

Harvey Butchart's Hiking Log

DETAILED HIKING LOGS (August 30, 1967 - March 17, 1968)

Below Kibbey Butte along the Redwall and down

[August 30, 1967 to August 31, 1967]

Art Lange gave me the hint that there had been a trail going off the rim in the direction of Kibbey and challenged me with the project of learning why. He had observed the bit of trail construction about the middle of the Coconino and had seen the man made trail where it leaves the rim. He reported that the artificial trail below the Coconino goes east toward Kibbey so he hadn't followed it further on his way down to investigate Silent River Cave. From what I know now I believe he was premature in this conclusion. It may have been going toward Kibbey only to switchback down the wooded slope to Silent River Cave. There are signs of switchbacks down in the Hermit Shale and below, but deer have cut through so much that their trails are the only trails now noticeable.

This time I drove up to the north rim on Wednesday and, after some visiting with the rangers, was ready to leave Greenland Lake parking at 11:20 a.m. I walked up the bank and headed for the rim until I intercepted the old rim road. Turning to the north along it, I went down into a depression and very quickly noticed a well defined trail leaving the rim. After going down it a few yards, I went back and observed our poles leaning against the trees. I was able to follow it and deer trail extensions quite consistently. For the first time I succeeded in finding the bit of retaining wall on my way down.

When I was nearing the bottom of the Supai, I saw a deer trail going east along a ledge. I remembered that there was only a very poor trail along the Redwall rim, so I reasoned that perhaps the deer generally use a different route to go below Kibbey to the descent ravine. After a hundred yards along mostly bare shale of this level, I gave it up as I had the higher ledge on the trip two weeks earlier. It was too slow and precarious. Deer can trot across clay and shale that I cross by scraping toeholds and testing each step. Disregarding the 15 minutes I wasted on this detour, I got down from the rim to the Redwall in an even hour.

My previous estimate of two hours for following the Redwall rim around below Kibbey was exactly right on the way down. Returning on Thursday, I took just a few minutes longer. If one were to work just a few days on this leg, cutting brush and shoveling a narrow trail in the steep clay banks, this leg could be done in 20 to 30 minutes. It is at the right height to give one marvelous views of the surrounding buttes from below as well as being impressively high above the valleys. For most of the way I could see traces of deer tracks, and on the return I was following fresh tracks of at least three deer. The route is generally high much of the way right next to the cliff. There were several places where for safety I would get down on all fours and test a toehold before shifting all my weight.

The descent ravine, south of the neck leading to Kibbey, is well hidden as you approach it. You walk down it on blocks of Supai averaging the size of a chair. A horse trail here would require quite a bit of rock work but it wouldn't be too hard compared to the old Nankoweap Trail. The worst place for the walker is now at the very bottom of the Redwall. Possibly the flood last December scooped out the

material below huge chockstones and the bypass is along the side of a steep clay flow to the south. I felt more insecure here than anywhere else. On the descent I bypassed further steep places in the bed by going through the fir forest to the south, but while returning I came up the arroyo. I bypassed the arm separating Kibbey and Hancock, to a fine spring coming out of the shale on the south side of the dry bed. I camped at a sandy place between two splits in the bed.

My supper was early to avoid the rain that threatened, but afterwards I had time to walk down to the arm from Goldwater's Bridge. I had remembered my warm night in the down bag and had brought only a blanket and warm underwear. This time I was too cold and after enduring several light showers under my plastic sheet, I built a fire. On the east wall of the descent ravine there is an accessible cave.

Water sources in Grand Canyon National Park

[Copy sent to Larry Henderson, naturalist at North Rim in September, 1967]

Nankoweap Creek Wet weather seeps in a couple of ravines leading down to the saddle of Saddle Mountain. In soil over Kaibab Limestone. Running stream in lower Nankoweap Creek and along stretches higher up, especially in the arm north of Woolsey Point. Some above ground in the arm to the Kolb Bridge and in the next fork south.

