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Richard A. Hall

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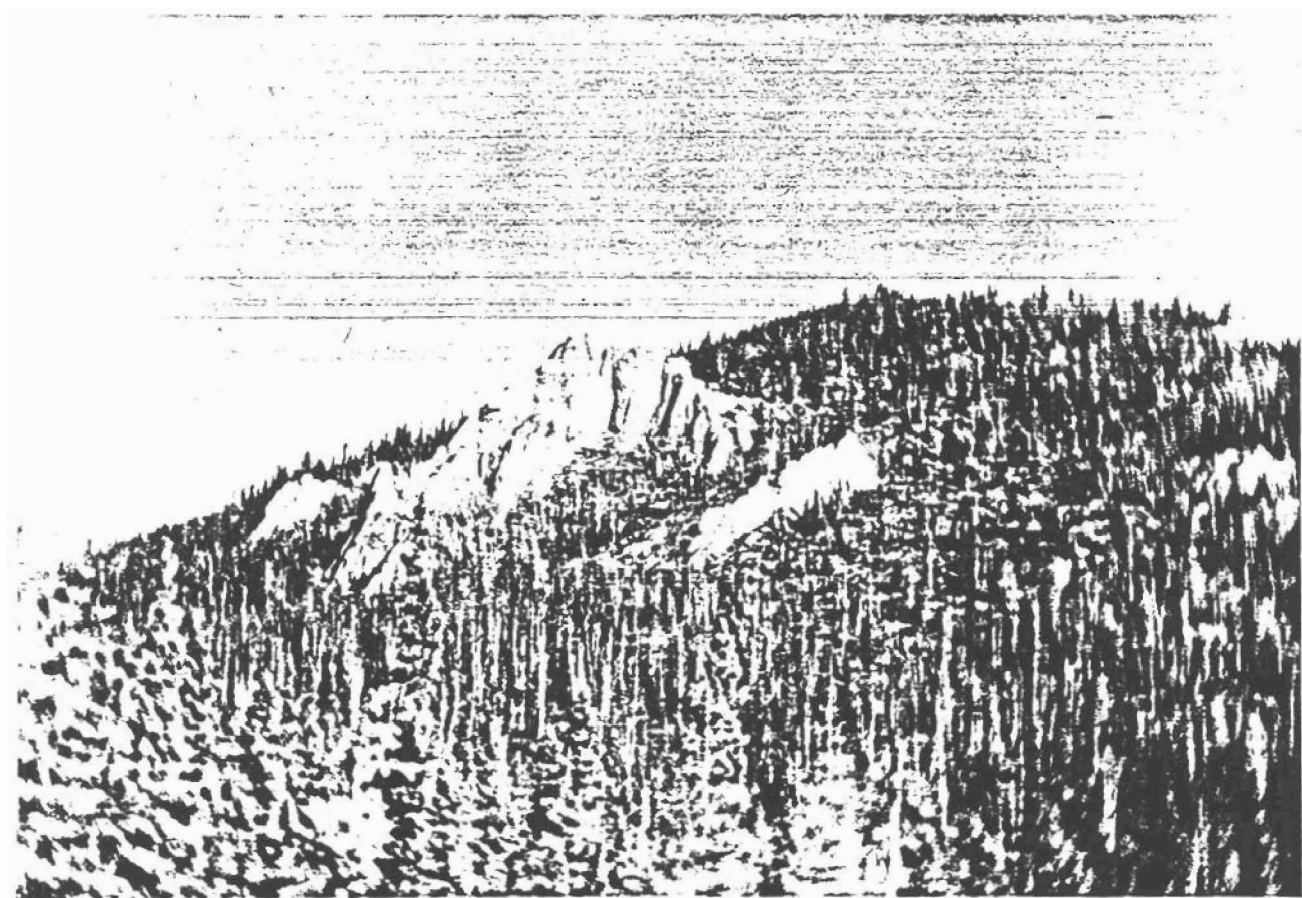
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Volume 5 Number 2

