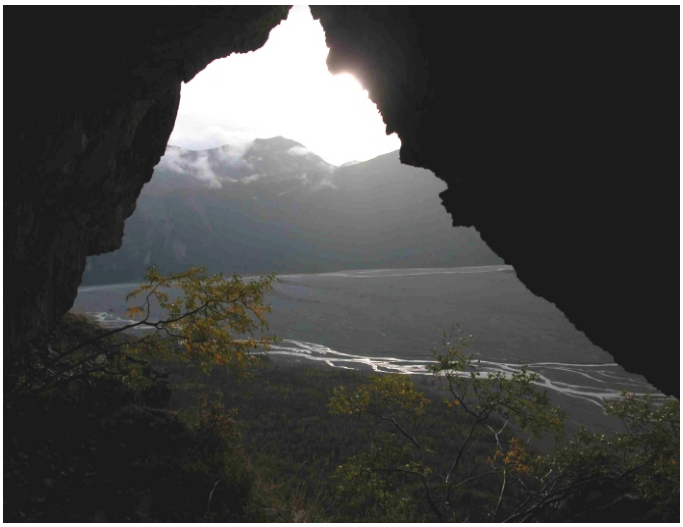

Figure 5. Looking out NW from Frost Ring Cave over a drizzly sunset, at the Chitistone/Nizina valley junction , Sept. 2, 2006. Photo by Steve Lewis.

(Fig. 5; about 45' wide by 40' high) was in fact considerably larger than that of Whispering Cave, and there was indeed a continuing cave inhaling air, which was consistent with our belief that the frost seen rimming the entrance in the winter of 1996 indicated a chimney effect wind circulating through Whispering Cave below. We began to call the new cave "Frost Ring Cave."

Beyond the entrance chamber, however, the reality began to diverge from our best-case scenario. Only 30 feet in, the passage funneled into a passage about 15 feet wide, but frost-wedging shattering had created so much rubble that some digging was required to move aside enough rocks to permit belly-crawling through (Fig. 6). After 30 feet, the passage opened further, becoming a dry (but locally drippy) phreatic tube (Fig. 7) undulating gently up and down (more down than up). On the upward jogs, there were some

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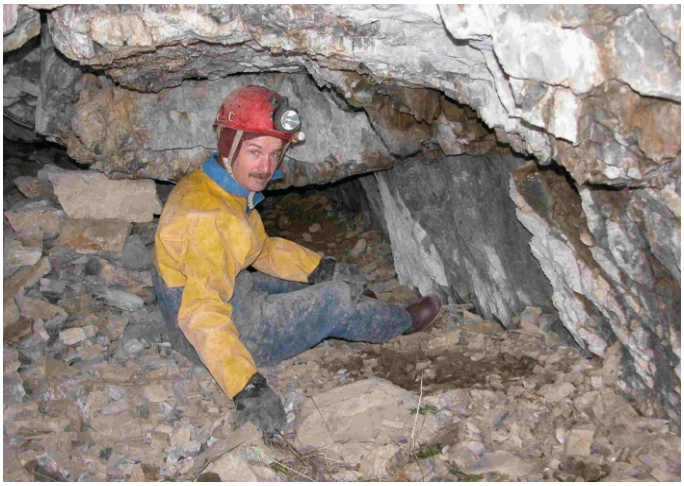

Figure 6. Pete Smith in back of Frost Ring entrance room, at beginning of crawl. Frost-shattered breakdown on floor. Photo by Steve Lewis.

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Figure 7. Kevin Allred in typical segment of Frost Ring Cave phreatic passage. Note fault-sheared ceiling, with shear planes dipping right, and floor of shattered ceiling blocks with interstitial silt. Photo by Steve Lewis.

chambers of walking height or more, but the average passage dimensions were only about 12-15 feet wide by 3-4 feet high--not the big borehole we had hoped for.

Kevin and I started the "A survey" at the entrance, while Pete and Steve went several hundred feet in to start the "B survey", intending that the A team should leapfrog the B team after tying in. However, the B team had made only six shots when the crouchway turned more steeply down and was blocked by an inhaling breakdown choke. They then returned and surveyed outward, meeting the A team midway through the cave. The total survey ended up with only 751 feet of passage.

When plotted, Frost Ring Cave did run essentially directly above the entrance section of Whispering Cave (Fig. 8). However, it did not plot high enough to pass over an upper-level breakdown zone ("Don't Count Your Chickens") that had been surveyed in the 1990s in Whispering Cave. The closest parts of the Frost Ring and Whispering surveys plot less than 80 feet apart. The inner part of Frost Ring does curve around to the left in such a way that bypassing the Whispering breakdown would still be possible if the Frost Ring breakdown can be penetrated. This would probably require a little microblasting to break up overarching rocks beyond which Kevin saw some space. Since we had not planned for excavating, we were not able to further extend the new cave.

Most of Frost Ring Cave is controlled by a minor fault in the host Chitistone Limestone. This fault has little displacement, but has caused shattering of the rock that had made the ceiling shed sufficient small-sized blocks during passage enlargement and afterward, that the floor is mostly tightly-packed angular breakdown blocks averaging 4-5 inches wide. The spaces between these rocks are filled with fine silty sediment that is probably glacial in origin. There is very little secondary calcite decoration, although one section in the B survey had a few incipient soda straws up to 3/4 inch long, with a patch of thin flowstone below.

