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Carlene Allred

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THE ALASKAN CAVER

A photograph of a caver in a cave. The caver is wearing a red jacket, a yellow helmet with a headlamp, and is sitting on a large rock. The cave walls are made of layered rock, and the lighting is dim, with the headlamp providing the main source of light.

2003 CALAMITY CREEK EXPEDITION

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ON YOUR KNEES CAVE

Volume 25, Number 3

July, 2005

ON YOUR KNEES CAVE

This article originally appeared on the Partnership Resource Center [<http://www.partnershipresourcecenter.org>], which provides online resources for building vibrant partnerships and effective collaboration on the nation's forests, grasslands, and other special places

Efforts to study "On Your Knees Cave," an intriguing archaeological and paleontological site in the Tongass National Forest of southeast Alaska, have grown into an extraordinary partnership between researchers, local and regional Alaska Native organizations, and the Forest Service. Investigating the site's clues about the earliest known human occupation of south-coastal Alaska, the partners have discovered new information about the peopling of the Americas, early maritime adaptations, and Ice Age ecology



Terry Fifield, archaeologist for the Prince of Wales Island Districts of the Tongass National Forest, in the mouth of On Your Knees Cave in 1997 before site area clearing for the excavation had begun. (The photo was taken by Eric Parrish of the Denver Museum of Natural History.)

and glacial history of the Northwest Coast. A strong relationship based on openness and trust, and a shared research philosophy that is both culturally-inclusive and interdisciplinary, have been critical elements in the success of the partnership.

The Partnership Comes Together

The On Your Knees Cave site was initially recorded in 1993 by Harza Inc. and Kevin Allred of the Tongass Cave Project. Paleontological investigations at the cave began in 1994 with the recovery by Dr. Timothy Heaton (Professor of Earth Science at the University of South Dakota) of two bear bones (one black and one brown bear), which were radiocarbon dated to more than 35,000 years old. Continuing their work in 1996, Heaton's crew happened upon a small number of cultural items: a stone spear point, two bone tools, and several human bones, including a complete human jaw. These human remains were radiocarbon dated to 10,300 calendar years ago

Sensitive to the cultural implications of the discovery for Alaska Native Tribes, the Forest Service consulted immediately with Tribal representatives. This step helped to prevent tensions between scientists' desire to study ancient remains and native cultures' beliefs about the sacredness and proper treatment of such remains. At the same time, other researchers were notified of the discoveries. Dr. E. James Dixon, Professor of Archaeology and Museum Studies at the University of Colorado at Boulder and the Institute of Arctic and Alpine Research, stepped forward with offers to curate, preserve, and study the specimens and to take on an

archaeological study of the site.

By late summer of 1996 many of the partners in the project were in place. Terry Fifield, Forest Service archaeologist for the Craig and Thorne Bay Ranger District, was leading the consultation and collaborative efforts. Tribal presidents in the communities of Klawock and Craig had met several times with their Councils and passed resolutions supporting the analysis and further study. Dr. Dixon prepared a grant proposal for a 1997 archaeological excavation at the cave, which would include funding for Native student interns, while Dr. Heaton planned his 1997 fieldwork to further investigate the paleontological aspects of the cave.

Research Begins on the Ground

In 1997, the staging began of what is now recognized as a remarkable field camp. Archaeological and paleontological crews worked side by side, focusing on their respective interests but integrating their methods to allow data sharing. Alaska Native interns, selected by the Klawock and Craig Tribal Councils and funded through Dixon's National Science Foundation grant, worked with scientists to clear the site and begin excavations. Over the winter of 1997/1998, Sealaska Inc. and Sealaska Heritage Institute offered to fund internships for the following season. These internships provided Alaska Native youths with a remarkable learning experience and further strengthened the relationship between the research team and the Tribes.

For five field seasons between 1997 and 2004, these partners continued their groundbreaking research. Investigations, which began inside the cave, moved to the terrace outside the cave where archaeologists uncovered stone tools and the remains of a camp contemporary with the
(continues on page 4)



Archaeologist, Dr. E. James Dixon (left), of the University of Colorado at Boulder and Paleontologist, Dr. Timothy Heaton, of the University of South Dakota at Vermillion resting outside the cave. (Photo by Terry Fifield).

human remains. Many additional partners organizations, institutions, and individuals supported the project, including the Tongass National Forest Geology program, the Port Protection Community Association, the Organized Village of Kake, and the Petersburg & Wrangell Districts of the Tongass National Forest.

The discoveries at On Your Knees Cave have enormous implications for our understanding of how and when early cultures peopled the Americas and have also shed light on the Ice Age ecology and glacial history of the region. This exciting research, which is now changing scientific views of early post-Ice Age environments and culture on the Northwest Coast, has generated international interest. The site has been featured in several documentaries and popular magazine articles.

Partners Seek Opportunities for Education and Outreach

To increase the opportunities for public education about the site and its significance, the On Your Knees Cave partners have made the research project fully accessible to the public. A policy of open access to the site was in place throughout the five seasons of fieldwork. This provided residents and visitors with a unique opportunity to visit an important archaeological and paleontological site,



speaking with researchers, and share in the exciting discoveries underway. In this way, visitors seeking the Tongass National Forest's spectacular vistas and wildlife viewing opportunities gained additional awareness about the human history of the area.

Recognizing the importance of this research and the significant precedent set by the positive cross-cultural and interdisciplinary working relationships, the partners, with support from the National Park Service, are producing a documentary video highlighting the research and partnerships. The video will explore the challenges posed by working together and the elements, which have led to a productive project with benefits for all partners.

For more information, you can visit:

- <http://www.fs.fed.us/r10/tongass/forest>
- [Http://www.usd.edu/esci/alaska/](http://www.usd.edu/esci/alaska/)

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Microblades, small slivers of rock are some of the earliest artifacts found on the Northwest Coast. At On Your Knees Cave microblades of obsidian, quartz, and chert are found in occupation layers dated to between 9,700 and 10,300 years ago, and suggest a deep and extensive knowledge of the region's resources by the time hunters first used this cave.



BACK TO O.YK.... continued from page 2

On Your Knees Cave is a small cave on the northern tip of Prince of Wales Island. When discovered it consisted of two tight crawlways, one leading to a second entrance. The total passage of the cave was less than 200 feet. Based on bones first discovered in these crawlways we named them the "Bear Passage" and "Seal Passage." Most of the early excavation was focused on the Bear Passage, which is where part of a human skeleton was discovered in 1996 (the oldest human remains from northern North America). We excavated the first 40 feet down to a smooth bedrock floor. A spring enters the Bear Passage near the end of this excavation and runs down the remainder of the passage, and it has created several complex cut-and-fill events in the sediments. The "Rosetta Stone" was found near this spring, and it may have been tipped over by being undercut by the stream or by a bear living in the chamber. The Bear Passage has some wide spots and was used as a den by bears. Large bear bones and a caribou antler were found during the excavation.

The Seal Passage is much narrower than the Bear Passage, and it leads to a second entrance. Many bones of the ringed seal, which only lives on sea ice, were discovered there, and they all dated to the Last Glacial Maximum (24,000 to 13,000 years ago). In 2000 we undertook a more

aggressive excavation of the Seal Passage. Just beyond where the Bear and Seal passages branch is a constriction that wouldn't allow us to dig very deep. But 40 feet farther back the passage widened as we excavated, exposing a buried room. Beyond that it narrowed again, and we dug up to eight feet deep before hitting bedrock. So the sediments were at least three times thicker than in any part of the Bear Passage. But we hadn't found as many large bones. As we searched the sediments we had excavated, we discovered that certain rodents occur in differing proportions in different levels of the cave sediments, especially in the Seal Passage where the sediments are thicker. The deepest level is dominated by marmots and long-tailed voles, suggesting a climate a little cooler than today. A middle level is dominated by heather voles and brown lemmings, suggesting cold tundra conditions. The upper level has mostly long-tailed voles, representing the transition to a modern rainforest environment.

