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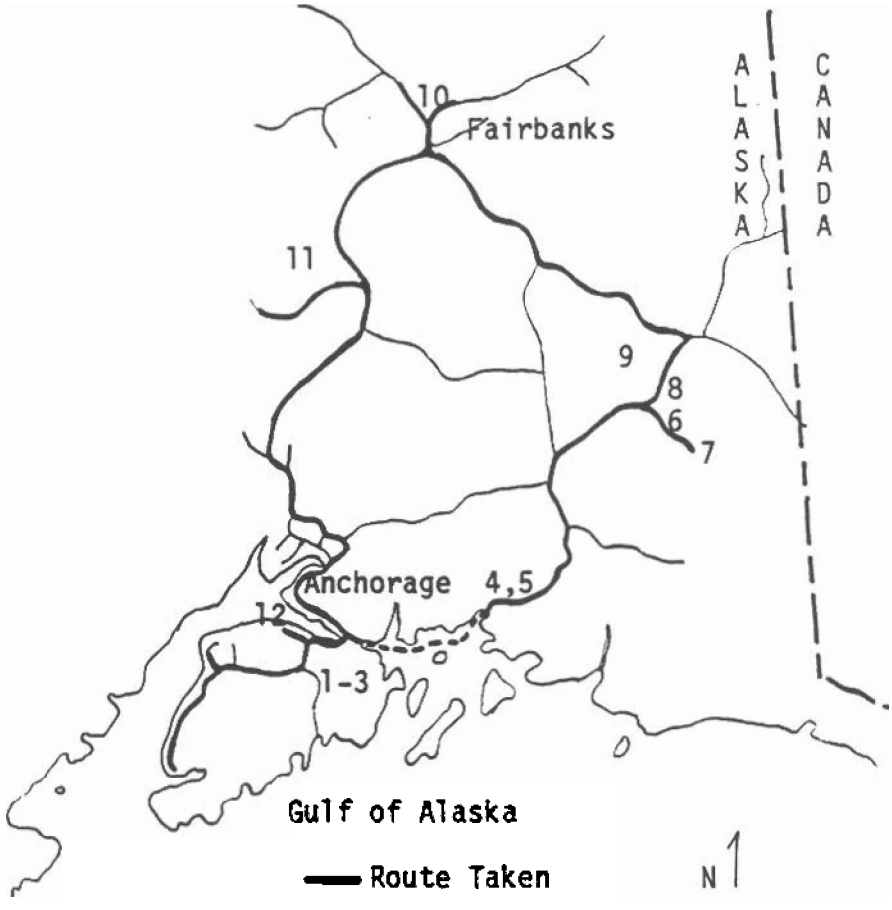
WORTHINGTON GLACIER OBSTRUCTION CAVE

ALASKAN CAVING - AN OUTSIDER'S VIEW

by Paul and Lee Stevens

When one of our caving friends visits and we've had the oportunity to give them a tour of the local Virginia-West Virginia karst, often we ask them how they view caving in our area. It's interesting to learn how others view caving in your area and how it differs from caving in their part of the country. That is what this article is about - our perspective of Alaskan caving. We realize that the perspective may be very distorted as a result of how we viewed the "caves" and who guided us during our tour of the state; however, we suspect that others may share the same conclusions.

First let's define the basis for our perspective: a twelve day car tour (Anchorage to Whittier to Valdez to Glennallen to Tok to Fairbanks to Denali National Park to Hatcher Pass to Anchorage to Homer to Hope to Anchorage) over much of Alaska's primary highways led by Rich, Lis, and Matt Hall during July, 1982. Rich had been studying geologic and topographic maps for limestone areas since he and Lis moved to Alaska in 1976. His research had provided both "good" and "bad" news. The "good" news being that there is limestone in Alaska! The "bad" news that most of the carbonate rocks are not easilly accessible by car or by foot. Therefore what we hoped to help him do was to check out those few areas that were accessible by road and determine whether or not cave potential existed. Expedition caving was to be left for another day.