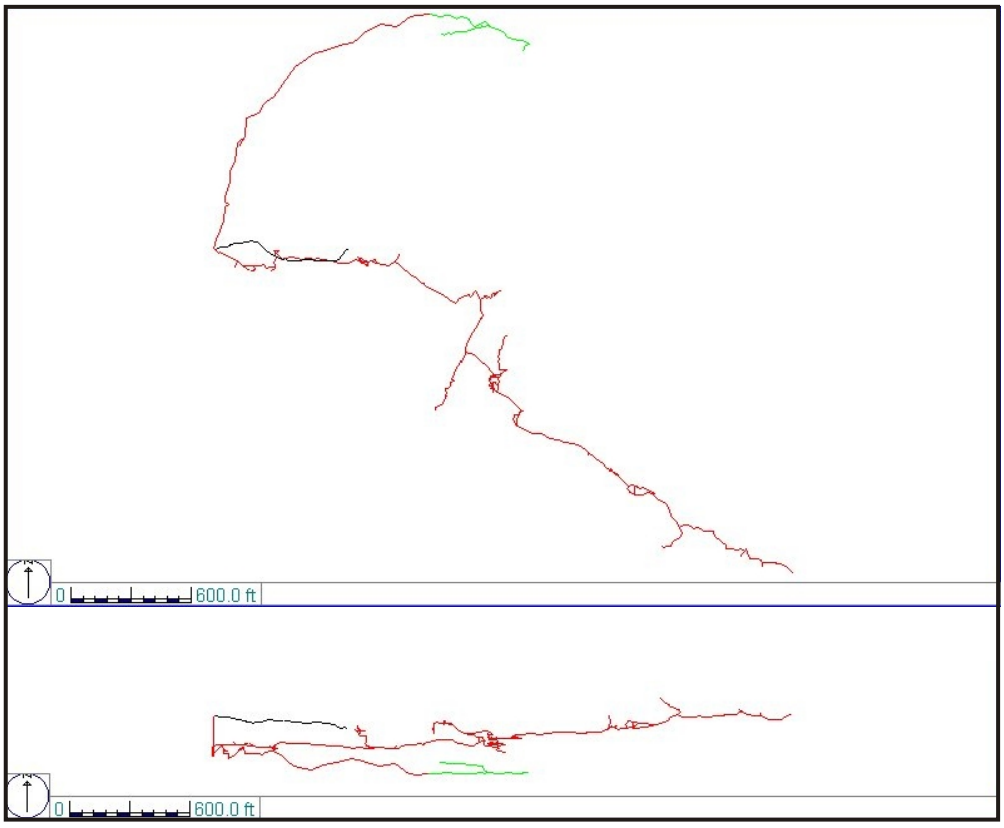

Figure 8. Above, plan; below, profile view of Whispering Cave system: Whispering Cave and surface cliff surveys, red; Frost Ring Cave, black; Dark Star resurgence cave, green. Plots from Compass program (© Larry Fish).

The cave does have some interesting and puzzling features. In a few places there are scattered, well-rounded igneous cobbles 3-4 inches long, lying atop the angular limestone floor rocks or in hollows among them. Where these came from, and how they were transported to their present locations, are unknown. No sediments between silt and cobble-size were found in the cave. If more diverse sediments had once been present (as in Whispering Cave), but those below cobble-size had been flushed by powerful floods, one might expect that remnants of such materials would have been

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trapped in the interstices between the floor rocks. However, nothing of that sort was seen. An explanation perhaps more probable: the cobbles might have been embedded in blocks of ice flushed through the passage when it still carried water, and stranded as "erratics" where the ice melted.

Figure 9. Unattached miniature raft-like speleothems in floor hollow of Frost Ring Cave. Photo by Steve Lewis.

There are also at least two hollows in the cave floor where there are cryptic unattached secondary deposits in the form of small white objects. These have three forms: (1) irregular chalky blobs; (2) balls, up to 3/8 inch wide, of radiating needle-like crystals; (3) thin, flat fenestrate and/or serrate-edged plates and spears up to 3/4 inch or more long. The flat form (Fig. 9) resembles cave rafts, but the context does not have the subaqueous crust normally associated with calcite rafts. A taste of one of the amorphous blobs showed that it seemed too soft for calcite, but was flavorless, which would eliminate such saline evaporites as epsomite or mirabilite. Gypsum remains possible; Kevin did see an apparent gypsum needle nearby, which supports this possibility. However, if the flaky objects are gypsum rafts, this would have necessitated conditions so strongly evaporative as to develop a gypsum-supersaturated pool--a rare situation even in gypsum-rich caves in arid climates, and highly improbable in this subarctic periglacial environment. We did not have the resources to resolve these puzzles.

Figure 10. Mummified bat (presumed to be Myotis sp.) In inner Frost Ring Cave, Sept. 3, 2006. Photo, Steve Lewis.

The inner portion of Frost Ring Cave also had considerable evidence of use by bats. Mummified bodies of at least eight small bats (Fig. 10; *Myotis* sp.?) were found on the floor. Dried guano pellets were scattered through the area, and floor rocks showed many whitish patches that appeared to be splotches of dried bat urine. We saw no living bats or other animals. (For additional information on the significance of these observations, see Appendix 1 by Steve Lewis.)

The first room beyond the entrance crawl had a clump of old organic matter, mostly grass and leaves, that was probably a small-mammal nest. This material could have been obtained from the entrance chamber, where there are a few willow bushes and other vegetation under the overhang.

Figure 11. Kevin Allred in entrance section of Whispering Cave, Sept. 3, 2006, amid ice dripstone, flowstone, and frost crystals. Note horizontal boundary between large frost above and small frost below flood pulse marker? Photo by Steve Lewis.

On Sept. 3, Frost Ring Cave was photographed and de-rigged. In the process of roping down the cliff, a reconnaissance was made in Whispering Cave to a sump a few hundred feet inside. Interesting ice and frost-crystal deposits (Fig. 11) were seen in Whispering Cave (see Kevin's daily log, Appendix 2, which gives more details of the expedition).

Other expedition time was devoted to surface hikes. Another cave (Birthday Cave), 95 feet long, was found by Steve and Nick at an elevation much higher than Frost Ring Cave. The Frost Ring survey has been plotted in Compass, and Steve and Nick took many digital photographs, both cave and surface. The group (Fig. 12) intends to submit an NSS News article.

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Figure 12. Chitistone expedition team in Chitistone valley, Sept. 5, 2006: left to right, Steve Lewis, Nick Olmsted, Kevin Allred, Donald Davis, Pete Smith. Looking NW with Chitistone River and "Mile High Cliffs" syncline (beyond hidden Nizina River) in background. Photo by Steve Lewis.

The end-of-summer timing of the expedition turned out to be good. Biting insects were virtually gone, but temperatures were not too cold; frost was seen only on our first morning in camp. Although the weather was largely cloudy, and brief showers fell most days, only on Sept. 2 was there enough rain to make hiking unpleasant, and even then it was light.

APPENDIX 1: SIGNIFICANCE OF EVIDENCE OF BAT USE
by Steve Lewis

The evidence of substantial use by Myotis bats is a very exciting find. To my knowledge, this is the first evidence of a hibernaculum for bats in Interior Alaska. It shows that some Interior caves with proper air flow can be very useful to bats, and implies that any mine closures done by federal agencies in the Interior should only be done following at least a basic inventory for bats or bat sign--and that it should be done throughout the mine, not just at the entrance. We saw no bat sign till well into the cave.

The amount of guano was greater than I've seen in any Alaskan cave--a few have significant areas of guano, but not so consistent along a passage. I'm quite sure that the bats were continuing beyond the breakdown choke, so the cave may be very significant--and we should probably avoid winter expeditions that could disturb the bats with fatal consequences.

So, biologically this expedition came back with some very important information. I think that it may very well be important enough to warrant figuring out a way back up to re-examine the bat evidence and, if we can do it without major change to airflow resulting, check to see what is going on beyond the choke.