There were a couple of reasons I wanted to dig further in the Seal Passage. First, I hoped that the room we uncovered might have served as a living chamber for cave-dwelling carnivores and might produce more big bones if we dug deeper. I also hoped to recover older remains for

(continues on page 5)

radiocarbon dating so we could resolve the question of how old the oldest bones in the cave were. Furthermore, I hoped that further careful excavation would provide higher resolution on climate changes that have occurred over the past 50,000 years. So a field season focused solely on excavating the Seal Passage seemed worthwhile.

Jim Dixon, the archaeologist I previously worked with at On Your Knees Cave, also wanted to return to do a thorough excavation around the cave's second entrance (Ed's Dilemma) at the far end of the Seal Passage. Around that



Kevin Allred mapping the area with a transit,
photo by Terry Fifield

entrance some artifacts had turned up in a brown silt below the deepest organic sediments, which suggested that they might be older than those around the main entrance. Our summer schedules conflicted, so we decided to work at the site consecutively rather than at the same time. His group began in

early June and set up the camp with the help of a helicopter drop. He pulled out at the end of June when our paleontological excavation began.

This year I took five University of South Dakota undergraduate students to Alaska with me in a university van. Fred Grady, who recently retired from the Smithsonian, was able to join us for the entire month, and he flew from D.C. and met us in Ketchikan. My wife Julie and daughter Christy joined us a week and a half later. On the drive north we stopped at the Smith home and were provided a delicious barbecued salmon dinner by Pete and Val. We set up our camp at the beach on Sumner Strait and hiked the half mile trail to the cave each day. This allowed us to give our screened sediments a final rinse in the ocean before drying them and provided many whale-watching opportunities. The cave camp was already set up by the archaeologists, so all we had to do was move in and get to work.

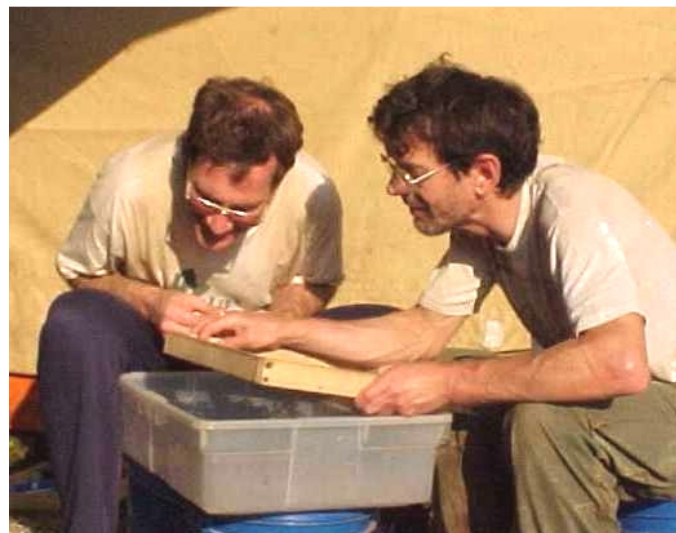
The archaeologists planned to excavate a lot of the surface organic sediments from the Seal Passage before we go there, but they only proceeded three feet back and two feet deep. We began by extending their columns down another seven feet to bedrock. Then we worked in both directions and excavated the room that we had begun to uncover in 2000. In all we excavated and processed 1700 gallon bags of sediment. Fred dug nearly every day, and the students also did a lot of excavating. We also continued the excavation at the Ed's Dilemma entrance where the archaeologists left off.

The bedrock dropped into a deep cavity, and in it we found a large black chert biface artifact. We excavated that area back two meters and about two meters deep and eventually found an obsidian flake. We also found bones of bear, otter, and a perfect little bird skull as well as a lot of fish bone. But it wasn't as productive as digging inside the cave.

What did we find with all this work? First, it doesn't appear that the room in the Seal Passage was ever a living chamber, at least for bears. In fact as we dug deeper and the room widened, the amount of bone decreased to almost nothing. We found more bear bones farther down the passage, toward the Ed's Dilemma entrance, but only teeth, foot bones, and small fragments of larger bones. This suggests that the bones were washed in from somewhere else after the animals died. We did find evidence of a fox living chamber at the end of the excavation, even though the passage was very narrow there. Fred discovered a pocket rich in tiny bird bones, including many sandpipers and song birds. These will add to our species list for the cave. Fox bones were also abundant in that pocket, suggesting that they were the predators. By contrast, nearly all of the bear bones were found in much deeper levels in the sediment, and they were increasing in number where we ended our excavation. By submitting bones at each level for radiocarbon dating we hope to work out the chronology of all these historic events.

In the past we dug up a number of pieces of broken speleothem, but we found a lot more this year. Far back in the Seal passage the bedrock floor (buried nine feet in sediment) was covered with a layer of flowstone *in situ*. This may correspond to the speleothem fragment previously dated to 186,000 years or may be even older, but we don't know how long the flowstone sat there before sediment deposition began. In the Seal Passage room we uncovered a layer of sediment composed almost entirely of fragmented speleothems. It made quite a sight when we dumped it out onto our sifting screen. Most of it was crusty, weathered white masses, but we also found many clean pieces including soda straws and larger stalactites. So there must have been some

(continues on page 13)



Tim and Fred sorting dirt at the beach camp on Sumner Strait
in 1999, photo by Terry Fifield

Open House
Wed., Sept. 22 1pm - 4pm
The Yates Building 201 14th St., SW
4th Floor, Washington, DC

USDA Forest Service

Hall of Tribes

Chugach Design Center
NATIONAL MUSEUM OF THE AMERICAN INDIAN

WORKING TOGETHER NOW TO STUDY THE PAST

A Collaborative Approach to Archaeological Research at

"On Your Knees"



CAVE



With the discovery of ancient (9,300 radiocarbon years before present) human remains and

artifacts in a small cave on northern Prince of Wales Island in 1996 a partnership was formed between the Tongass National Forest, researchers and local and regional Alaska Native organizations.

Five years of investigations have yielded a rich body of information about the earliest known human occupation of south-coastal Alaska with implications for theories of the peopling of the Americas and early maritime adaptations.

Recognizing the importance of this research and the significant precedent set by the positive cross-cultural and interdisciplinary working relationships, the partners, with support from the National Park Service, are producing a documentary video highlighting the research and partnerships.

The video explores the elements, which have led to a productive project with benefits for all partners. A portion of the draft video will be shown followed by a discussion of the project and its benefits.

Dr. Rosita Worl
President, Sealaska Heritage Institute,
Juneau, Alaska

Millie Stevens
President, Craig Community
Association (Tribe), Craig, Alaska

Dr. E. James Dixon
Professor, University of Colorado at
Boulder, Institute of Arctic
and Alpine Research

Terry Fifield
Archaeologist, Prince of Wales
Districts, Tongass National Forest,
Craig, Alaska

Tongass National Forest



Region 10, ALASKA

This is a poster created by the Chugach Design Center (Chugach National Forest) for a presentation at the opening of the Forest Service Hall of Tribes in DC last fall. It was the same week as the Grand Opening of the National Museum of the American Indian and the First Americans Celebration. Fred Grady is in the picture, crawling through the seal passage in On Your Knees Cave. The poster is about 40" X 24".

CALAMITY CREEK KARST MAPPING EXPEDITION

Carroll Inlet, Alaska, by David Love

As the responsible resource management entity in the Tongass National Forest, southeastern Alaska, the USFS is required to protect all significant karst systems on the Tongass, as specified by the National Cave Resources Protection Act. Although the appropriateness of the Karst standard and guidelines developed by the US Forest Service (USFS) and their conservative implementation have been questioned by Alaska caving groups such as the Tongass Cave Project and Glacier Grotto, the latter still volunteer to help the USFS in karst inventory and cave mapping.

Much of the cave exploration has occurred in association with USFS timber sale planning efforts, and many of the caves in Southeast Alaska would not have been discovered or mapped without the financial support from the USFS. Although many of the cavers feel that the USFS needs to be more stringent in their protections of karst ecosystems, we cannot effectively manage these systems without knowledge of their place in the greater landscape and a positive working arrangement with the lead land management agency. Nevertheless, most of the cavers in Southeast Alaska hope that landscape management practices on the Tongass National Forest are the most conservative and that the USFS will apply the most stringent protections possible. This has not always been the case in the past.