Southcentral Alaska Roads

INVENTORY: Next let's detail what we saw. (Those of you who find karst descriptions of little interest might skip this section.)

1. Byron Glacier - First Snow Field Cave

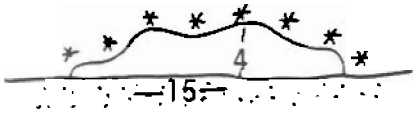
Entrance Cross Section
(view west)

An entrance (perhaps 2' high by 5' wide) was observed at the base of a large snow field on the west side of an unnamed mountain just north of Byron Peak and just east of the stream draining Byron Glacier. The entrance is about a 15 minute hike toward Byron Glacier from the Forest Service Byron Glacier parking lot.

To enter the cave during summer would require fording the Byron Glacier stream followed by a belly crawl in the snowmelt stream which exits via the cave entrance. We did not enter the cave due to the instability of the snow. Early winter (after the onset of freezing temperatures but before the first heavy snow with it's attendant avalanche danger) would be a better time to explore. The cave appears to be formed by ablation of the snow field.

2. Byron Glacier - Second Snow Field Cave

Downstream Entrance Cross Section (view south)



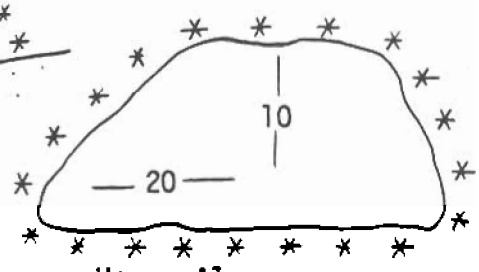
Upstream Entrance Cross Section (view north)

Two entrances were observed, one each on the north and south side of a large snow field which straddles the valley below Byron Glacier. The south entrance serves as an inlet for the Byron Glacier stream which exits the snow field at the north cave entrance. Each entrance is about 15 feet wide and as much as 5 feet high with an irregular cross section. Entering the cave would require crawling in the entrance stream, which we did not do due to the unstable snow conditions. This cave also appears to be formed by ablation of the snow field.

3. Byron Glacier Terminus Caves

Three cave entrances were observed at the terminus of Byron Glacier. One (4' high x 10' wide) formed at the exit of a lateral stream along the west side of the glacier terminus. Fifteen feet into the cave, the passage narrowed to a belly crawl up the stream. The principle entrance formed at the mouth of the main Byron Glacier stream and was of irregular cross section. Access would have required wading the stream which had a maximum depth of perhaps a foot. Another entrance was offset up the glacier by fifty feet and consisted of a 10' high x 20' wide alcove in a ledge which gradually narrowed and terminated in a four foot diameter pit leading into the glacier interior. The pit appeared to enter the glacier upstream from the principle entrance. The cave was entered for only a few feet due to the instability of the ice over the entrances. This system appears to have the best potential of a reasonable size ablation cave.

Stream Level Entrances (view south)



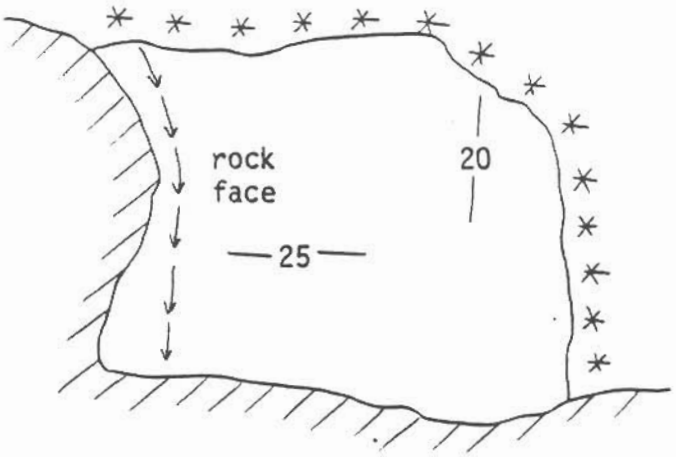
Upper Alcove (view south)

4. Worthington Glacier - Lateral Cave #1

Entrance Cross Section
(view west)

An entrance was found along the south edge of Worthington Glacier near the end of the access trail to the glacier from the parking area (perhaps a thousand feet from the glacier terminus.) The entrance (5' high x 3' wide) is formed at the inlet of a lateral stream which enters and leaves the ice fields at several points. We did not explore due to unstable ice. This cave appears to be formed by ablation.