Appendix 2: CHITISTONE TRIP LOG
by Kevin Allred

8/28/06

Saturday, August 26, took a jet from Ketchikan to Anchorage. It was difficult passing the gas-powered hammer drill through security even though it was checked baggage. I had put water in the gas tank, but another flushing was needed to eliminate the gas smell. In Anchorage, I emptied it and put "heat" into it for a day.

I drove a rent-a-car to Julius Rockwell's place and we went out to eat and shop before picking up Pete Smith. Then Pete and I picked up Donald Davis at about midnight. Had nice conversations with Jay and after a night there went shopping (again) with the others and drove to the foot bridge at McCarthy.

Steve Lewis and Nick Olmsted were already in Kennecott working on Nick's cabin. They met us on the car side of the river and we sorted loads of gear. My stuff weighed 150 pounds. There is a good 50 pounds of climbing gear alone. We got a free van ride with Wrangell Mountain Air (who we fly with) to the airstrip where we spent the night. No rain, but dew, and in the mid 30s. Nick and Steve heard stories from locals of a nice stream cave up "Hidden Valley" next to the Kennecott glacier. I am anxious to go to this cave area soon, as there are others reported in the same area.

At 8:30 am, Dan? our pilot, a graying, bearded gent loaded up all our gear and us in a wheeled Beaver and we flew to the entrance of the Chitistone Canyon and past the Whispering Cave entrance and the two larger entrances far above it on the cliff face. I was confused, so at first missed seeing the correct holes, as there were so many others. Our goal is to climb ~200 feet up to the right hole of the two above Whispering; the one with frost lining we saw 10 years ago on the flight out.

At ~10:00 am we hiked out of the biggest of two Peavine public use cabins towards the Whispering area. Partway over, Donald complained of feeling lightheaded, weak and slightly queasy. Pete, who had a sore knee, accompanied him back to the cabin while the rest of us went up the slope and scoped out the routes and crack systems to the holes. Best bet seemed to access the left, and much larger hole, which has the appearance of an inverted triangle. (see page #1 for proposed route). Our theory was that there was a good chance the two large entrances had a connection inside the mountain.

We hiked back along the base of the cliff to Dark Star Cave and I saw the short piece of goldline rope still tied onto a boulder where I had cut it off ~13 years ago since it was encased in ice and was an unwanted fixed rope.

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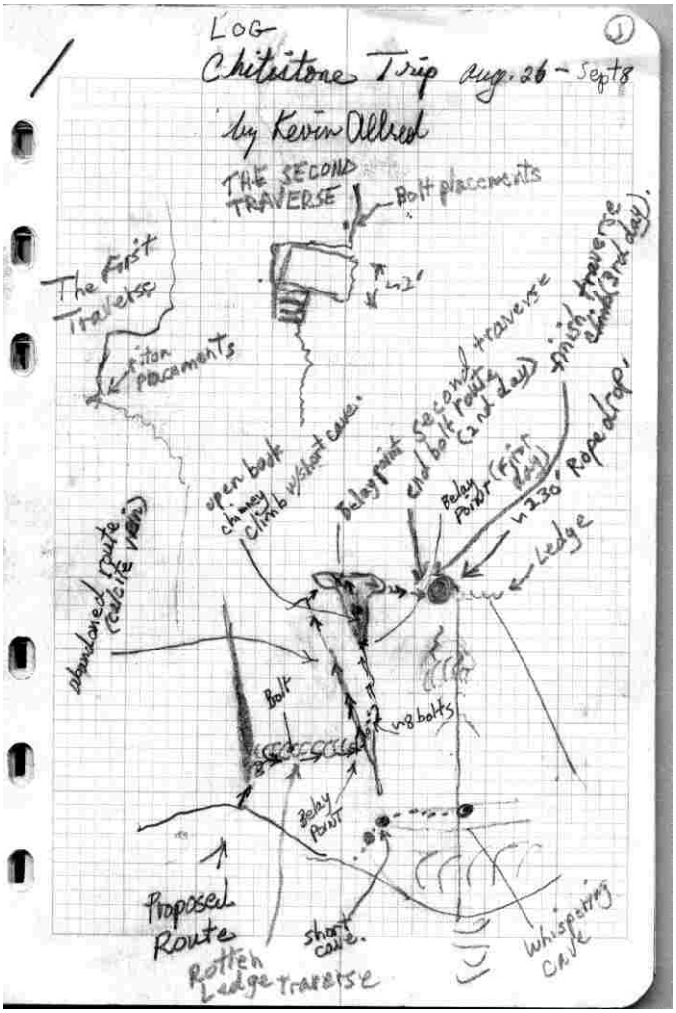
We traversed further to stop at a steep ravine before heading down to the river and grabbing Donald's pack. Back at the cabin we found the others well, and they said they had an encounter (about 50 feet away) with possibly the same big Brown Bear we had seen earlier on the flats. Tomorrow the climb, then hopefully in a day or two there will be going cave.

8/29/06

Pete and I left Peavine about 7:30am, got to the timber cut-up at 8:30, and at the traverse ledge at 9:30. This would cut about 50 feet off of the vertical climb. I led along the rotten ledge. It went about 50 feet. At first I was really scared, because there were few places to hammer in pitons and the sloping ledge was very rotten with angular chunks of rock, making footing extremely dicey. I got a bolt in fairly soon, and then the rock gradually improved. At the end a couple decent pitons (one of them a bong) made a reasonable anchor.

Pete passed me and led across and upwards up slightly overhanging solid rock using our new gas-powered hammer drill to put about 8 bolts in. He came back to the belay ledge and I went up and cleaned some



Drawings from age 1 of Kevin Allred's field log

of the bolt hangers off. Then went direct aid up about 25 feet. It was really dicey in some places, requiring tricky chocks and questionable pitons. I managed to get over an overhang and up to a dirt and rubble slope in the "open book" which left a final chimney climb of about 40 feet to (hopefully) booming cave passage. At the end, my forearms and hands were cramping.

After Pete came up with the rest of the gear and drill, we rappelled off a static rope and called it a day. I'm glad we chose the open book rather than the left crack, for the other way went a long way up as a calcite seam rather than a crack. We also avoided a gigantic loose flake of several tons. Pete stood on it at one point, and it moved. Nick and Steve watched us briefly, then left to check a black hole way up the mountain at about 4500 feet. It turned out to be 95 feet long when surveyed. Our first cave in the Nizina Limestone, it was a spacious phreatic tube until finally becoming plugged. Steve named it Birthday Cave after his 52nd Birthday.