Roading and clearcut logging in and around karst areas has resulted in damage to, and in-filling of, underlying caves and karst systems. Timber harvest of this type should be avoided entirely on carbonate rock in the rainforests of Southeast Alaska or other, less destructive ways of extracting timber from areas of lower vulnerability karst should be employed. We hope that continued cooperation between the USFS and the caving groups will lead to even more conservative use of the lands overlying and adjacent to fragile and vulnerable karst areas of the Tongass. Many dedicated cavers in both the Glacier Grotto, Tongass Cave Project and from other places of the US and the world have, and will continue to work towards that end. Over 600 caves have been discovered and mapped on the Tongass National Forest, but more exploration, mapping, mitigation, and study await.

The geological history of the area we explored is varied and interesting. The southeastern Alaska coastline is an area of active plate tectonic collision. Extrusion of basalt in the offshore oceanic rift systems forces the Pacific plate, and any associated crust, eastward against the North American continental margin. Through the course of geologic time, successive layers of unique rock types (known as "terrane") accrete and become slip faulted, fractured, subducted, re-melted, uplifted, tilted and twisted into contorted melanges along the eastern edge of the Pacific basin.

The carbonate rock of Revillagigedo Island, is one part of one of these terranes, the Alexander Terrane. Composed of a steeply bedded Permian outcrop running roughly parallel to Carroll Inlet, the band of marble we were

to explore is generally less than 1 km wide and extends northward to intersect the Inlet's eastern shoreline approximately 16 km from the Calamity creek area. On the Geologic Map of Southeast Alaska (Gehrels and Berg, 1992), this carbonate band is shown to thrust-fault along its entire western boundary overtopping the adjacent Permian and Cretaceous sedimentary rock. Cretaceous granodiorites and tonolites intrude the sedimentary rock bounding the eastern side of the carbonate deposit, which is also reported to have a boundary with Quaternary or Tertiary volcanics to the south.

On June 27, 2003, five members of the Glacier Grotto, all experienced southeastern Alaska cavers, Dan Monteith, Diane Raab, Bruce White, Marcel LaPerriere and Dave Love met at Taquan Air, at 7:30 am.

"Oops, we were supposed to leave at 7:30", apologizes Kevin Casey, our newly acquainted "fearless leader", arriving a few minutes later. Hired by the US Forest Service, out of Thorne Bay, Alaska, Kevin has the enviable job of organizing caving expeditions to locate, explore and map caves in the Karst regions of southern Southeast Alaska. Turns out he misunderstood 'first available' to mean 8:00 am. No worries. We load our gear into the floatplane and 3 of the six cavers fly ten minutes east of Ketchikan, Alaska to an area of unexplored sinkholes in vertically bedded, white and blue-grey marble on the southern shore of Carroll Inlet, Revillagigedo Island. The remaining three cavers arrive at Shoal Cove, our rendezvous spot, 30 minutes later.

We load our gear into a USFS green rig and drive the logging roads to the pass overlooking Calamity Creek where we are to meet the helicopter. Right at noon, the big red Bell



Marcel and Dave arrive at the karst via helicopter. Photo by Diane Raab

dragonfly arrives to transport us and our gear up to the muskegs on the ridge above Calamity Creek. Marcel and I fly first, the gear and other cavers follow, the helicopter passing directly over the large sinkholes just below the subalpine muskegs where we will camp. An ideal setting for extensive karst development, the tannin-rich waters of the spongy
(continues on page 8)

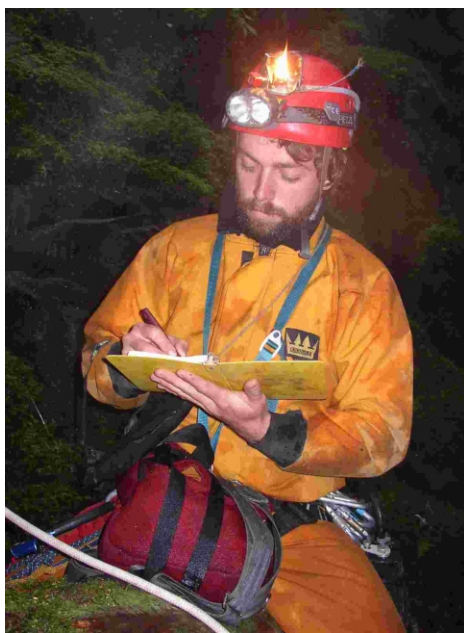
muskeg providing a steady flow of acid water downhill into the basic bedrock below. We spend the next days exploring and mapping in this area of unexplored karst.

As soon as the rotor wash is gone, biting white-sox and no-see-um flies attack with a vengeance and as the helicopter disappears over the horizon the rain begins to fall. It's a toss-up to say which is worse, the bugs or the rain. Fortunately, we have Diane along who conveniently acts as the camp's bug attractant and also draws the short straw, thus "voluntarily" relinquishing her new tent to cave-mudded and sweaty cavers. We set up the remainder of the tents and our cook tarp, then hike down into the timber for a closer look at the caves below.

The first cave in this Permian carbonate rock is just below the muskeg, and due to the strike of the marble bedding, the other karst features are arranged running in a line roughly southeast.

During the next 3 days of our survey trip we split into three survey teams. Dan and I set to surveying several small caves near the insurgence at the top of the ridge, help Marcel and Bruce with mapping another cave and then map the furthest downslope resurgence. Bruce and Marcel work on the large blowing cave entrance down the ridge from the insurgence. Kevin and Diane go to the lower cave entrance just above the resurgence.

Generally, the formation of the voids in this rock was different than most other caves I have seen in Southeast Alaska. The marble beds here are vertically bedded between layers of phyllite (a highly broken, friable mica or schist) that appear to weather and defoliate more quickly than the more massive marble can dissolve. This appears to result in blocks of marble, some quite large, to fall out of the ceiling and walls of the caves. These blocks stack and lean on one another in all sorts of precarious, often unstable, configurations. Moving through the passage requires great care so as not to kick anything loose, or bring the entire pile crashing in about you.



Kevin Casey, our "Fearless Leader".

Photo by Diane Raab

The stream passages generally follows the strike of the marble beds, constrained by the insoluble phyllite beds to either side. Water passing through certain sections of the cave

has sculpted subterranean stream channels out of the beautiful grey-blue and white banded marble.

Four fairly large caves and several smaller features were explored and surveyed. They are described below in more detail, starting at the uppermost feature and moving downslope along the width of the carbonate band. All of the features are within about 1 km of the muskeg where camp was set.

HOOJIGGER'S HOLLER AND CHOCKSTONE CANYON CAVE

This cave is located at the bottom of a large sink, named "Hoojigger Holler", just below the muskeg. A surface stream, about 4 CFS, cataraacts into this large 8-12 meter deep sink before insurging at a downslope headwall. A tight entrance through large marble blocks to the east of this stream corkscrews through breakdown block squeezing downward about 10 meters to the top of a fairly vertical canyon, finally bounded on the east side by friable phyllite bedding.

The ceiling of the upper section of this canyon is comprised of the large chockstones one must carefully squeeze through that all appear to be held in place by friction and by one frighteningly small chockstone at the very bottom of the pile.

This first room we named "Chockstone Room of Death" for obvious reasons. Below this breakdown pile, there is a small room upslope from a hole on the right wall and floor. Water can be seen and heard flowing through this hole. The main canyon passage, named "Chockstone Canyon", is partially blocked 30 meters into the cave by a large marble block, further downpassage an active stream channel enters the "Chockstone Canyon" at the base of the right wall. This stream disappears at "Snorkle Sump" downstream through a too-tight slot in the floor at the deepest vertical extent of the cave, 40 meters below the entrance. The stream channel meanders upstream from where it enters the main passage to just below the hole in the floor of "Chockstone Room of Death", resurging at this point from underneath non-carbonate stream cobbles that entirely fill the passage.

No invertebrates or bones were found in the cave.

DEER BONE PITS

Downslope and southeast from "Hoojigger Holler", were two small sinks. One mossy sink funneled into a 4 m drop that extended another 7 meters downpassage at about 75° inclination. The furthest extent of the cave contained a long bone, and the antlers which were still attached to the weathered skull of a buck Sitka blacktail deer. The organic sediment in this small sink looked fairly fresh as did the bones. Loose marble blocks held together by soil and mud formed the entrance drop. This cave was named "Deer Drop In".