Little Nankoweap Creek Only rain pools below the Redwall. No route from Tilted Mesa to the Colorado River (false).

Kwagunt Canyon Permanent water from where the word Creek occurs on the east half map. Seeps at the bottom of the Redwall in the arm west of Banta Point.

Carbon Canyon Seep along Butte Fault may be poison. Safe seep one half mile north of Carbon Butte in a ravine west of the Butte Fault arm of Carbon.

Chuar (Lava) Creek In cool weather water flows to the river from a spring just east of the junction with the drainage west of Juno Temple. A hot afternoon will stop the water by evaporation from the shale bed, but by 3:00 a.m. the flow reaches the whole bed. Spring up (50 yards) the side stream southwest of the word Carbon on the east half map. At least three springs including a shower bath drip spaced along the north arm of Lava Creek below Point Atoko. There is water in the bed a little to the south of Hartman Natural Bridge.

Basalt Creek There is usually a little bitter water north of where the east half map says Basalt in Basalt Cliffs. Farther upstream where the map says Springs, I found a grove of cottonwoods and reeds but no water in sight.

Unkar Creek During wet seasons I would count on finding four seeps, the farthest upstream being north of the word Unkar.

Asbestos Canyon Water is permanent in the lower bed above the fall to the river. The mining camp was here. I haven't found the basis for the word Spring on the map. It is difficult to get down into the upper valley from the barrier fall.

Vishnu Creek In wet seasons there is water in the Tapeats narrows and also in the higher part of the Archean. One can reach the river by a difficult climb up and down spurs to the east of the bed.

Clear Creek No problem. Some water even in the arm coming from Cape Royal. Local water near Cheyava. Dry above. West arms are dry. The main creek starts in the shale south of Ariel Point. Bright Angel Creek Water is no problem.

Phantom Canyon The main source is up Haunted Canyon about halfway to the head of the Redwall gorge from the junction with Phantom. There is a spring a short distance up Phantom from the junction and a little more water on the surface in the shale directly below Shiva, in the bed, that is.

Trinity Creek There are seeps in the schist where the east half map places the word Trinity. An apparently (?) permanent rain pool lies in the arm coming down from the Shiva Isis Saddle where the bedrock (Shinumo Quartzite) last shows.

Dragon Crystal Creeks The main Dragon Spring is in the Tapeats Narrows about where the east half map prints the first T in Amphitheater. There are other springs that show locally up both arms of Dragon in the forested narrows of the Redwall. Crystal Spring, that keeps water flowing in the bed below, is east of the word Gawain on the east half map.

Tuna Creek There are usually seeps in the bed in the Tapeats below the junction of the two arms. One can reach the river through the ravine off the Tonto about one quarter mile west of Tuna. Apparently permanent rain pools occur in the Redwall in the west arm of Tuna.

Shinumo Creek Water flowing down from South Big Spring. Water in spots in the Flint arm to the junction with Gawain. Springs east of the Muav Saddle along the good trail. Water in the lower Hermit Shale and top Supai below these springs. Water in the bed a short distance south of where the Bass Trail gets to the bottom of the Redwall. White's Creek flows from just below the Tapeats. This gorge can be entered on the east side in a ravine just north of Redwall Canyon.

Galloway Canyon One seep below the Tapeats.

Stone Canyon Water from springs above the bed on the east below the Redwall.

Tapeats Creek Thunder Spring and the main source at Tapeats Cave. Springs in the Crazy Jug arm in the upper Supai. More seeps along the Esplanade to the east but one of these needs a search since it is below the trail. Powell Spring near Muav Saddle can't be trusted. There are usually rainpools in the upper Redwall of Saddle Canyon south of the Colorado River and east of Boucher adequately covered by Lange.

Salt Creek Water at places above the Tonto Trail. One can get down into the lower bed at two places from the east side and walk to the river.

Ruby Canyon Rainpools near the Tonto Trail in wet seasons.