August 30, 2006

Today Pete and I got another early start and got back at the open book climb. I ended up leading the remainder. All the gear made it difficult. The big hole is, unfortunately, a frost pocket. We were so disappointed that we rappelled off to take a closer look at a possible traverse horizontally to the hole in which we had seen the frost rind. Pete had gotten hit on the helmet with a large rock while belaying me, and felt less than enthusiastic about the rotten climb to come. He did, however, check a small phreatic passage in the wall of the open book heading in the direction of the hole we are after. It ended after 30 feet with no anticipated connection.

Donald was feeling better, and was able to slowly hike up to the cliff and watch the proceedings. He had felt weak, light-headed and queasy and had stayed at the cabin the day before, cutting and splitting some firewood.

Steve and I went up to see what we could do with the traverse. The wall was all broken up along a four-foot high area of horizontal bedding. Stacks of loose blocks were leaning outwards - seemingly to nearly fall out at the least disturbance. I hammered pitons between the ceiling above and the top of the stacks of blocks in hopes it would help push them more firmly in place. One tilting block allowed a loop of webbing. Finally I was able to reach a point around the nose where a couple of huge blocks hung way outwards, tilting at a precarious angle. I was most concerned that should any of the blocks fall out, the climbing rope would be cut. I went back for the drill and set several bolts in good rock above the loose blocks. It was very difficult as it was overhanging below the blocks.

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Running low on energy and daylight, we retreated, and with any luck will get the remaining six to eight feet tomorrow. Wonderful pasta for dinner was served, as was typical, by Steve, Pete, and Nick at Peavine.

8/31/06

Pete and I got a later start (we were very tired). We ascended the rope to "Upper Sheep Cave" and surveyed it. Then came the moment of truth. I finished the traverse around the nose with a heavy lead rack. Past the bolts, I drove in about four pitons into the uppermost horizontal crack to a ledge of the entrance we had seen the frost in. Pete and I were able to communicate by yelling down at the others at the base of the cliff and they would relay the instructions back to Pete by radio (in in his pack), and yell back up to me. As usual, it was scary. When Pete was partway across, we could communicate directly. When Pete was over, he set some bolts for the 300 foot static line which we had pulled in along with him. We set it directly over the entrance of Whispering Cave.

The new cave soon turned low and nasty from frost wedging. Steve and Nick came up, and Steve went ahead clearing a way open enough for belly crawling. The others helped pull stuff out from behind him.

The dig went about 30 feet on this day. There was a very slight draft inwards, but some indication that the cave was breathing. The ceiling was so unstable, we built several pillars out of rubble in hopes that if the ceiling did come down, it would be at least partly supported. Even so, Steve touched the ceiling with his back and had a bunch of rock drop on him. Nick felt too uncomfortable to return to this cave. Donald took a rest day and hauled and filtered water. I'm glad the climbing is over. We hauled the climbing gear all out back to Peavine except the drill.

9/1/06

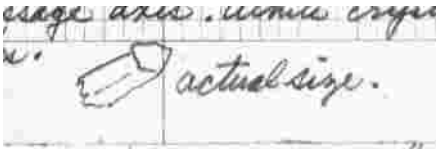
We had a day off and walked about four miles up to Glacier Creek. We took our time and got separated from Pete, who went all the way to some cabins left from prospecting days. I'm glad of the restful day. Matt and Kathy, a couple from Eagle River, just flew into the airstrip and are staying at the other smaller public cabin. Nice folks who are staying several days. We told them we were looking for caves.

9/4/06

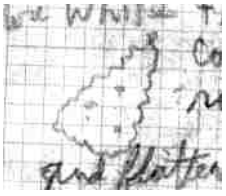
Wow, I have not written for days. On Sept. 2, we surveyed the cave, and called it "Frost Ring Cave." Steve and Pete were on one team, and surveyed the back part while Donald and I surveyed the front section. This could only occur after Pete and Steve finished digging through another 30 feet to open going cave while Donald and I slowly hiked up.

One notable experience was when Donald and I were partway up the slope in the light rain and fog. We watched in fascination as Pete ascended the wall in wisps of mist, seemingly creeping right up the rock, since no rope was visible. He appeared like some kind of human spider in a fictional movie. The cave turned out to finally end at a boulder choke after about over 700 feet. We noted strange white crystals in one low section. Mystery animal droppings and a mix of angular and cobble floor rocks were totally unexplainable to us.

On Sept. 3, I took the following notes in the cave while helping Steve photograph in Frost Ring Cave. "Nesting ~18 feet closer to entrance from the other nesting. Back in an alcove on clay/silt hill. Also several animal pellets ~one meter out from the wall. Most ~5/8 inch long, but one composite one about one inch long (photo). One smashed (photo). Altogether seven counted. Typical one photographed. More white flakes in inward end of side tube of "Bare Poop" room. Slickensides six feet towards entrance from A12 on ceiling. These run perpendicular to passage axis. White



crystals glob has ~5 sides (see sketch above). Pure white flakes look like mini evergreen trees in one area (sketch). Rod-like things are serrated and flattened. (See sketch to left) Some forms are like gypsum flowers and some like fibrous globs more than one cm across. Center area has more big chalky flakes less than one inch by 3/4 inch semi-rounded with some voids visible. Overall, most deposits are restricted to upper exposed surfaces of the angular rocks on the floor. Some, however, are down in crevices. Two feet towards entrance from A12 is a round "sea urchin" -shaped display about 3/8 inch diameter with many spines. Many are "mats" of fibers. These crystals are tasteless, and Donald reports they dissolve when tasted, and are most likely gypsum derived. Further in, I noticed one single gypsum? needle about one inch long on the floor.



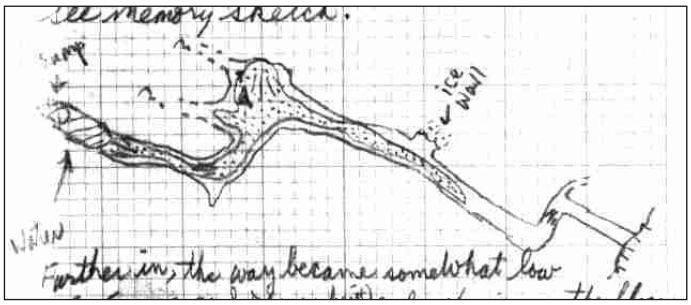
Steve and Pete found numerous bat skeletons and mummies along with extensive guano scattered about. In the same bat roosting and flight areas were odd white stains on silt and rocks -presumably urea from bats. These were located only in places where flight or roosting was possible. At the boulder choke, one would have to break off a foot or so off two large boulders to continue in the cave.