March - April 1980

THE ALASKAN CAVER



Grapefruit Rocks, Livengood Quadrangle

CALENDAR OF EVENTS

- April 11-13 American Avalanche Institute of Alaska Seminar at Alaska Pacific University.
- April 24 NOTE: FOURTH THURSDAY INSTEAD OF USUAL THIRD THURSDAY Glacier Grotto Meeting. The program will be an NSS slide show on Wayne Cave in Indiana. Meetings are held in room 312 Grant Hall, Alaska Pacific University at 7:30 pm.
- May 15 Glacier Grotto Meeting. There will be a program on vertical caving and climbing using mechanical ascenders. Elections of Glacier Grotto officers will be held.
- May 17-18 Gull Rocks seacave joint trip with the Mountaineering Club of Alaska. Trip leader Rich Hall 333-2090.
- June 19 Glacier Grotto Meeting. The program will be an NSS slide show on Cave of the Winding Stair. Meetings are held in room 312 Grant Hall, Alaska Pacific University at 7:30 pm.
- June 21-27 Tentative Chitistone Valley cave trip
- July 4-6 Homer/ Katchemak Bay seacave trip. Trip leader is Sydney Jenkins 274-0805.
- July 17 Glacier Grotto Meeting.
- July 20-26 Possible trip to Rust Creek on Chichigof Island, Southeast Alaska. Rich Hall trip Leader.
- July 27-Aug.7 NSS Convention in Minnesota
- August 21 Glacier Grotto Meeting. The program will be an NSS slide show on Caving Safety.
- Aug.24-Sept.1 Annual Labor Day Chitistone Valley cave trip.

The ALASKAN CAVER is a periodic publication of the Glacier Grotto of the National Speleological Society. Subscriptions are free to members. Membership dues are \$3 per annum. Dues can be sent to Sydney Jenkins at Box 4-2917, Anchorage, AK 99509. Copyright 1980 by Glacier Grotto. Material not copyrighted by individuals or other groups may be copied by other NSS publications provided credit is given to the ALASKAN CAVER and a copy of such publication is sent to the editor.

Editor: Richard Hall
Publisher: David Moll

GROTTO OFFICERS

President: Jay Rockwell
V. President: David Street
Secretary: Richard Hall
Treasurer: Sydney Jenkins
At Large: David Moll

Two credits were inadvertently left out of the last issue; thanks go to Erik Westman for the cover photo of Crescent Cave and to Lis Hall for "A Quality Dig Alaskan Style", the cartoon on page two. There was also an error on the two maps drawn by the Japanese cavers; the scale of the maps was correct at 1:500 when they were drawn but I reduced them to three quarter size to fit them in the issue. They are therefore on a scale of about 1:666.(Ed)

IS THERE ANY POTENTIAL AT GRAPEFRUIT ROCKS?

A cool September day in Fairbanks, Alaska is a beautiful time and place to go caving provided you can find a cave near Fairbanks, Alaska. This story started when Jay Rockwell slipped me a rumor about caves near Grapefruit Rocks and told me to contact Tom and Nancy Hallinan. Lis was planning to go to Fairbanks in a few weeks for a meeting so I thought I would tag along for the ride and check out the caves. What I didn't know was that, although the Hallinans knew of the area as a favorite of rock climbers, they had never been there.

There was frost on the windows of our van when we woke up, September 29, 1979, at a campground in Nenana. The drive through the hills north of Nenana was beautiful with views of over a hundred miles including Mounts Deborah, Hayes, Moffit, and McKinley. On the way into Fairbanks we passed old gold tailings on Goldstream Creek which are sure to soon be resurrected with the current gold prices. After dropping Lis at the University, I went over to the Hallinan's. They checked for the location with a hospitalized friend, who regretted that he couldn't go with us but obviously had a good reason not to. Tom, Nancy, their daughter Susie, and I set out on the Elliott Highway toward Livengood. A few years ago the Elliott Highway was a quaint two rut road to the Yukon River until the oil pipeline was built; it is now being widened, straightened, leveled and "modernized". This of course means that mile 39, where Grapefruit Rocks was supposed to be, is no longer mile 39, nor were there any mileposts that we were sure were accurate but we managed to find what had been referred to as an orange rockwall, right above several large earthmoving machines. So we parked up the road a bit, got out our gear and headed up the hill.