Serpentine Canyon One can get down to the Colorado River through Serpentine or the canyon just to the east, or through both.

Bass Canyon Wet season source at Bedrock Tanks. One can reach the river by leaving the bed above the last drop and going to the west.

Copper Canyon Rainpools in the Archean and in the vertical mine shaft at the Bass Copper Mine. This can be reached by a spur trail from the east off the Tonto and also from the west side of the canyon.

Garnet Canyon Rainpools, but you can reach the Colorado River a little to the southwest of the mouth of Garnet. At the bottom of the Tonto Trail, at Garnet, one can continue along the river past Fossil Bay. The best water is at Elves Chasm from the stream.

Comments: In the west arm of Tanner Canyon at the top of the Redwall there is a rain pool that may be permanent. I found O'Neil Spring at the end of the spur trail shown on the east half map, but it was only a wet hole under an overhang with one willow growing near. Contradicting Lange, I found an easy deer trail down Escalante Canyon to the Colorado River. It is to the west of the barrier fall in the bed.

Bass Trail to Supai along the Esplanade: Dripping spring at the base of the Coconino midway between Chemehuevi and Toltec Points. Rainpools in Royal Arch Creek in the Supai can be reached by climbs down along the west and south arms. The permanent flow begins about one third mile south of the word Elves on the west half map. There is a chance for rain pools in the west arm and below the top of the Esplanade to the west of the south arm.

Fossil Bay A deep rainpool where the main arm comes down to Supai bedrock. Seeps under the Coconino at the upper end of the main arm.

140 Mile Canyon Practically sure water at the end of the Great Thumb Trail at the grove of cottonwoods. Spring just west of Keyhole Natural Bridge. One can go off the Esplanade at the saddle separating this canyon from Olo and walk down the fault ravine.

Olo Canyon Seep in the arm southwest of Gatagama Point at the place where the 4500 foot contour crosses the bed.

Matkatamiba Canyon Seeps deep in the Supai in the arm north of Mount Akaba. The ground was dry by the cottonwoods uphill from the trail. Rainpools in the upper part of the main arm not far above barrier falls. Seep in the Sinyala Fault on the east side of the gorge below the pass separating Matkatamiba from Sinyala Canyon (observed in April).

Sinyala Canyon Permanent small flow near the bottom of the Supai a little to the west of where the Sinyala Fault meets the main Sinyala Canyon.

Havasu Creek Topocoba Spring north of the Topocoba Trail at the base of the Coconino. Seeps and rainpools in Lee Canyon not far above the junction with Rattlesnake Canyon. Spring in Moqui Trail Canyon at the base of the Coconino just south of where the trail enters the Coconino gorge. Possible rainpools in many side ravines. Highwall Spring shown on the Supai Quad.

National Canyon

[September 23, 1967 to September 24, 1967]

The wet summer seemed to be replaced by the dry fall when I planned this trip away from an all weather road. E. D. McKee had shown me where one could take a dirt road to the head of National Canyon and had told me that there is an old trail down it. He had heard from the Indians that one could go down all the way to the river and then cross to Tuckup Canyon where there might be a route up to the north rim. He had been down well into the Supai and had found a spring near the upper end. I had seen the canyon from the air when I was a guest of the Readers Digest on the scenic flight to Toroweap Lookout. I knew that I couldn't see all of the canyon to the river in a two day weekend, but I thought I could be on the lookout for a shorter way off the east rim to begin my next trip where I left off.

I almost decided against going to National because there had been a heavy rain Friday night. It seemed to be clearing in the morning, so I left about 7:00 DST. I spent a few extra minutes in Williams trying to get a visit with Allyn Cureton. He had been my hiking companion in previous years and he had more recently spent his spare time in the area west of Havasu Canyon. He had told me one or two approaches to the rim of National Canyon and I wanted a refresher. He was eating at some cafe and I missed him.