After the photographing was done, we exited

(continues on page 10)

CHITISTONE ... continued from page 9

and set up the fixed rope by tying on additional 145 feet, then anchored and pulled it from Whispering Cave and then later from the bottom of the cliff 60 feet further down. We found Whispering well decorated with ice formations. Fantastic! We photographed and found the cave sumped a few hundred feet in. Near the entrance portion where the passage had been a belly crawl over smooth ice in previous visits, it is now a stoopway with a little ice on the floor. The side tube I remember with platy ice crystals is now a walkway to an ice-filled phreatic tube.



Sketch from memory of the entrance portion of Whispering Cave

A large room further in the main passage was filled with large crystals down to a distinct level at about shoulder height. This was one sign that the cave had flooded this spring, washing off lower crystals. Beyond this room towards the entrance, the water must have either completely filled the passage, or large crystals had not grown, for only the small crystals covered most surfaces. This room had some ice stalactites/mites and a few leads taking off I did not remember, but are on the original map.

Further in, the way became somewhat low again (more as I remember) and the ice on the floor started getting rotten and wet with ripples running horizontally. Near the bottom of the second slight slope, the cave sumped. The water was atop some ice, and there was a skim of ice on the water surface. I suspect the sump will drain out after freeze-up, allowing cold air to again cool all rock surfaces. The creek bed below the cave certainly looks like very little woody/leaf debris had accumulated since the last flood occurred. I think it belched water briefly during spring runoff. The cave register at chest level had not been touched by flooding, as there was a loose scrap of paper held between the hanging container and the wall.

9/4/06

Today we all hiked directly up the slope of Peavine to a nice waterfall (some 2000 vertical feet), then back down partway around to the west and up to a vantage point below the Peavine mine adit, which is located near the top of a 100 foot cliff. A yellow drill rig was perched on a ledge above the mine. They must have winched it right up the cliff. It was supposed to be another rest day, but I'm tired.

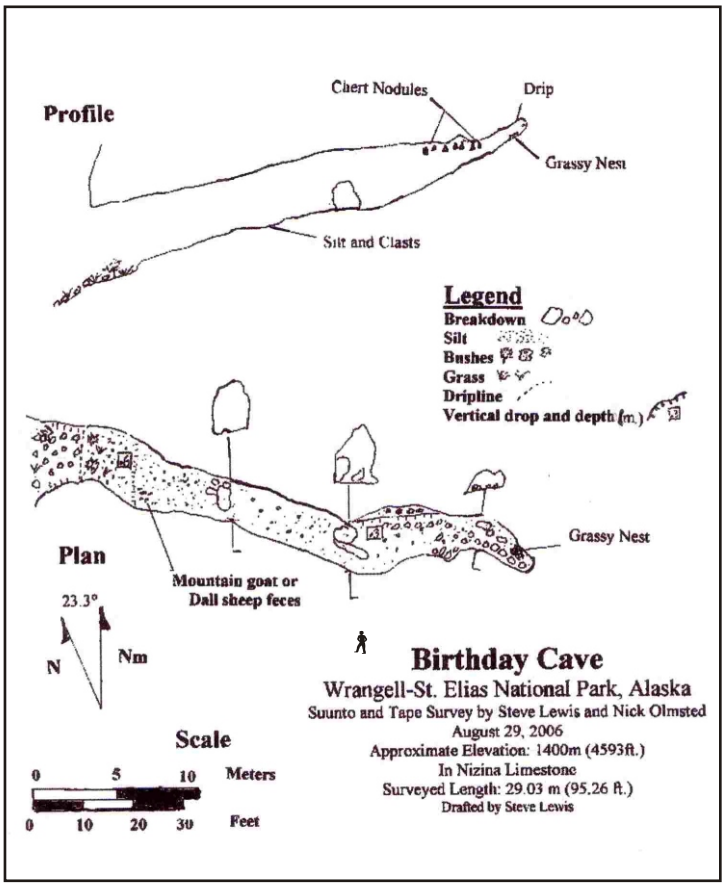
9/5/06

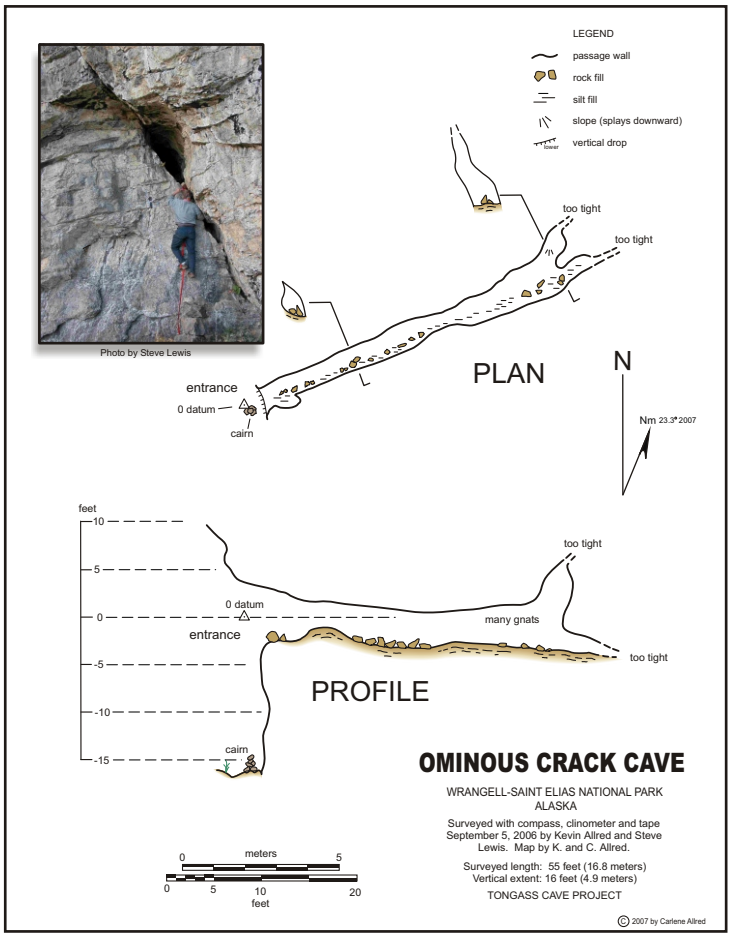
Today, Steve and I traversed along the cliff base southwards from Whispering Cave. The others stayed down at the river flats and we communicated by radio. Pete told us where visible holes were above us. I managed to get into a cave entrance about 12 feet up an overhang. Someone had been there before and had built a cairn at least three feet high to aid in entering. I decided to make it more safe by tying loops in a piece of webbing and attaching it around a chokestone. The cave went nearly 40 feet until pinching. It was a phreatic enlargement of a near-vertical crack. We called it Ominous Crack Cave (I had heard a "crack" when I first tried a handhold).