5. Worthington Glacier Obstruction Cave



Entrance Cross Section
(view west)

A large entrance (20' high x 25' wide) was discovered at the head of the north-most tongue of Worthington Glacier. The entrance is clearly visible from Richardson Highway (Milepost V28.7) and can be reached by a short (1/2 hour) hike across moraine deposits and through willow thickets. The cave appears to be caused principally by the glacier overriding a large rock on the side of Girls mountain, though ablation is probably a secondary cause. Just inside the entrance, a waterfall cascades from the ceiling along the south side of the cave and flows out. The large ice blocks which composed the ceiling of the entrance arch were highly fractured and appeared very unstable so we did not explore the cave.

6. Mentasta Mountains Limestone Site #1

A large outcrop of Permian Limestone perhaps 300 feet thick was observed along about a mile of the southern flank of the Mentasta Mountains. The eight mile long limestone band is located about 25 miles from Slana along the Nabesna Road and about six miles north of the road across wet, rolling tundra. The top of the outcrop is perhaps 2,000 feet below the ridge top and approximately the same distance above the surrounding plain. the limestone was scanned for karst features using binoculars but none were observed. Most of the day would be required to hike to the outcrop and several days should be allowed to explore it; however the potential for caves is considered low.

7. Mentasta Mountains Limestone Site #2

A section of Triassic limestone outcrops along the north side (top to bottom) of White Mountain at the site of Nabesna Mine in Nabesna. Unfortunately the gravel surface of the Slana-Nabesna road gradually deteriorated over it's 55 mile length and our van was stopped from proceeding at a stream ford about 5 miles from Nabesna. In rainy weather the many fords would have prevented us from getting anywhere near that far. A four wheel drive vehicle would be most desirable for future attempts to check this area.

8. Mentasta Mountains Limestone Site #3

A section of Permian limestone outcrops on the south side of the Mentasta Mountains above Bear Valley adjacent to the Tok Cutoff Highway near Mentasta (Milepost T46.0). The outcrop was scanned for karst features from a mile away by binoculars and none were found. Several other outcrops of this limestone lie east and west of this area and should be investigated in the future.

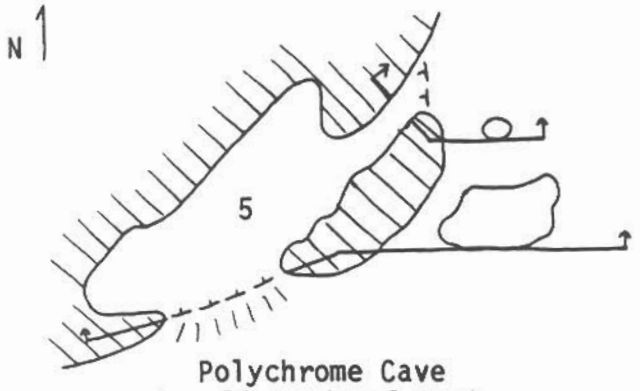
9. Mentasta Mountains Limestone Site #4

A section of Silurian limestone outcrops on the south side of a mountain adjacent to the Tok Cutoff Highway at mile T43.6. The outcrop was scanned from below by binocular for karst features and none were found.

10. White Mountains Limestone

A large outcrop of Tolovana limestone along the southern edge of the White Mountains was observed by binocular from the top of Wickersham Dome near mile F27.8 of the Elliot Highway. Karst features could not be recognized from 25 miles away.