From the top of the hill you can begin to get the lay of the land. There is a low ridge running approximately northeast with limestone outcroppings near the top of each little hill as well as another small hill across the road in line with them. Some climbers on their way down told us that the hill we were climbing had three major outcrop areas. The nearest was a series of small rock outcrops while the one to its north was mostly composed of one large piece of solid rock with several smaller ones near it (see map with cave locations). The third area is uphill and east of the first area but was not visited by us that day.

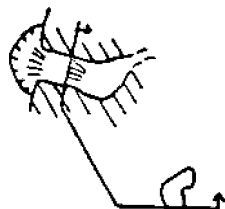
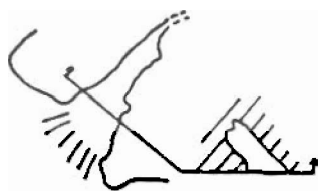


Location of Grapefruit Rocks, indicated by X

Caves

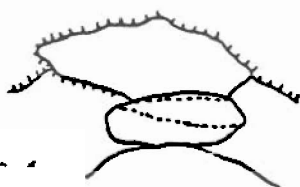
Caves, of course, are all in the eye of the beholder; or should I say that the size of hole you will accept as a cave is inversely proportional to the length of time since you last went caving. With this definition of caving in the back of my mind, we began our search.

Cave #1

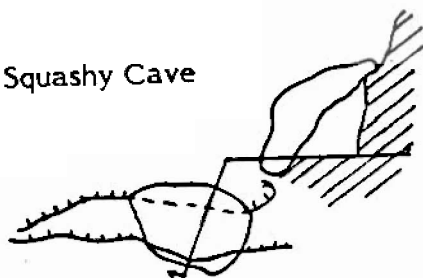


Cave #2

Cave #4



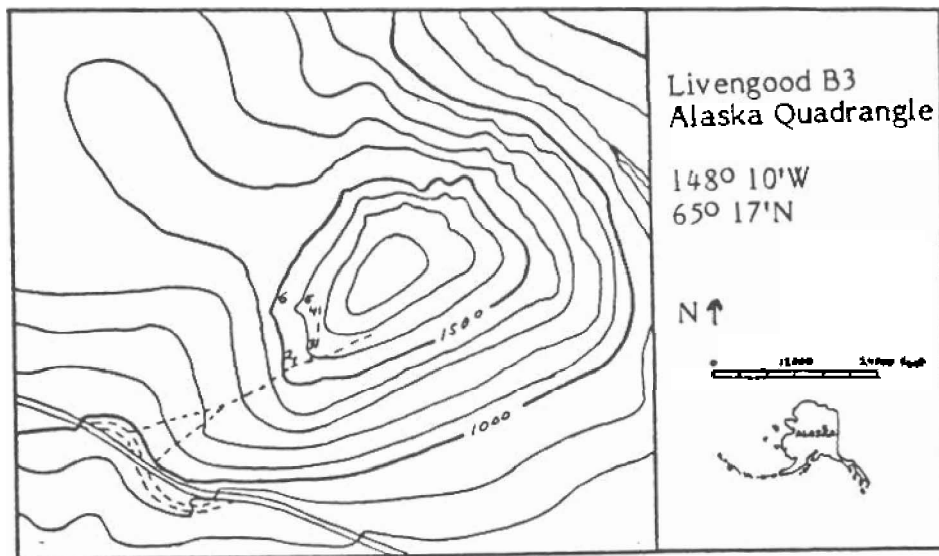
#5 Squishy Squashy Cave



Three hours of searching produced five caves and one 'too small' solution tube. Two of the caves appear to be of solution origin although frost action has modified them. The other three are rockslab caves. The first outcropping provided the three solution features noted here although some evidence of solution was seen in the second as well. The caves marked on the map on the next page as "1" and "2" are each about six feet deep but only the first was really wide enough for me to enter. The solution tube was only about eight inches across but showed that there definitely was solution activity here.

The prominent feature of the second outcropping is what had been referred to as the "orange wall"; it is a sheer semicircular cliff ranging up to 100 feet in height with orange stains on it. On its top side we found two places where eight to ten foot long boulders had formed tunnels (caves number 3 & 4). We all tried number 3 but since the tunnel in number 4 was a bit tight at one end, we let Susie Hallinan do the honors of climbing through; she said it was a "squishy-squashy place" though it looked like solid rock from the outside. Definitely the largest cave was number 6; it was formed by a huge piece of rock, 40 feet high, that had broken off and slid down the rock face forming a 25 foot long, 25 foot high tunnel ranging in width from two to ten feet.