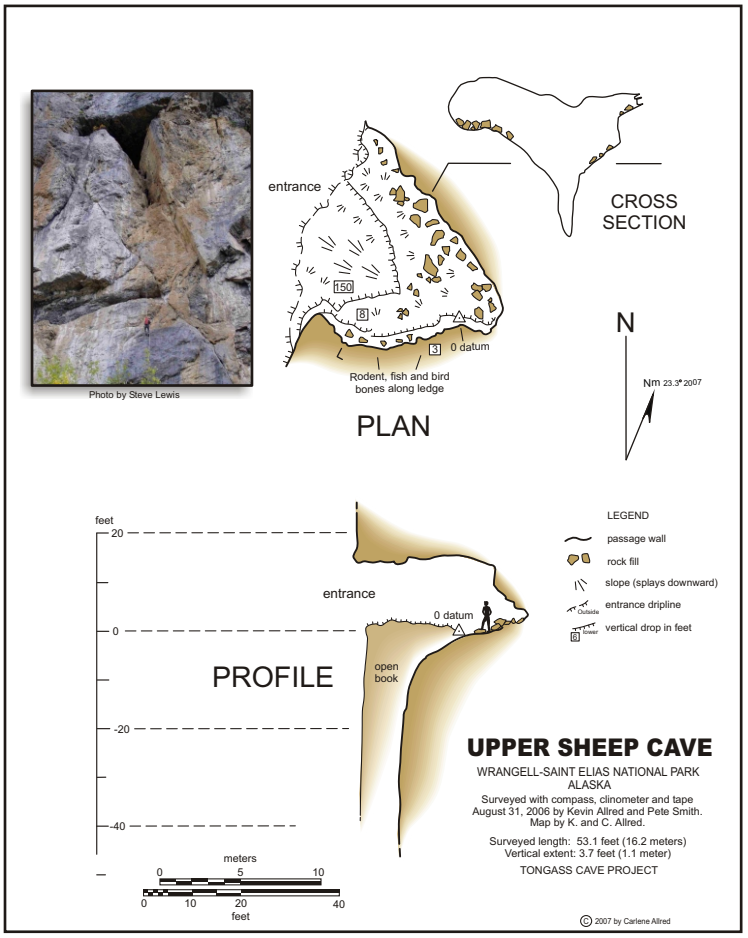
Continuing the traverse, finally we felt we could continue no further, for it got very steep and dangerous looking. Steve got a great photo of one of two pikas we spotted. We ran down a talus slope and joined the others on an open wash or old road bed before hiking to camp. Then Steve tried out his new drysuit and crossed the Chitistone River in a fairly difficult spot. His walking stick vibrated a lot in the thigh-deep rapids. We know now we can easily do it in braided places. Tomorrow mid-day we get picked up.

9/6/06

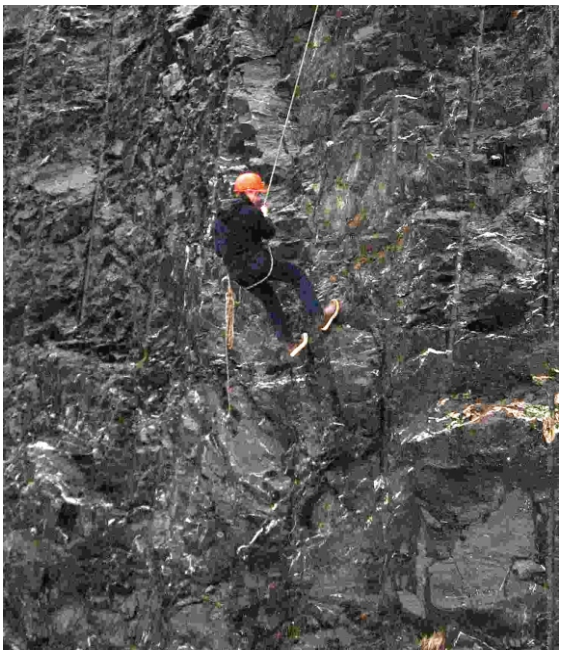
It was bath day. When I went to the river for mine, the soap didn't work too well in the glacial silt, but I'm reasonably clean. When we asked Donald if he was taking a bath, he said "God forbid -I'm waiting for a hot shower in Anchorage." We packed, waited, and enjoyed our mid-day flight out. After the long drive to Anchorage, we again enjoyed Jay's hospitality and a wonderful Chinese Buffet.







KETCHIKAN CAVING CLUB HAPPENINGS



Rachel Wall is learning to clean a vertical pitch. Note that she has the remaining rope coiled and is letting it out as she rappels. This will keep the rocks that she is knocking down from hitting and damaging the rope. Photo by C. Allred

The Caving Club of Ketchikan has been holding regular meetings every Friday afternoon. Gatherings have been taking place at the Allred's house, at a local church that has a large gym available for vertical practices, and at a nearby roadcut cliff. Prospective cavers have been studying speleology and caving techniques, and have been acquiring and learning to use their own personal caving gear. The immediate goal of the group has been to prepare for an upcoming caving trip in March (during spring break), to Prince of Wales Island.

The July issue of the Alaskan Caver will feature their POW adventures.

Practicing in the gym. In the foreground Mira Wilhem is "rescuing" Samantha Barnes, who is enjoying an ice cream cone. Photo by C. Allred.

FROST RING CAVE

WRANGELL-SAINT ELIAS NATIONAL PARK, ALASKA

Surveyed with compass, clinometer and tape
September 5, 2006 by Donald Davis, Pete Smith, Kevin Allred and Steve Lewis. Map by K. and C. Allred.