11. Polychrome Cave

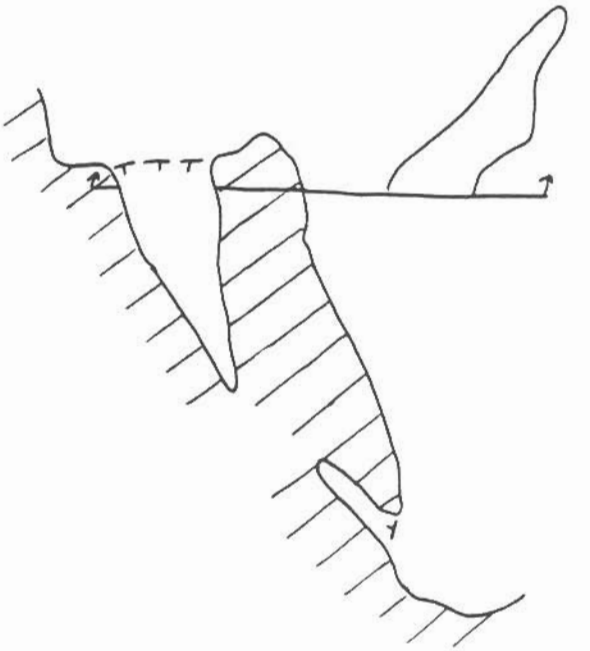


Polychrome Cave
Denali National Park
63° 32' N, 149° 50' W
elev. 3800'

A cave was found at the base of a cliff on the south face of Polychrome Mountain about 200 feet above the road through Polychrome Pass in Denali National Park (Latitude 63° 32' Longitude 149° 50'). The cave had two entrances, the larger one of which is easilly visible from the road. The cave appeared to have been formed primarilly as a result of frost action in a rock of unknown type. The cave was slightly damp when entered and water dripped slowly from a ceiling crack.

12. Turnagain Arm Caves

Three caves were found while checking the south coast of Turnagain Arm west from the Forest Service campground at Hope. Each appeared to be formed by wave action in vertically bedded rock of the weakly metamorphic McHugh Complex. The caves were visited at low tide and would no be accessable at high tide.



First Turnagain Arm Cave

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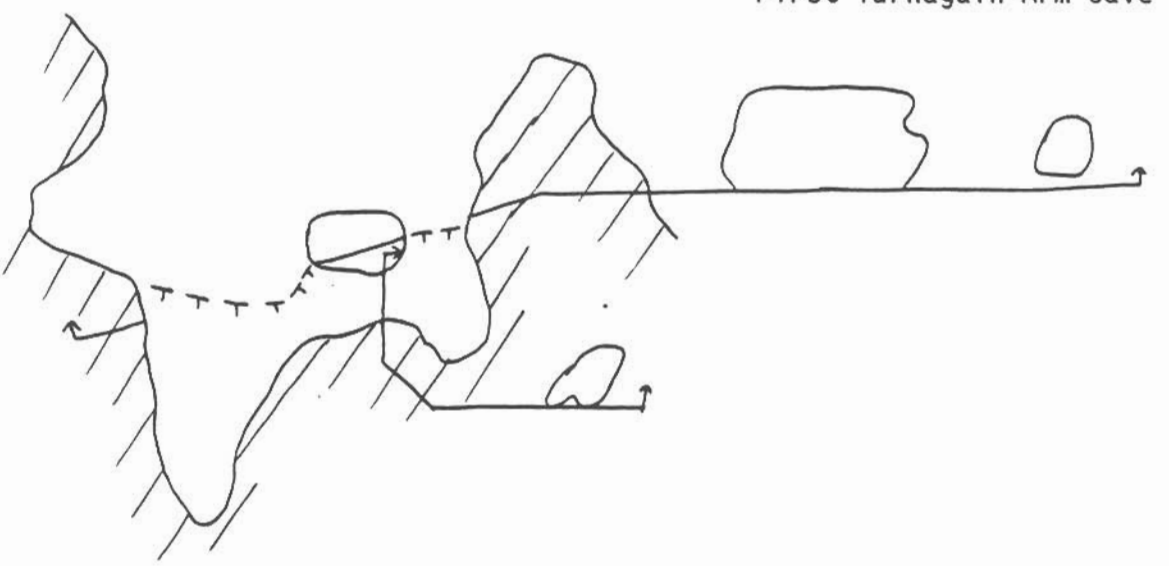
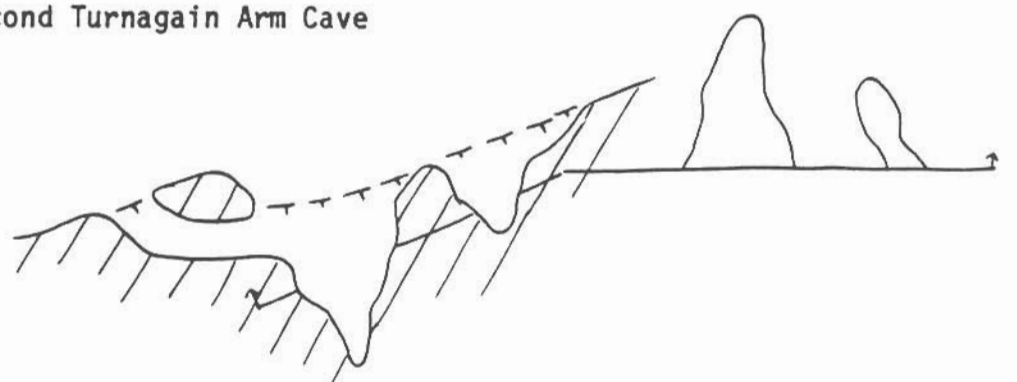