Before I reached the road that Allyn had pointed out, I noticed a dirt road off the Supai road about 14 miles north of Frazier Wells. The second tank mentioned on the signpost was called National, so I suspected that this would be the right approach to the road going into the upper end of National Canyon. After some study of the 1:250,000 Williams Quad map and the National Canyon Quad, I drove off the gravel road. When I had gone about a mile past the National Tank, the road was getting sticky and precarious. Without waiting for real trouble, I drove up a slight grade off the track to park where the ground was firm. Even walking was sticky until I passed the place where the road split, one branch going to the right up on the high ground to the east of the canyon and later the main track going to the west likewise to high ground. It was easy to walk the track that entered the gradual descent into the canyon. In dry weather I could have saved myself about an hour of walking because the road is still in fair shape. However, there is a steep sided gully that would require a four wheel drive long before one comes to the end of the road. It took me about two hours to reach the end of the road. When I was going down on Saturday, I passed the valley coming from the southeast in block 30 of the map without taking much notice. On the return it looked about as impressive as the main valley, but upon checking the map, I was sure I had made the correct decision, and the end of the road soon reassured me. The canyon soon deepens from here on and big blocks in the bed make walking difficult. Near the corner of block 30, one

finds a trail on the left of the bed. A bit of wire has been used to hold the logs forming the edge of the trail, so at least some trail construction has been done since the arrival of whites. Not far from where the trail switches to the right slope one comes to a fine shelter cave near the base of the Kaibab, or probably in the Toroweap. The main cave is about 15 yards wide by 10 deep and there is a smaller companion just beyond. There are a lot of charcoal inscriptions on the walls dating from 1940 to 1958 when Leonard Sinyala signed his name. I copied Red Vaughn, 10 1 53, Cutes, Bob; Harrison Jackson 10 1956; LGP 1940; Claudia Gibbons, 1957, but there were other marks. One might have been a prehistoric picture of a lizard or a modern imitation done in black pigment.

The trail continues along the right wall and drops only slightly to the ledge at the top of the Coconino. The bed drops over some abrupt falls as it enters this formation but a little farther on the right, the Coconino makes a broken ramp. However, the trail goes to the deep bottom of the Coconino a little farther on using a talus formed by a great rockfall from the limestone cliffs higher up. A few yards before the trail starts down from the ledge, one comes to one of the most remarkable ruins I have ever seen. It is built on a projecting ledge about 20 feet above the trail. At present there is no way a man could climb into the ruin (initials and a date on the wall shows that it has been reached). A couple of juniper poles project from the solid wall at the place where one would want to place a ladder to climb up. Possibly they were designed to steady such a ladder. The structure now has no roof, and the wall rises about four feet at its highest place. At the foot of the switchbacks to the bottom of the canyon, on the right wall are the letters C S 1939.

While the canyon bottom is still narrow, one finds a fence across it just a bit north of the middle of block 19 of the National Quad. One is now in the Hermit Shale although most of the shale slopes are covered by talus material from the Kaibab and Coconino cliffs. The bed slopes very gently for miles to the first showing of Supai. Around the corner to the left at the north boundary of block 19 must be where McKee found a trail to a spring. I missed seeing this on my way in and on my way back on Sunday, I didn't feel that there was time. More rain was in the offering, and I felt that I ought to get to the car and reach the good road as soon as possible. There is a lot of vegetation everywhere in this narrow upper part of the canyon, so a spring isn't obvious from a distance. I would look for it at the bottom of the Coconino. I was carrying two gallons of water and was prepared to camp without finding any. I had figured that if I could reach a steeper part of the canyon, in the Supai or the Redwall rim where the bed would likely be bedrock, I should find water in potholes.