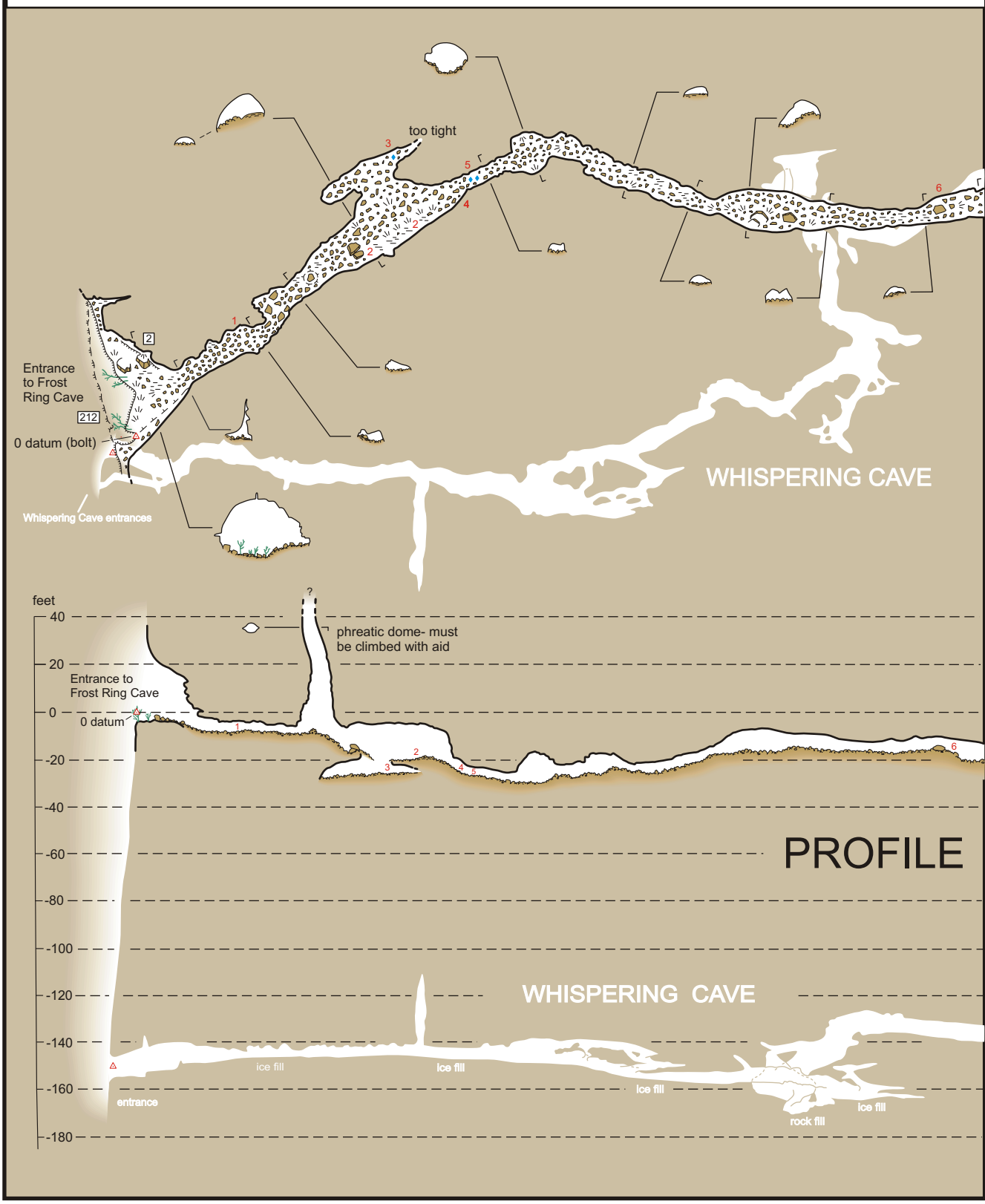
Surveyed length: 751 feet (229 meters)
Vertical extent: 57 feet (17.4 meters)

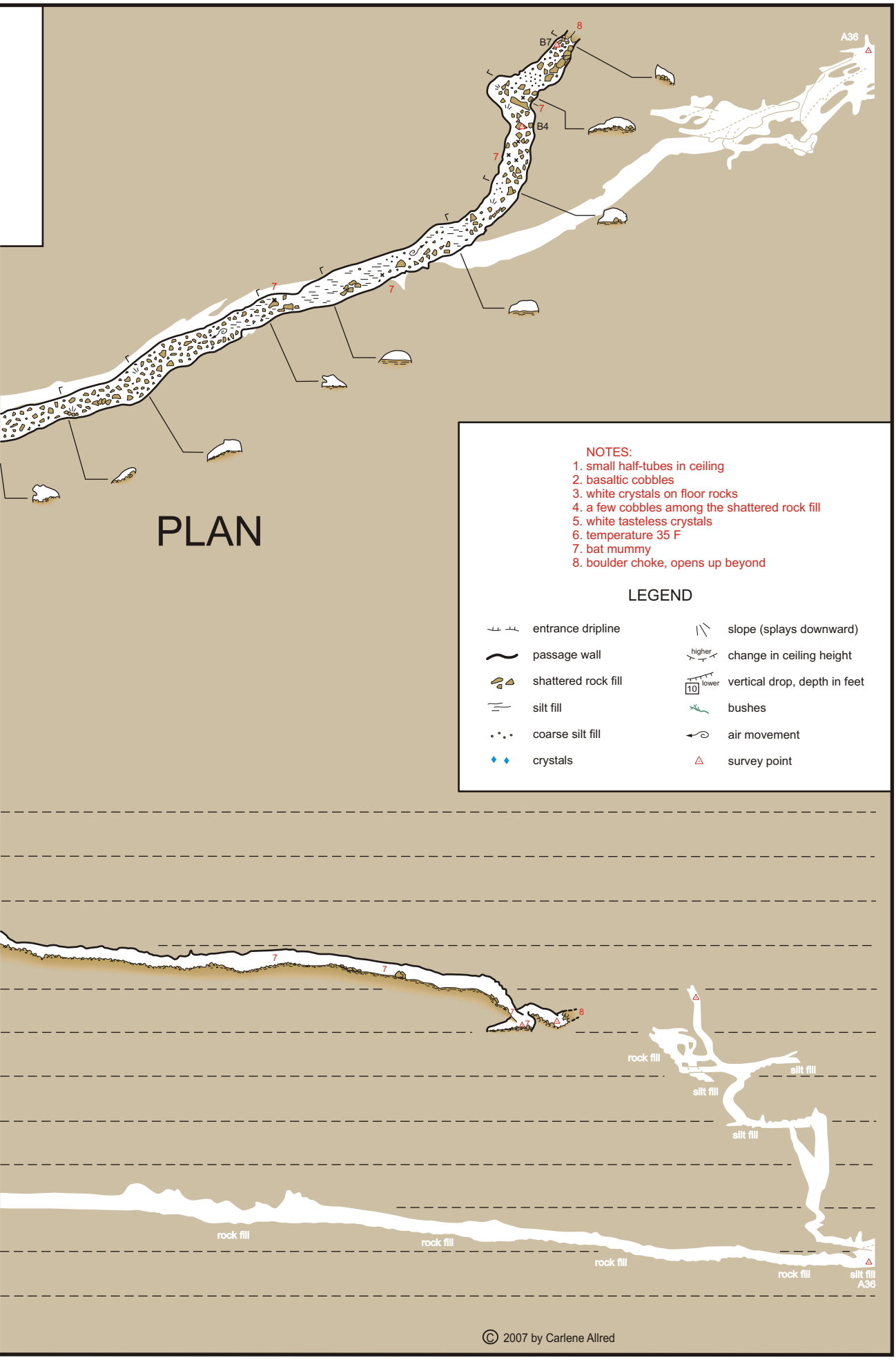
N

Nm 23.3° 2007

meters
0 10 20 30
0 20 40 80
feet

TONGASS CAVE PROJECT





Map of Frost Ring Cave, right half

WORLD'S LARGEST CAVE CRYSTALS

Below are some excerpts from an internet site: http://news.nationalgeographic.com/news/2007/04/photogalleries/giant-crystals-cave/index.html

Mexico's Cueva de los Cristales (Cave of Crystals) contains some of the world's largest known natural crystals, up to 36 feet long. In the April issue of the journal *Geology*, Geologist Juan Manuel García-Ruiz reports that for millennia the crystals thrived in the cave's extremely rare and stable natural environment. Temperatures hovered consistently around a steamy 136 degrees Fahrenheit (58 degrees Celsius), and the cave was filled with mineral-rich water that drove the crystals' growth.