Second Turnagain Arm Cave



Third Turnagain Arm Cave

CONCLUSIONS: Based upon our experience the following observations seem appropriate:

1. It's fortunate that Rich defines a cave to be "any natural void enterable by man which is over ten feet in length". The lack of a requirement for total darkness appears to be critical for the existance of most know caves in Alaska.

2. Often one reads that each caver should carry at least three sources of light. In Alaska, it appears more appropriate to have three cavers per light. The light is required in case it gets dark while searching for a cave. Even one lamp is unnecessary during the summer where days have 24 hours of light.

3. We've often noted how fortunate it is that the West Virginia Department of Highways routed the roads to be near caves. A hike of over a mile to a cave is uncommon. Unfortunately, the Alaska Department of Highways has not been so considerate. They obviously constructed the roads to be beyond easy walking distance from the caves and most karst.

4. If you are able to get within a "reasonable" walking distance of a promising limestone area, there are several advantages to Alaska that will make your hike easier: no poison ivy, no snakes, long periods of daylight (at least during summer) and no hords of cavers. However, there are some disadvantages: tundra bogs, dense willow thickets, Devil's Club, mosquitos and the need to respect the possibility of meeting a bear or moose.

5. Alaska does not appear conductive to sport caving. There are no cave guidebooks to save the caver time in locating the cave or assessing its features. Much time will be required just to research where the caves are most likely to be found. The caves, when found, will probably be remote from roads and getting to them may require the use of an airplane (and caving by plane will be expensive). Locating a convenient landing strip (or lake) is also a potential problem. If a landing site is not nearby, more than just a weekend will be necessary to go caving to accommodate the time required to hike to the cave upon landing. Furthermore, the cavers in Alaska are few in number and spread all over the state; coordinating a trip will be a challange.

By now you realize that caving in Alaska isn't easy. Just finding potential cave locations presents a challenge, not to mention the problem of access to the area. Perhaps this is the very reason why caving in Alaska is all the more attractive to the serious "hard core" caver. Expedition anyone?

Paul and Lee Stevens

[Editor's Note: all cave maps and cross sections in this article are drawn at a scale of 10 feet to the inch.]

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CALENDAR OF EVENTS

February 17 Glacier Grotto Meeting. Meetings are held in room 312 of Grant Hall, Alaska Pacific University at 7:30 pm.

March 17 Glacier Grotto Meeting. Meetings are held in room 312 of Grant Hall, Alaska Pacific University at 7:30 pm. The program will be an NSS slide show.

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NEWS - DATED MATERIAL