Through the old-growth forest to the southeast and downhill from "Deer Drop In" in a sink among the trees, we found a vertical shaft about 8 meters deep that was about 0.75 meters wide at the surface opening, then belled out to

(continues on page 9)

about 4 meters wide at the bottom. Two deer skeletons, possibly a doe and fawn, lay in the organic sediments on the bottom of the pit. A window 5 meters from the back of the cave lead to passage that ran parallel to the entrance pit. This cave was named "Deix Guwakaan" (two deer in Tlingit). No bone samples were taken from either site.

FOGGY BREAKDOWN CAVE

Downslope from "Deix Guwakaan", what may be a different surface stream than that in "Chockstone Cave" pools during high flow events at a large entrance doline to the left of the entrance of "Foggy Breakdown cave". This entrance at the base of the sidewall requires a handline to access the entrance room. It drops a few meters onto a mud floor surrounded by huge stacks of marble slabs, arranged like cards or books on a bookshelf, leaning against the walls. A slot between the two center slabs leads to a upward sloping passage through and over large breakdown blocks. Water can be heard through one vertical tight side lead on the left wall partway up this sloping scree and marble slab slope.

Upon reaching one upward climb requiring jumars, I foolishly said, "Wow, Marcel did you climb this?". Dan Monteith's reply, "No, the film crew did..." Gave everyone a good laugh. Marcel did tell us that the climb really was fairly easy, "except for the last two moves at the end".

Past this climb, a kneeling squeeze to a 2 meter upward scramble leads to a phreatic tube above a beautiful 22 meter drop through banded marble to intersect a sculpted blue and white banded marble stream canyon passage below. This passage continues about 70 meters downstream to a gravel and cobble sump, the stream cascading down 3 waterfalls before draining through a gravel and cobble sump at the lower extent of the cave. In small voids above and to either side of this sump, moonmilk and small stalactites can be seen.

Directly below the 22 meter drop and heading northwest and up the approximately 5 CFS stream, several species of white and translucent aquatic insects were discovered. Although likely that these are surface species that had been transported into this system as larvae, several flying adults were seen in our headlamps while surveying. White Chironomids (midges), Trichoptera (caddis flies), Plecoptera (stonefly) larvae and white/cream colored planaria (flatworms) were collected and have been sent off for identification.

Upstream from several meanders, pools and riffles,

the water can be seen originating from a deep resurgent pool underneath the main passage. After another 2 meter upclimb, and a slot with a bone and mud floor between huge breakdown blocks, the passage opens to a huge canyon 10 meter wide by 100 m long and more than 10 meters height filled with large breakdown blocks over sediments and deer bones.

Whole herds of deer bones scattered across the passage between, on top of, and beneath breakdown blocks ranging in size from cobble to school bus, indicated different bone depositional events through time. This large canyon passage, below what appeared to be now sealed sinkholes was named "Rudolph's Revenge". Prancer, Dancer, Cupid



Deer antlers in Foggy Breakdown Cave. Photo by Dan Monteith

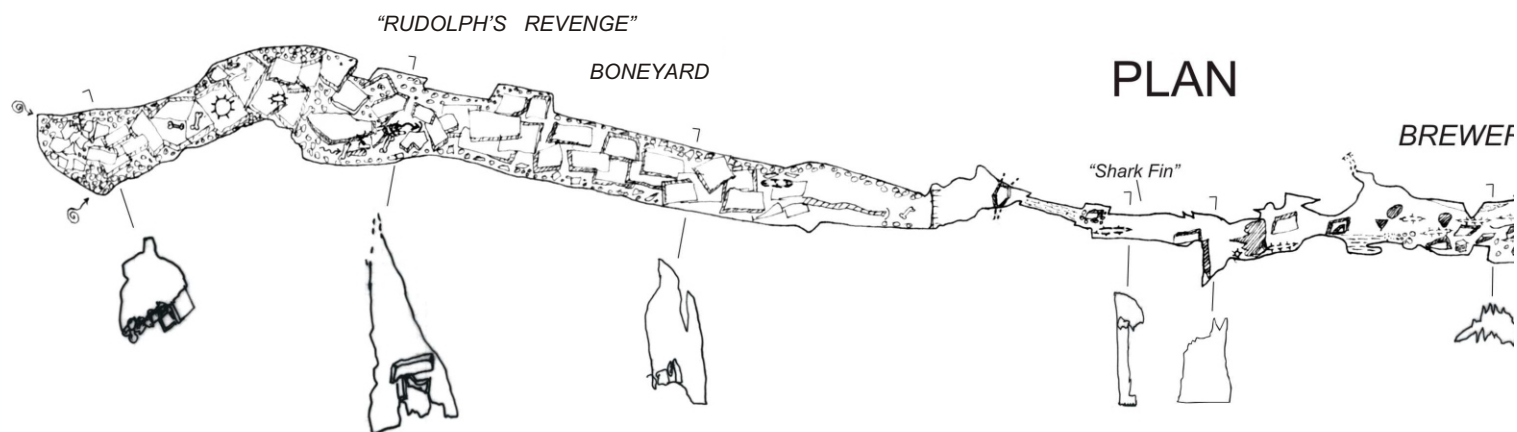
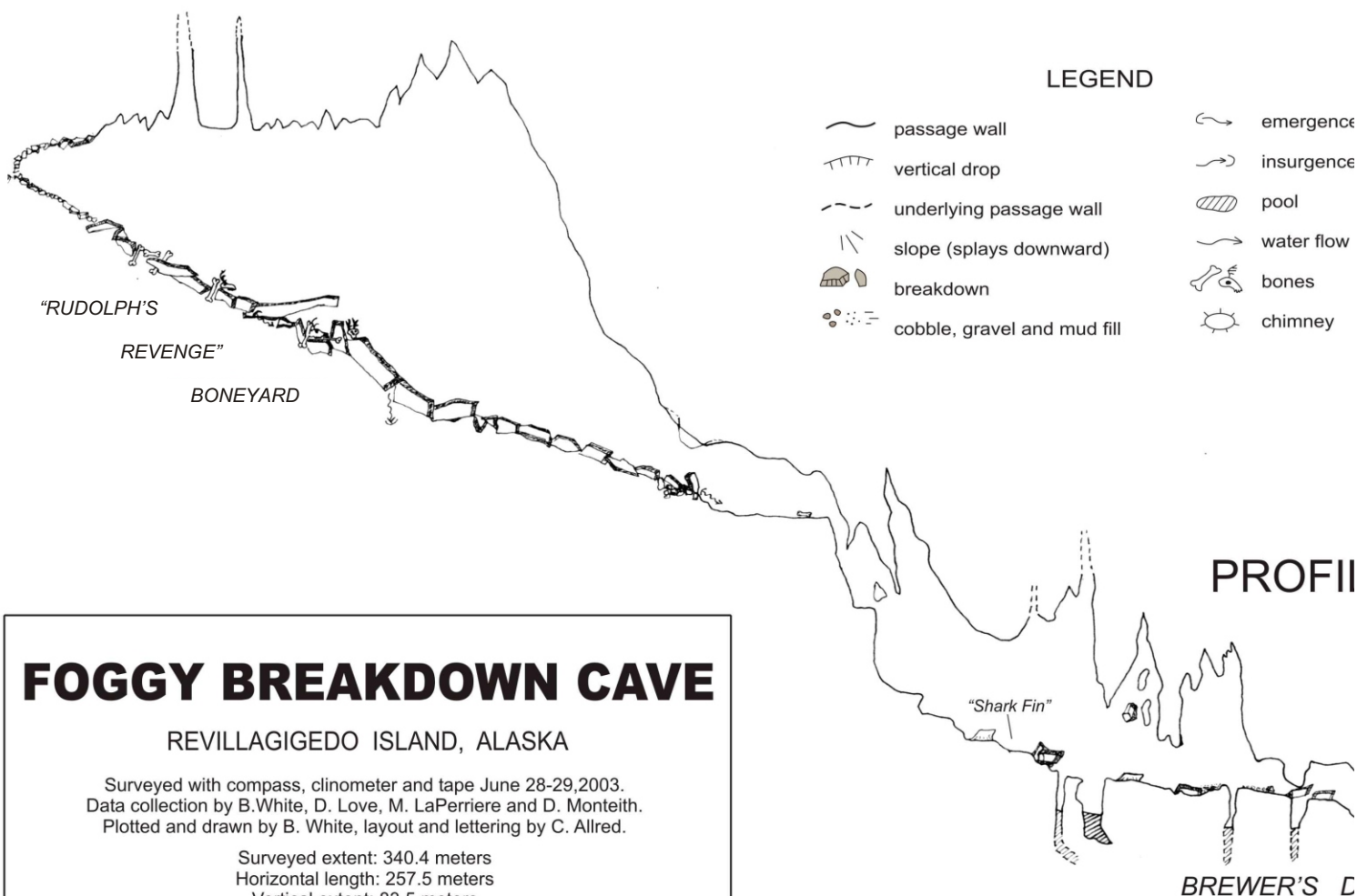
and Vixen were all identified. Woody debris, hemlock cones and Carbon-14 dating of a deer long bone collected from the furthest upslope extent of "Rudolph's Revenge" indicated an age of 215 +/- 40 radiocarbon years or AD 1735, which means the sinkholes above were open in the fairly recent past (Tim Heaton, Univ. of South Dakota, personal communication).