Modern-day mining operations exposed the natural wonder by pumping water out of the 30-by-90-foot cave, which was found in 2000 near the town of Delicias, Chihuahua. Now García-Ruiz is advising the mining company to preserve the caves.

"There is no other place on the planet," García-Ruiz said, "where the mineral world reveals itself in such beauty.

Photograph by Javier Trueba/Madrid Scientific Films

The two brothers who discovered this Cave of Crystals "antechamber" dubbed it the Queen's Eye, because the opening leading to it resembled an eye. The cave is 950 feet (290 meters) underground.

Deep inside Naica mountain, the Cave of Crystals is a horseshoe-shaped cavity in limestone rock about 30 feet (10 meters) wide and 90 feet (30 meters) long. Volcanic activity that began about 26 million years ago created Naica mountain and filled it with high-temperature anhydrite gypsum (giant shards of which are pictured above). When magma underneath the mountain cooled and the temperature dropped, the anhydrite began to dissolve. The anhydrite slowly enriched the waters with sulfate and calcium molecules, which for millions of years have been deposited in the caves in the form of huge selenite gypsum crystals.

Delicate as glass, the "megacrystals" require great humidity and a temperature of about 122 degrees Fahrenheit (50 degrees Celsius) to maintain their current form.

A special door has been constructed to seal off the Cave of Crystals from the rest of the mining complex, which is ventilated to keep it at a comparatively brisk 95 degrees Fahrenheit.

U.A.S. CAVING CLUB... continued from page 2

about cave cartography. Dave Love and Steve Lewis have made presentations about caving resources and cave conservation and USFS Forest Service Geologist, Jim Baichtal has presented the ongoing research in Southeast Alaska karst on the Tongass as well as his recent research about raised marine shell deposits in the POW island area. Future meetings this summer will hopefully focus on a field trip to identify and inventory features in the karst above Hoonah on Chichigof island.

Louis Hoock, of the UAS Caving Club

Glacier Grotto welcomes this new group of cave enthusiasts: Welcome UAS Caving Club members!

GROTTO ELECTION RESULTS

11 ballots returned:

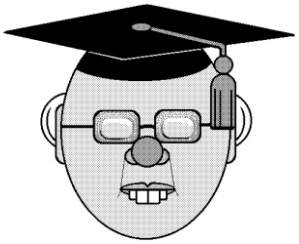
11 votes for David Love as president

11 votes for Kevin Allred as vice president

11 votes for Rebecca Valentine as sec./treas.

11 votes for Carlene Allred as editor

It looks like David Love will continue serving as the president of our Grotto. He has done a superb job in past years and is a great asset to our organization. Unfortunately, we will greatly miss David Valentine as vice president. We would like to thank him for his years of service, and we welcome Kevin Allred in his place. Rebecca Valentine will be our new secretary/treasurer. She is a new member of the Grotto and we welcome her!



ANNOUNCING A NEW MEDICAL TECHNIQUE

Last week word reached us of a new medical procedure which may change the caving world forever. Apparently, osteopathologists have found a way to actually modify the skeletal structure of humans to enable them to perform better in many jobs. Spokesman, Dr. Torres Juanera of Mud Bay Institute in Torreon Mexico, claims the modifications are of extreme value to many vocational fields. Certain subjects are now able to work in environments which were impossible just a few years ago.

"Using a patented technique of bending and grafting bone, only minor removal of some organs is needed in most subjects", stated Dr. Juanera. One man was able to easily lift one end of a city bus in an impressive demonstration held in Mexico City last month.

Of particular interest to cavers is that Doctors have modified several subjects to be able to fit through extremely tight areas. These characteristics are advantageous to trades such as plumbers and shipwrights, but the benefits are obvious for cavers as well.

In fact, one of their early patients is Kevin Climer, is an experienced caver from Texas. The photos below show the successful results. Kevin commented that he was very pleased with the outcome, and is quoted as saying "I used to only be able to fit through seven inches, but now I am down to three. After the next series of operations, I hope to get down to one inch".

FIGURE 1- Before

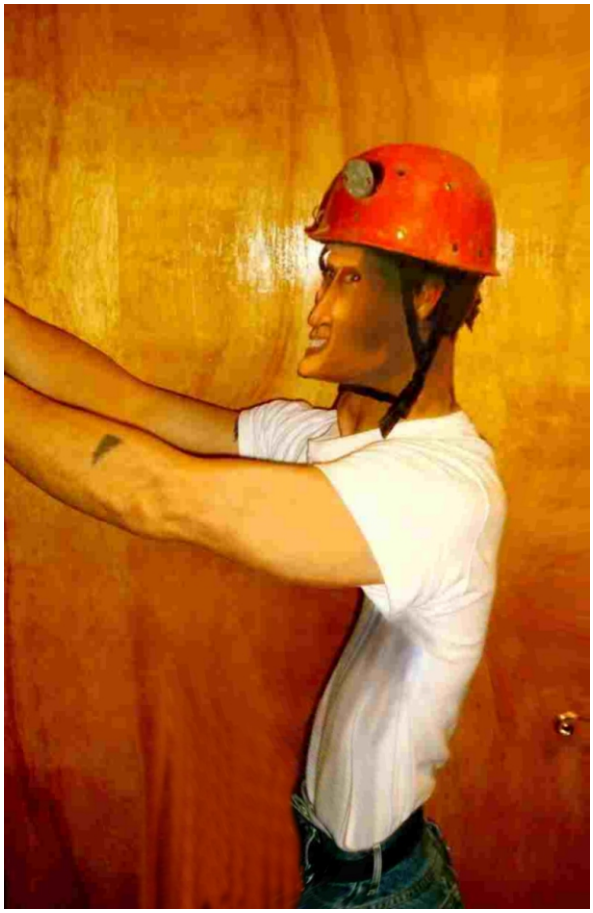


FIGURE 2- after

The Alaskan Caver
2525 Fourth Ave.
Ketchikan, AK 99901

Address Service Requested