In the broad part of the canyon north of block 19, I saw some fine horses. There seemed to be two stallions each with two or three mares and I saw at least one colt. They seemed torn between curiosity and caution, but they finally galloped off down canyon in fine display of manes and tails. They were big and sleek and seemed to be enjoying an easier existence than most Supai horses. From here north at least to the Supai outcrops there are one or more horse trails. About 4:30 p.m. I came to the first showing of Supai and almost at once I saw a good shelter about 150 yards to the west of the bed. Rain was definitely coming, so rather than carry my pack farther, I put it under the overhang and also foraged for enough wood to cook my usual Lipton's soup making sure that it also would be dry when needed. I then followed a horse trail and the streambed for 30 minutes. I could have found water pockets if I had gone up side ravines. Just as I decided to turn back, the rain came. In a few minutes I filled a two quart canteen from a stream that came over the ledge where I was standing for shelter. As it turned out, my two gallons would

have carried me through the whole trip. I would estimate that I was down through about 100 feet of Supai when I turned back.

While I was getting supper at my shelter, I noticed a metate a few feet away. Somehow it had been broken and only two thirds of the stone was there. To clinch the case for former use, I found a bit of obsidian. There were no sherds that I could see. At the shelter cave in the Toroweap, people must have been pot hunting. There were a couple of pits in the loose material of the floor. At the south approach to the shelter, I noticed a big corncob. It was about nine inches long and had 12 rows.

I was walking in the rain for almost half the return to the car. I put the chains on before moving the car, and I am sure I would have bogged down if I had not done this.

The purpose of the trip was to find a way or ways into the valley as far north as possible. Although I didn't try it myself, I am practically sure of a route down leaving the rim at a third of the way from the south edge on block 9. After getting through the upper cliffs, one should follow a rather steep bench at the top of the Coconino to a break at about the middle of the same block. Near the north edge of block 8, one should be able to go up to the rim on the west. When the top cliff is reached, he could go south around the corner and surely find a break (also, check block 27 and perhaps 13).

Trip to Turquoise Bay
[October 1, 1967]

(written by P.T. Reilly) The objective of the investigation which Harvey and I had initiated was to check Point Quetzal, advanced by H.E. Bolton as the probable place from which Garces first viewed the Grand Canyon and named the Colorado River as flowing therein. This act identified an upper section of the same river known to the Spaniards by this name closer to its mouth and is the first Caucasian association of the Colorado and Grand Canyon. Bolton had taken issue with Coues, but after studying the John Galvin translation of the Garces diary, I had concluded that both Coues and Bolton were in error and that a more likely spot was the deeply indented bay of Turquoise Canyon. Galvin had confined his work to translation and had not identified the Garces viewpoint. Bolton had said little beyond making his dogmatic statement of Quetzal being the Garces viewpoint. I had copies of Coues and Galvin to help in the identification.

Harvey had studied the distances which Garces expressed in leagues (2.63 miles = 1 Spanish league) between Topocoba Hilltop and the Hopi Crossing of the Little Colorado. These two places are identified without reasonable question. Harvey had decided against a one man investigation in favor of making the study with Susie and me, and we had arrived in Flagstaff the afternoon of the last day of September. Now, the Butcherts and Reillys were heading out on Fort Valley Road and the San Francisco Peaks were decorated with a white cloud mass hovering in the inner basin like a great snowball. The inner basin is the residual crater and surrounded by the lofty peaks. As we approached Kendrick Park we saw some fine examples of ground fog in four distinct strata over the extensive meadows. Wind currents topped the lower stratum less than ten feet above the ground as if it had been cut with a knife. We sped along and the mists were left with the peaks. To the west the sky was cloudless and we could see Mount Trumbull in the distance. We began to feel more optimistic over our chances on the Topocoba Road.

The land development scheme east of the Williams Grand Canyon highway did not seem to be thriving with one good residence in use, one residence destroyed by fire, and the remainder empty sites with weed filled streets.