#6 Cave at base of Orange Wall



Location of Grapefruit Rocks Caves

Tolovana Limestone

There were obviously no important caves found that day, but this one hill is a very small piece of an important geological feature of the area, the Tolovana Limestone. The main problem is that this is the only part of the Tolovana Limestone that is accessible by road. Also, there isn't much known about the limestone or its cave potential. A USGS Open File Report entitled "Preliminary Geologic Map of the Livengood Quadrangle, Alaska" by Robert Chapman, Florence R. Weber and Bond Taber, 1971 describes it as follows:

Limestone is light to medium gray, rarely dark gray, and weathers white, very light gray, and yellow to buff, predominately finely crystalline, thick bedded and massive, less commonly thin bedded, blocky jointed, locally greatly fractured and recemented and veined by calcite and quartz; locally some dense dolomitic limestone. Fossils are rare, and include corals, crinoids, brachiopods, and Amphipora; some have been identified as Silurian and others as young as Middle Devonian. Rocks are the same north and south of Beaver Creek fault. Thickness is unknown, but may be several thousand feet.

A paper entitled 'Preliminary Results of a Survey for Thick High-calcium Limestone Deposits in the United States with a Section on Possible Alaskan Sites for Nuclear Reaction Experiment in Limestone' (USGS Trace Elements Investigations Report 780) refers to the limestone as 99 percent calcite with no dolomite or deleterious rock types, 1500 to 3000 feet thick. It also says that the southwest end of a particular ridge near Minto Flats is "probably cavernous". There are at least five major pockets of the Tolovana Limestone in or near the Livengood Quadrangle alone. The largest areas are in the northeast portion of the quadrangle, in the White Mountains (4mi x 20 mi) and 20 miles north of the White Mountains (6mi x 12 mi). The area that includes the hill we explored is a mile wide and ten miles long. The area referred to for the nuclear experiment is a mile by six miles and the last area is in the Dugan Hills west of Minto, just southwest of the Livengood Quadrangle.

There are two other bands of limestone in the Livengood Quadrangle; neither is named. One of similar age to the Tolovana Limestone is evidently highly dolomitic, silicified, and has thinner beds so the chances of caves is less, however the fact that it also crosses the entire quadrangle in a width that varies from one to fifteen miles and that its largest concentration is less than 20 miles by road is of interest. The other band is of Cambrian age, is in bands up to a mile wide and scattered, mostly in small pockets, all over the quadrangle with one area of concentration in the northeast corner.

All in all the Livengood Quadrangle seems to have some cave potential although virtually unchecked. Much literature research and field study is necessary if we are ever to find out if any sizable caves exist and where they are.

Richard Hall

RUST CREEK CAVE

Jay Rockwell received a page from USGS Bulletin 929 with a picture of a cave on Chichagof Island cave on it from Keven Allred recently. The bulletin is titled Geology and Ore Deposits of the Chichagof Mining District by John C. Reed and Robert R. Coats, is dated 1941 and was referenced in Volume 1, Number 2 of the Alaskan Caver. Of course, nothing could excite us more than the renewed realization that there is a verified cave out there that needs exploring so we quickly found a copy of the bulletin to check it out. There is evidently a band of limestone from 100 to 1500 feet thick standing vertically and running for up to twenty miles across the southwest corner of Chichagof Island. The bulletin said that it was "deeply etched by solution both above and below timberline...cavernous" and "underground drainage is common. Rust Creek flows for a considerable distance underground where it crosses the limestone belt". Of course, there is a lot of limestone in Southeast Alaska but this rock seems to be especially solution prone. We will be checking out this band of limestone further in the literature but it sounds like a very promising place to look for caves. The limestone is never more than ten miles from the water and Rust Creek crosses the limestone about three quarters of a mile from mile-long Rust Lake but there are no roads or communities nearby.