"Foggy Breakdown" is an interesting, beautiful and "sporting" cave, containing unique aquatic invertebrates, bone deposits and beautiful marble vadose passage.

HOWLING AT THE MOON

A rope is needed to negotiate the large collapse sink at the entrance to "Howling at the Moon" cave, providing access to a sizable subsurface stream.

The stream arose from breakdown at the bottom of the pit and flowed down amongst the large breakdown slabs in the cave. Due to the foliation of the marble, rock tends to
(continues on page14)



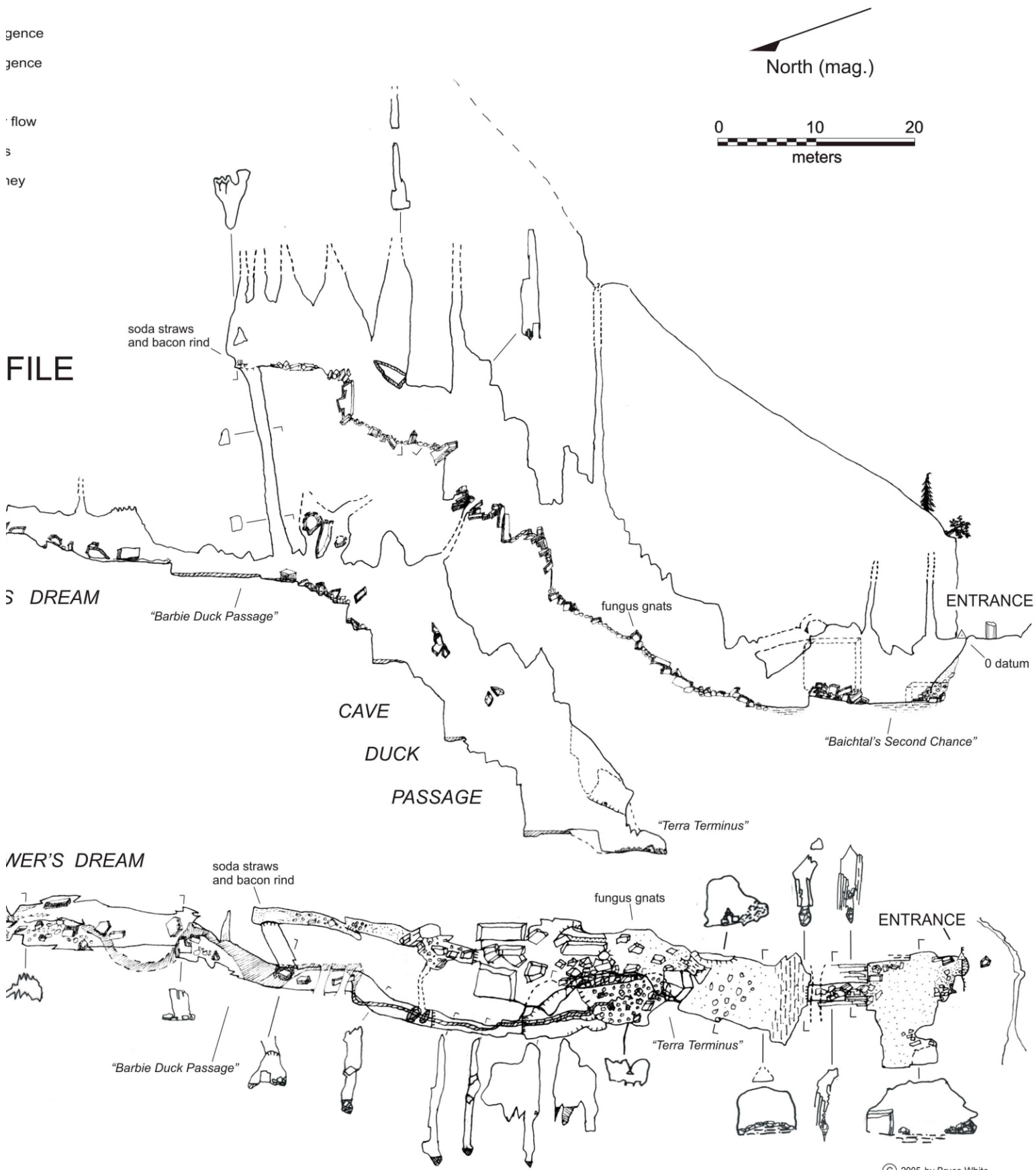
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FILE

S DREAM

NER'S DREAM

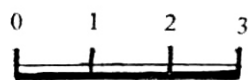


© 2005 by Bruce White

DEIX GUWAKAAN Cave

PLAN
VIEW

PROFILE
VIEW



METERS

LEGEND

- entrance dripline
- ~ passage wall
- - - underlying passage
- ⌋ vertical drop
- 2 depth of drop in meters
- breakdown block
- ⌋ slope(splays downslope)
- ⌋ bone pile

Geology:

Both caves formed in white marble, located downslope from "Hoojigger's Holler" and found at the bottom of each surface doline. Bone deposits present at the bottom of each cave.



DEIX GUWAKAAN and DEER DROP IN Caves

Carroll Inlet, SE Alaska

Compass, Inclinometer and Tape Survey, July 1, 2003
by Dan Monteith and Dave Love