We dropped Roma off at Bright Angel Lodge, turned up the service road and soon had passed Rowe's Well. We crossed a small stream in a wash which usually is dry and the water was nearly clear. The range was green and heavy with gramma, brush grass, and flowers. We jumped a buck, two does, and a large fawn. There was evidence of heavy rain and after we had left the graveled portion of 12 miles, we had to bypass mud holes by cutting out of the ruts into the brush. At one slick place we were stuck briefly but were able to back out, abetted by a push. Soon we decided that we would not be able to reach Pasture Wash and began looking for a good turn around place. We passed a Navaho family which had run a new pickup off a side road and were warming themselves around a large fire to belle the old saw that the white man makes a large fire but the Indian makes a small one. Evidently the Navahos had guessed early on the pinyon nut harvest. Soon we pulled into a wide place and decided not to push our luck by venturing into a wide flat directly ahead.

We knew we were an unknown distance east of Pasture Wash but this portion of the road was over a blank section of the west half topographic map of GCNP. We had intended to turn up Pasture Wash toward Bass Camp and cut back on the service road along the telephone line. Now we would strike out and hope to intersect the rim close to Turquoise Bay.

Acknowledging that we had no chance of getting within reasonable distance of Quetzal, we locked the car and departed north at 10:40 a.m. I had my European surveying compass and used a magnetic variation of 15 degrees to establish our north course. The general drainage was southwest. It was pleasant walking over gently rolling land covered with pinyon, juniper, sage, and cliff rose. The recent rains had made the air aromatic with sage and pinyon and a couple of times we got a whiff of the Navaho fire, which must have been over a mile away. In 20 minutes we came to a broad wash with good recognition marks and a compass bearing of its course convinced us it was Prairie Wash. On its far side we struck a two rut road and Harvey suggested we use it to travel up the wash. In less than a quarter of a mile we came to a tank, consisting of an earthen dam thrown across the channel, with a fine stand of autumn colored pink oak along its left bank. Here we cut up a small wash to resume our northerly course. Shortly thereafter I found a potsherd and gave it to Harvey.

Within a couple of miles we were crawling through the fence denoting GCNP boundary, and commented that its builders were thoughtful to leave the lower strand unbarbed. In about a half a mile we hit the service road paralleling the telephone line close to pole number 495. I took a bearing on the road and found it to be close to NW and SE. We decided to follow the road southeast to ensure not passing west of Turquoise Bay. Harvey remembered he had left this road near pole #365 when he headed for Mescalero point a couple of years ago We paced the distance between poles and Harvey and I both came up with identical measurements of 50 yards or about 35 poles per mile. Measuring back from the estimated position of pole #365 when we passed pole #470, we left the road on a NNE course. Within 200 feet I found a potsherd and gave it to Harvey. Shortly thereafter I saw the ledges below a headland and at 12:30 p.m. we hit the rim of the east bay of Turquoise in line with its wash.

Lunch and pictures. No sight of the river but its course is unmistakable. Rereading the Galvin translation made my original choice of the SW edge of the west bay appear more likely and we decided on a look. En route we hit the old road, which took a sharp eye to discern, and we concluded there was little chance of seeing traces of the Supai Hopi Trade Trail if a wagon road could weather to near obliteration in little more than half a century. We reached the west bay of Turquoise where the old road touches the edge of the rim, took more pictures, and concluded the Garces description could very well have been written close to our viewpoint.

Suddenly we were aware that the west was heavy with clouds and the sun was lost from view. We departed the rim at 2:00 p.m. then crossed the pole road and the fence. We were on a compass heading and without sun much of the time. Harvey found a potsherd. We hit Prairie Wash, followed down it past the tank, and hit the car on the nose at 3:12 p.m. Soon we were turned around and headed back.

In a mile or so a coyote ran NE across the road about 400 feet ahead of us. As we came abreast, we saw the coyote standing about 200 feet to our left and looking at us over its shoulder. A hundred feet or so beyond was another coyote, also standing. Apparently the two were hunting and the first was chasing a rabbit toward the second when we came along. The rabbit was probably between them as we passed.