SUMMER UNIVERSITY IN THE PARK

Seven college level courses are being offered by Mammoth Cave National Park and The Center for Cave and Karst Studies, Western Kentucky University during the summer of 1980. The brochure explains that "The courses will be taught in Mammoth Cave and adjacent park lands, relying heavily on field observations and techniques. This is an excellent opportunity to earn graduate or undergraduate credit while increasing knowledge about caves and karst landforms. Courses may also be audited. Internationally-known speleologists will serve as instructors in the areas of speleology, karst hydrology, karst geology, cave ecology, karst geomorphology, and more! Free camping is extended by Mammoth Cave National Park to all participants."

The address for more information is Dr. Nicholas Crawford or James Goodbar, Center for Cave and Karst Studies, Department of Geography and Geology, Western Kentucky University, Bowling Green, KY 42101. Or phone (502) 745-4555 or (502) 843-4979.

VELIKANJE'S CAVE

It is with great sadness that we learned of the death of one of our more active members, Robert M. Velikanje, in an automobile accident on the Tok Cutoff last November. Bob was one of those we like to feel was a "Typical Alaskan"; energetic, daring, durable, and full of a driving and contagious curiosity about this great land.

In the late 1940's he built a cabin on what is now the Arctic Wildlife Refuge. It is the only one shown on the USGS Table Mtn. (1/250,000) Quadrangle. He was anxious to take me there, to that Firth River country. He spoke of great limestone cliffs and caves. He said one of the most promising caves was high on a sheer cliff. He was able to climb the other side of the canyon and with a powerful glass examined the entrance. To his amazement he saw a large carved log, surprising because of the lack of trees in the region. More surprising still were the remnants of what appeared to be a system of hand holds and foot holds carved in the rock cliff and leading up to the entrance from below.

I was curious as to how to get there and back. He said it was no trouble at all, just have an airplane fly you and your gear there in the spring while it could land on the corn snow on skis, and then in the fall, just before freezeup, take your canoe over the divide and paddle to Fort Yukon. Nothing to it!

During World War II he met Prince Ranier of Monaco who later invited him to come to his castle as a personal guest. He had a way of putting both the great and the humble at ease with themselves and of interesting them in his projects. We mourn his passing but are happy that we knew him however briefly.

He studied mining and geology to learn more about caves and was on his way to the Geoscience Forum of the Canadian Geological Association in Whitehouse with Clay R. Rasmussen of Anchorage when the accident occurred. He is survived by his wife, Betty, and three sons, George, Paul, and Mike.

Jay Rockwell

In the September, 1967 issue of Alaska Sportsman in an article on the Arctic Wildlife Refuge there is a picture labeled "The Firth River valley, 68° 40' North, contains interesting cliffs and caves and groves of cottonwood and spruce". The area in the picture is in the Table Mtn. Quadrangle near the Canadian border and shows extensive erosion with tall pinicles behind a wide flat river valley. (Ed.)

The January NSS News contained an article on the longest caves in the United States. There are 251 caves longer than three kilometers (1.86 miles). Although we know that longer ones exist in Alaska, so far the longest limestone cave that the Grotto has surveyed is 0.0026 miles. We have a long way to go to get on the record book as having a long cave. Any guess as to when we'll reach it?

The Alaskan Caver will be glad to print any articles about Alaskan caves or Alaskan cavers or anything related to caving for that matter. If you have been caving or know the whereabouts of a cave or want to know about caves in a particular part of the state, feel free to write to Rich Hall at 4607 Klondike Crt, Anchorage AK 99504 or to Jay Rockwell at 2944 Emory St, Anchorage AK 99504.

PAY YOUR DUES PLEASE

This is the last issue of the ALASKAN CAVER you will receive if you have not paid your 1980 dues! Dues are a mere \$3 per year for regular membership and \$1 for family members. We need every penny we can get to put out the ALASKAN CAVER so if you would like to send a bit more it will be appreciated.

NOTE: MEETING DATE CHANGE

The April 17 meeting has been moved to April 24; see you then.

ELECTIONS

As required in the Bylaws, elections will be held at the Glacier Grotto meeting on May 15, 1980.

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Glacier Grotto
The Alaskan Caver
Richard Hall, Editor
4607 Klondike Court
Anchorage, Alaska
99504



NEWS - DATED MATERIAL

David Street & Family
2510 Foraker Dr.
Anchorage AK
99503