Map by Dave Love

Deix Guwakaan Cave: Survey Length: 7.6 m

Deer Drop In Cave: Survey Length: 7.9 m

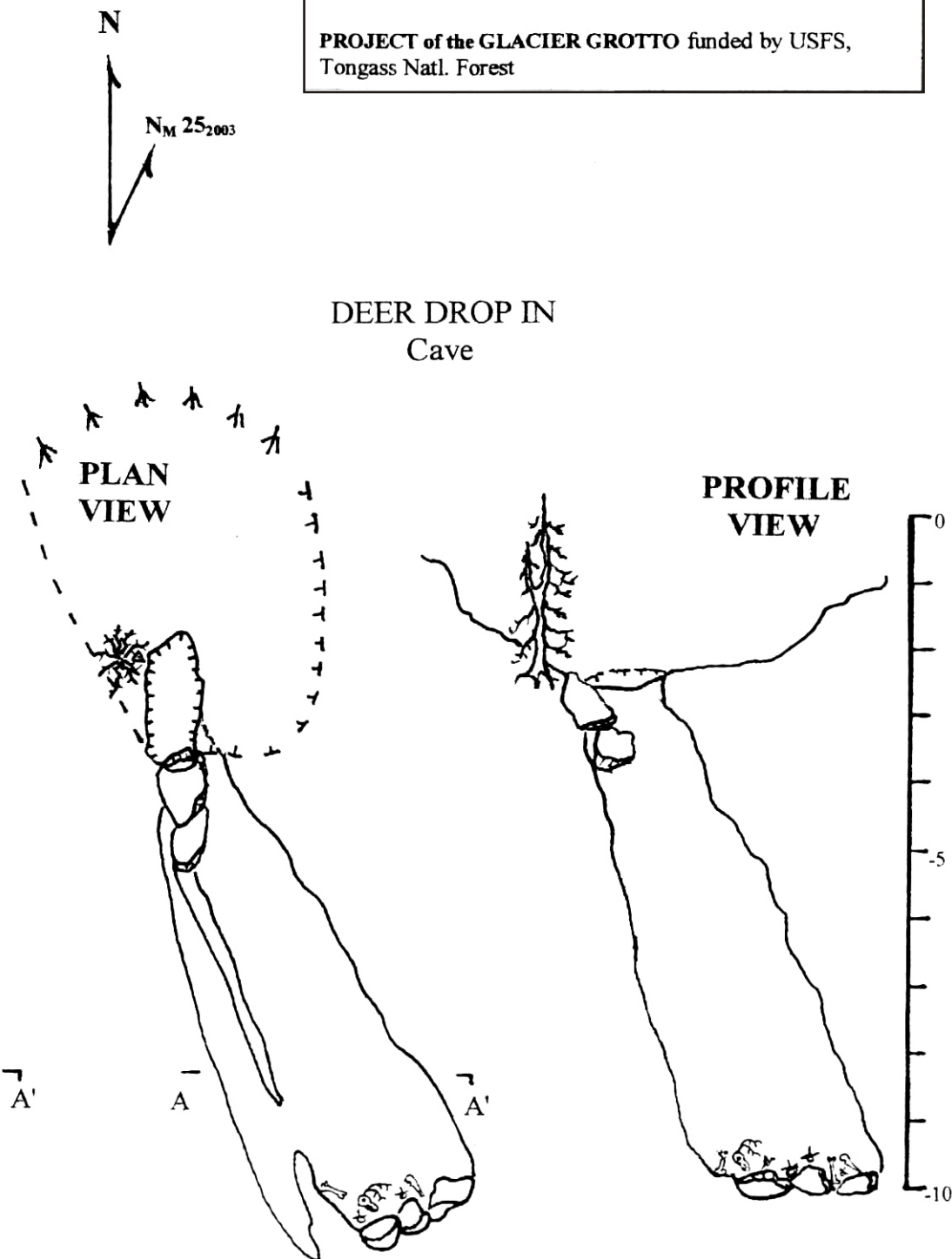
PROJECT of the GLACIER GROTTTO funded by USFS,
Tongass Natl. Forest

BACK TO O.Y.K....
continued from page 5

high energy event that tore up the cave: either an earthquake or a powerful influx of coarse gravel and rocks. There was also a level in the Seal Passage that had an unusual number of limestone blocks from the cave ceiling, but speleothems weren't found on any of those. So most of the speleothems must have been washed in from somewhere else. Perhaps the cave was once larger and was truncated by glaciation (or other erosion) at some time in the past. some time in the past.

At the end of the excavation Fred suggested digging some sediment at the entrance to the Seal Passage that had been missed previously, and that turned up a lot of the usual bear and murre bones as well as another tooth of the mysterious saiga or goat that we've struggled to identify. So it was a successful field season in adding many specimens to the collection and revealing some new secrets. A lot more will be learned as we search the sediments in the lab to find the smaller animals, such as rodents, and as we get results of new radiocarbon and uranium dates. ¶

DEER DROP IN Cave



WATER HAZARD CAVE

Inside the cave, two successive waterfalls flow down canyon into a deep pool, "Caver Float Test Pool" just inside the entrance. Inside the first dome on the downstream wall intrusive non-carbonate sandstone "daggers" protrude from most of the cave wall, the surrounding marble having been eroded away. This feature was nicknamed "Wall of Daggers".

Climbing further upward for about 5 meters leads to a too-tight lead and small, dry upper passage ending in a too

On the last day, low clouds and fog prevent the helicopter from picking us up, so we pack up and hike downslope past the now-familiar caves, across a drainage and back to the logging road and our transport to Shoal Cove and pickup by Taquan Air back to Ketchikan. Sad to be leaving a now-familiar piece of the Alexander Archipelago landscape, but satisfied that we have done a good job mapping this cave system, we look over our shoulders at ridge above Calamity Creek, already anticipating the next Southeast Alaska caving adventure.

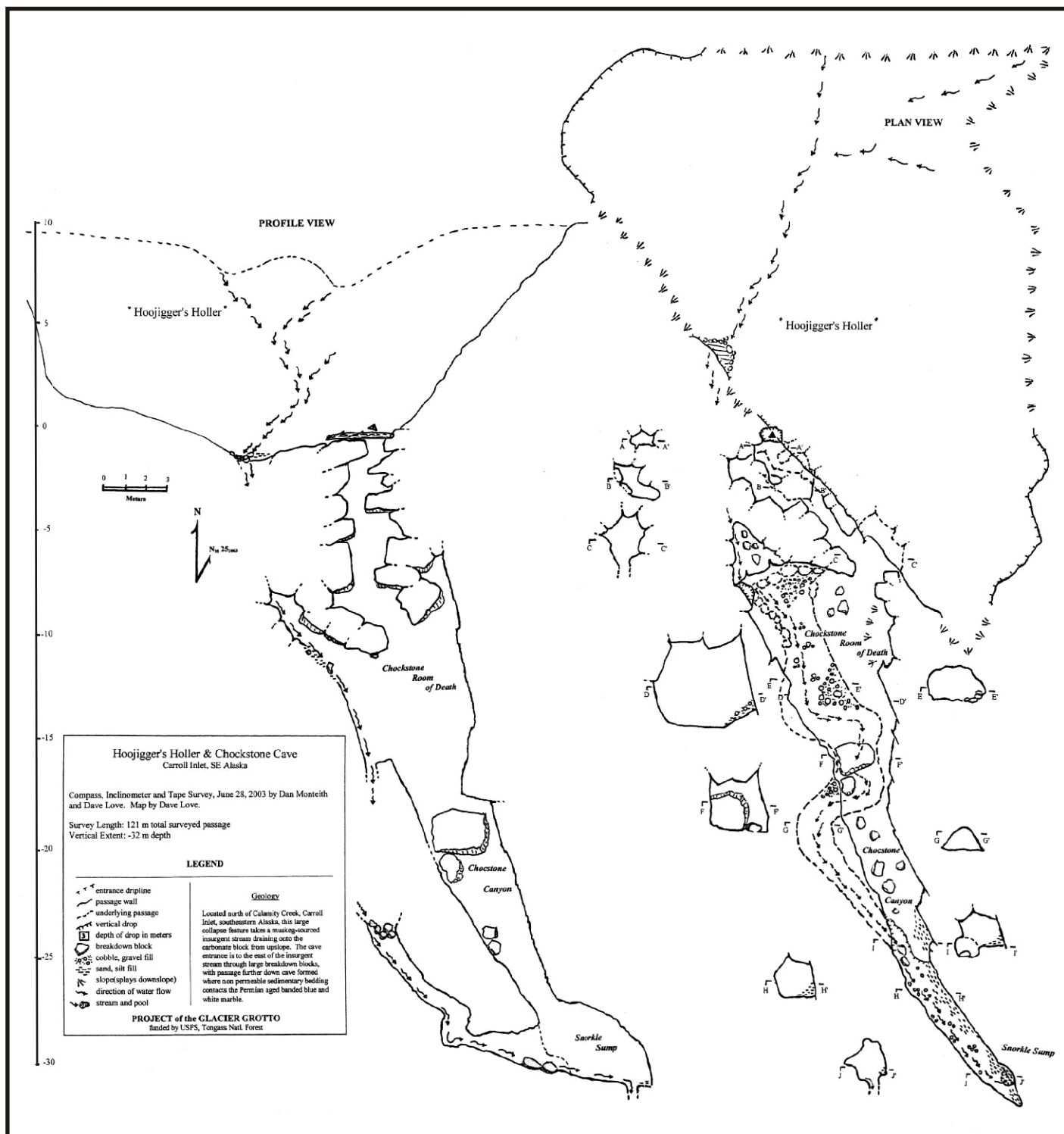
- ◆ Protection of beautiful entrance sinks and collapse features
- ◆ Recognition of unique cave formation, and possibly unique aquatic invertebrates in cave
- ◆ No timber harvest, soil disturbance in the area or the upslope drainage
- ◆ Dye tracing needed to confirm connections between caves
- ◆ Further collections of aquatic invertebrates for ID
- ◆ Further collection of paleontological samples from Foggy Breakdown
- ◆ Mapping of the going lead in Foggy Breakdown
- ◆ Further exploration of the rest of this carbonate band to the north
- ◆ New exploration of the carbonate band that lies to the south

George E. Gehrels and Henry C. Berg, 1992. Geologic Map of Southeastern Alaska. U.S. Department of the Interior, U.S. Geological Survey. 11

By Bruce White, June 7, 2005

phreatic tube through the Whojigger's life. Such is the thread that connects the saga behind the cave map of Foggy Breakdown.