Rain flurries fell on us but we crossed the bad spots without difficulty, reached the gravel road, and were at Bright Angel Lodge shortly after 4:00 p.m. We found Roma, who had experienced a good day on the rim trail, and after dinner at the lodge, departed for Flagstaff. Heavy rain at times hit us but we arrived home without incident. The following day, at the Museum of Northern Arizona, Alex Lindsey identified the sherd I found north of the pole road as probable Hopi and the other two as Kayenta, all parts of bowls.

National Canyon

[October 21, 1967 to October 22, 1967]

Reider Peterson and I took the car out the road past National Tank and turned to the right Friday evening. Then we followed the fork that goes nearest the rim of National in an almost north direction. We slept about seven and a half miles from the fork where one branch leads into the main National Canyon. In the morning we drove north to the water tank to make sure of our location and then drove south along the same road for 0.9 miles. About 8:20 a.m. we started walking, following our shadows this early. Our course was too northerly and we ran into two systems of deep valleys and still had to turn south when we finally reached the rim. As I had noted the route on the previous trip, we started down a sloping ridge about one fourth mile south of the center of block 9 on the National Canyon Quad. We finally decided that there are about three ways through the Coconino and we actually went down a sort of double ravine that is south of the sure way I had chosen. It was more direct.

It took about one hour for us to get from the rim to the bed of the valley and 35 minutes more to reach the overhang where I had found shelter from the rain. After inspecting it we continued along the horse trail down canyon for 45 minutes and had lunch well down in the Supai. We had taken two gallons of water apiece but we thought that this might have to last until late on Sunday. In the side canyon to the west just where the main bed makes the biggest turn to the east, we saw water dripping off the wall and considered

the possibility that we would need to use it later. The stretch through the Supai was as scenic as upper Havasu Canyon, and we remarked that there is plenty of Arizona that has yet to be publicized.

The Redwall Limestone first shows at the beginning N of the name National north of the red lines on the map. Both the Supai and the Redwall, whenever strata are visible, tilt down to the north, so the gently sloping bed seems to take a long time to get through them. Before the Redwall got very deep, we noted a shallow cave on the west side, so close to the bed that floods had deposited level sand in three terraces. The ceiling was thoroughly blackened by smoke, so it had seen human occupation. There was no water at all close. We missed seeing this interesting place completely on the way back when we were making notes on the map. About due west of the beginning of the word Reservation in the small print along the boundary is a terrace under an overhang of the Redwall. Most of the cavity is filled with travertine. While I was investigating to see how much of a cave goes back above some of the deposit, I found that there is a row of ruined rock shelters on the terrace with plenty of bits of charcoal. The cave wasn't impressive, but I was happy to locate the ruins.

Likewise on the east side of the canyon, west of the v in the word Reservation, Reider spotted a six foot hole where the stream has cut through the bottom of a pothole. It is high above the bed and there is no place where one can see sky through it. Good water appears in the sand near here. Although it is below ground quite often, one can count on finding it again very frequently. The horses come down canyon this far with no obstacles. The bed is still mostly easy walking, but to the north there are a few places where chockstones have made the continuation too difficult for a horse. At one place on the way back, we preferred to take off our packs and pass them up after one had gotten up between two polished rocks. There was an alternate route but it would have been longer. At another place we had to detour to the east and come down a rockslide to avoid some huge blocks in the middle.

About five o'clock we came to the biggest drop off of all, where the lowest part of the Redwall had formed a cliff. the only possibility was to go along one bench or the other, unless we had wanted to try getting down between some blocks through a small fall into a pool, and even if we had chosen to get wet, it wasn't clear what was below that. We followed the west slope which seemed to be more roomy than the other. At 5:15 p.m. we rounded a corner and saw that the bench pinched out. We could also see that if we had followed the bench on the east, we would have had a couple of difficult places to pass, but then we would have come to a talus that we could have followed to the bed of the wash. We could see the bend where the canyon turns west to reach the river. It would have taken us less than an hour to come to the river, we felt sure, but we knew that getting back to the car the next day would be hard. Reluctantly, we turned back upstream and made camp about ten hours after leaving the car.