One winter, The great and illustrious Beach Troll (our affectionate nick name for Jim Baichtal, USFS Geologist) had let it be known that a LIDAR survey showed a few interesting holes located in an area inaccessible by anything but a



...GONE MISSING, continued from page 14

chopper. Rumor has it he took off in early spring on a chopper to check it out. He had found something for sure.

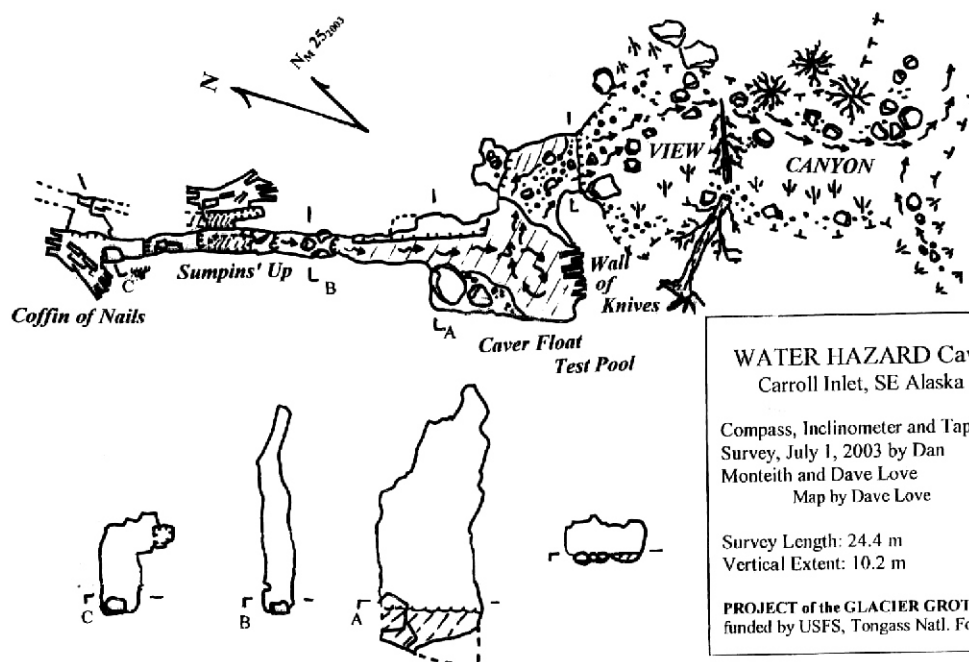
Now, I need to explain. Some of us are growing long in the tooth, silver in our hair, and wise in our decisions to push the limits of what our bodies can handle. Jim caved with the best but now passes the honor of Alaska Extreme Caving on to more foolish and resilient cavers. I have cut back myself to being a good support person. I take on the job of bolter and mapper in order to sit for long periods and conserve my energy. I take my time on long ascents with a

frog system and now feel that a ropewalker system might keep me dropping pits for a few more years. Jim like I said, scoped out the area and said there was a real honest to goodness cave. He said he didn't scoop the cave but it was bomber. Kevin, (Fearless Leader #3) started teasing us with exploring the jewel of our island. Hints of a chopper flight to the site and spike camp support made me feel like this was the cave an old man like me must be included in for its exploration.

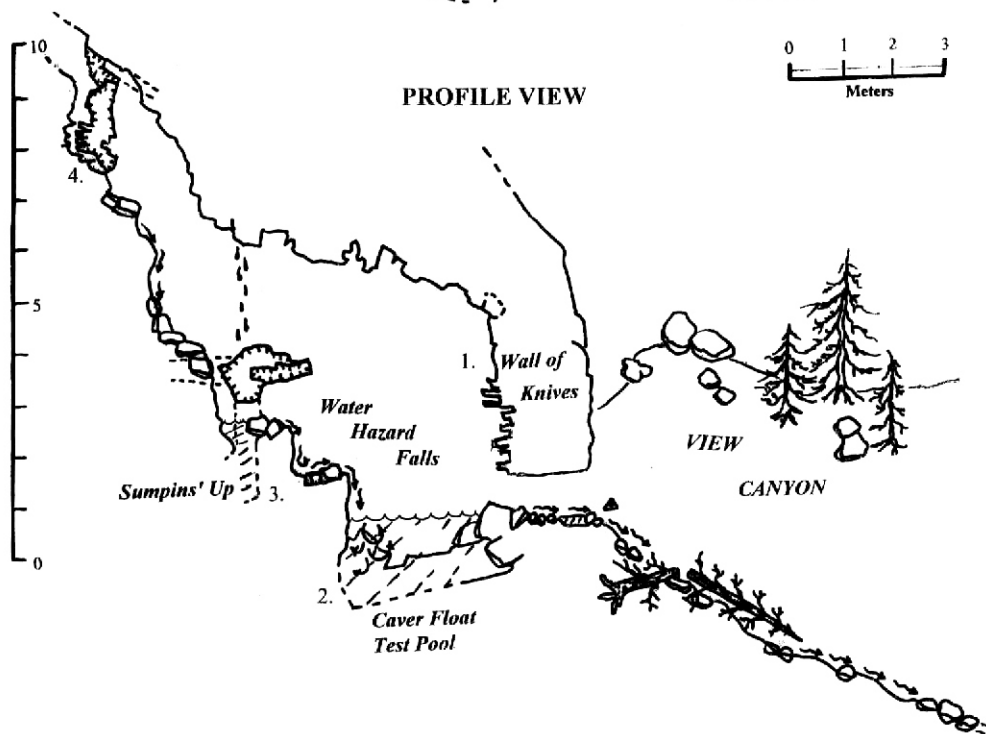
We gathered for the expedition at my house that summer and on a misty MVFR day we took off to Carroll Inlet.

(continues on page 18)

PLAN VIEW



PROFILE VIEW



LEGEND

- entrance dripline
- passage wall
- underlying passage
- vertical drop
- depth of drop in meters
- breakdown block
- cobble, gravel fill
- slope(splays downslope)
- direction of water flow

- flowstone
- sandstone "fingers"
- 1. Sedimentary inclusions protruding from wall
- 2. Estimated depth
- 3. Unknown depth
- 4. Sedimentary inclusions flowstone, popcorn

Geology:
A resurgent stream cave formed in vertically bedded blue and white marble. May be hydrologically connected to "Howling at the Moon" & "Foggy Breakdown" caves.

Plan View

Howlin' at the Moon Cave

Revillagigedo Island, Alaska

Tongass National Forest

N 55°32'52.8" W 131°17'09.3"

Data Collection by K. Casey, M. LaPerriere and D. Raab

Map by K. Casey

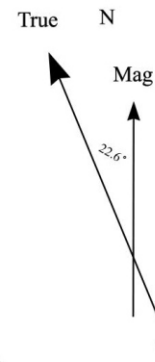
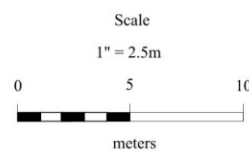
Surveyed Cave Length: 113.9m Vertical Extent: 49.7m

Notes:

1. Stream rises, flows down through breakdown.
2. Unstable breakdown slope.
3. Concentration of phyllite beds.

Profile View

- Zero Datum
- Legend**
- Cave Passage Walls
 - Entrance Drip Line
 - Slope
 - Breakdown
 - Gravel
 - Vertical Drop
 - Stream with Pool
 - Depth of Drop, in meters
 - Too Tight



Beaver flights are the normal but a chopper ride, well, that made this special! We transferred our gear to FS trucks and vans and headed for the pick up point near the base of the mountain. Orange suits on, helmets and boots as required for chopper flights and off we went, 3 at a time to the top of the mountain. We set up camp in an alpine bog a couple hundred meters above the cave entrance. We had a very interesting situation in deciding tent partners but I leave that story for others to describe.

The cave was more glorious than we could have expected. Like most Alaskan caves, it is young and raw. Few speleothems but this cave was carved out of banded blue and white marble. The entrance was once a resurgence so this cave had the unusual character of entering it and climbing up.

The trip report would normally follow at this point but it was sadly lost in the wake of a wedding which brings me to the real reason for this story. After I returned home and showed everyone the pictures of this cave, I immediately started working on the map. I had all the data, had made copious drawings and sketches and set down to produce an old-fashioned cave map without the help of the new cave drawing programs available. By October, I had roughed out a penciled sketch, half my final scale and showed it off to all involved. I then made a full scale in pencil and started to ink in a final map. I took it up to Juneau nearly complete to Dr. Love's wedding who was impressed at the high quality it had turned out to be. Carlene Allred came over to my house and told me it was worth submitting in the NSS competition and gave me a few pointers and ways to conform to conventions. That is where this story would end if it hadn't been for a wedding.

Andrea, a beautiful young lassie from Oregon was getting married to a handsome young man in the Coast Guard but had no place to get married. Charlotte and I offered our house on the water as a perfect place for the wedding, offered to house the Clan flying up from Oregon thinking nothing of the ramifications behind that offer. When Andrea's family arrived a complete transformation started to happen at Saint's Rest, which is the name we have given for our home.

I tend to walk quietly in my house in order to keep from disturbing the dust that has accumulated on the stacks of books and papers that cover my den. I figured Andrea would move a couch here, a table there and set up some folding chairs in the living room and such would be the extent of the disturbance. Not so, she took over the whole house cleaning it from top to bottom! In the living room neatly rolled up next to my cartographic supplies lay Foggy Breakdown, 9/10ths completed. That was the last I saw of it, my cave book with all the data and my tools. After the wedding, I started hunting for the map looking in all the reasonable places. Dr. Dan, Dr. Love and Carlene all made inquiries on when the map would be finished and each weekend, I pawed through another pile of junk looking, hoping, praying it would show up. I ducked their phone

calls for over 4 months until I just couldn't hold out any longer.

I got a call from Dr. Love and finally admitted the truth, the map was gone. The word was out and hell fire was breathed in my direction from points north. How could these cavers ever depend on the Whojigger to be responsible, to find his way home, to not screw up a sure bet. Carlene just met my eyes with the sadness of a puppy in the dog pound with only one more day before.... I'll give them all credit, not a one had to change their opinion of me or shunned me in public. OK, they shunned me and talked naughty behind my back and swore an oath never to speak to me again, but at least they didn't come to Saint's Rest with torches to burn me out like Frankenstein. I guess they controlled themselves for Charlotte's sake.

One day this spring, I was hunting through another pile of gear looking for my reel grease when I noticed a curious tube in the back corner of the gear room. I pulled it out with trembling hands, unrolling it as the dust filtered through the air. That which had been lost, had been found. There in the same state I had left it was the penciled full-scale map. I unrolled the second velum and nearly cried as the inked in copy lay once again in my hands. I called everyone and told them the good news and swore I'd finish it by Spring break. The bottom of the map has a few areas to interpret but without the cave survey book, I didn't want to just make up and fill in the sketch. I've hunted and hunted for the book, tearing everything apart several times but to no avail. So in the end, I decided to fake the end just to get it done. As I pulled it out of the mailing tube I noticed a scrap of paper. On it was my penciled sketch at half scale of the bottom of the cave. I decided I had no more excuses and would finish it as soon as school let out. As I was finishing this article, I dusted off the cobwebs thinking about where I'd found the map and a niggling little point kept wandering around in the shadows. The cave survey book briefly showed up and disappeared. In a flurry of activity I ransacked the usual places I keep hidden treasures. The effort required I unsettle the dust around my lazy-boy, my thrown, my little kingdom to read and watch the history channel. Under my light table for map making was a crevice filled with spent pipe tobacco, dust bunnies, and there in all its splendor rested the book. Now I could finish the legend and make this map accurate!

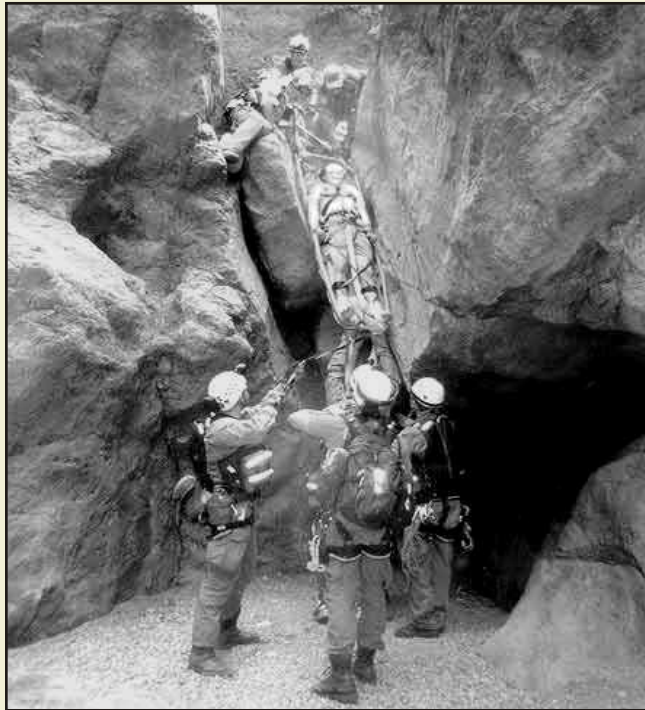
School just got out and now I am back in better graces with Dr. Dan, good enough to be invited to his wedding at least. Well, I think I was invited because the wedding announcement was addressed to Saint's Rest. Char and Samantha's names were on the announcement and I'm sure my name was left out by accident because when we called to confirm we were coming up to Juneau for his wedding, he didn't seem surprised that I'd be there with my kilt on. His very words were, "Just don't drink too much and wear underwear."

So the map is finished. The titles and such are going into Carlene's hands and such will be the end of this story. Well, maybe.... π

Spelunkers Rescued

Alaska State Troopers, the Coast Guard and local volunteers responded to a report of two missing spelunkers on South Douglas Island late Tuesday. According to an unidentified friend, Phreada Phreatic and a companion who identified himself only as Dr. K. Science failed to return to Juneau while cave exploring. Spokesperson Trooper A. J. Comblitz said after extensive searching, fixed wing and Coast Guard helicopters finally located their beached skiff near Point Hilda. Rescuers followed a flagged route to a small cave entrance.

Comblitz reported that Miss Phreatic had been trapped in a narrow



Coast Guard personnel lower litter down to the beach following the rescue of two spelunkers from a Douglas Island cave. AP photo/Gordon Mac



Volunteer cavers plan rescue operation to locate lost spelunkers.

Photo/Quilta Bead

cave. Comblitz describes Phreatic as Being very confused and uncooperative about being removed from the constriction when an improvised pulley system was used to remove her. "Dr. Science" was discovered in a small room beyond Miss Phreatic. According to Comblitz, "Science was in the final stages of hypothermia wearing only dress clothes. He claimed he had entered the cave to study beetles, and that Phreatic kicked at him whenever he made an attempt to help extract her".

The couple was transported to Bartlett General Hospital for treatment of hypothermia and minor abrasions. Comblitz cautions would-be spelunkers that the caves in Alaska are cold and dangerous, and those who enter them should be duly prepared, and let someone know exactly where they are going.

Flowe

Sunday violets compared annual growing soil was of the final her daffod first place seasonal rain. Blue ribbon daisies and were not allow

Every perennial leave wild in the pavil tried to stop cut down but choked the out of contr stems wrapped flower show State Troop were not ab ional Guard w attempted to terrified onl

Door unable to see pierced. the cpr was adme wrapping are troops could chemicals we to see how hospital w wing. as a exterminat the panic out of con the bodies v something mortuary. a warni

The Alaskan Caver
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Ketchikan, AK 99901

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