The unusual event of my cooking career was that I stepped on the end of a piece of firewood just as my soup was done. It flipped up and spilled all the soup on the ground. Fortunately, Reider had an extra envelope and I was eating soup a half hour later. The night was a little too warm for our winter bags, but we slept quite well.

On the return we kept the map out and knew at all times where we were, something that we had not done the day before. Although we were fully aware of the danger of walking past the last water, we talked ourselves into thinking that we were sure there was more ahead. We should have built a cairn at the

highest water on the way down. An hour after we had passed the highest water in the bed, we were finally convinced, as we emerged from the Redwall into the Supai, that we were not going to be able to fill our canteens from the running brook. We had to climb up the grade to the base of the dripping cliff west of the easterly course at the big bend and try to catch the drips. Besides putting a cup under the best drip, we built clay dams across the most strategic places on the wet rock. To dip the shallow water, we sucked it into the mouth and dropped it into the canteen. This operation took 70 minutes, but it was faster than walking two hours to get the last water in the bed.

We went up at the same place through the Coconino where we had come down, and it took us only ten minutes longer to reach the rim. Up on the plateau, before we were out of sight of the canyon, we put the map down on the ground and lined it up. In this way we saw the correct direction to head across the flat country to the road and the car. This time we avoided all valleys and then had to walk less than 0.4 of a mile north to the car. There were places on the road out that looked worse by daylight than they had by car lights, but we reached US 66 before it was dark.

With what I now know, I wouldn't carry more than two quarts of water from the car and I might be able to reach the river in one long day. It was an interesting and instructive trip.

Quest for the Hillers' picture of Dox Castle
[November 5, 1967]

Dock Marston had found a photograph of Hillers showing much of the same landscape which appears in the famous painting by Moran which hung in the Capitol for many years. Pat Reilly had whetted our interest in locating this site by pointing out that the painting agreed in almost all details with an etching in Powell's book of 1895 shown on page 276. Further references to the locality appear in a book by James where he says that Bass could point to the exact spot where Moran had painted the picture, somewhere along the Shinumo Trail to the north rim. Powell said, in the 1895 book, that he had visited the site with Hamblin and Chuar on September 26, 1870, and had later brought Moran to the place to see what he regarded as the finest view in the whole Colorado Basin. I had decided, after consulting some color slides that I had taken from the Shinumo Trail, that I recognized some salient features in the painting and the etching, particularly Dox Castle and Sagittarius Ridge. When Marston turned up the old Hillers' photo, probably taken prior to the production of Moran, we regarded the identification of the painting site as settled. The lack of agreement of details in the foreground and the periphery of the picture could be written off as artistic license. Since, however, a camera cannot lie, the new question arose as to the exact site of Hillers' stance while taking his picture.

This project of identification had a further recommendation. It would serve as very strong support for an interpretation of Powell's itinerary on the four day trip with Hamblin and Chuar over the Kaibab Plateau from September 25 to the 28, 1870. On the second day of the trek, he said they rode south from the great spring and then turned west to a point from which they could look far to the west and also southeast to a fine part of the Grand Canyon. Identification of the Hillers' photo site and consequently of the Moran painting site would be very strong evidence that Powell had indeed been on Swamp Point as I had concluded from reading his account of the trip.

Reider and Nancy Peterson had never been to the north rim. They went with me starting as soon after noon as we could get away. The Point Sublime Road was still officially closed, so we drove down to Headquarters to see whether we could borrow the key that would unlock the gate from the National Forest into the park out near Swamp Point. I drove the fire road through The Basin, W1, over to the Point Sublime Road. These 12 miles were in good shape. There was a bad spot in the Point Sublime Road where Kanabownits Wash crosses it, but we made good time to the junction with the Swamp Point Road two and one half miles north of the junction of W1 and the Sublime Road. Just as I had been told last summer the next five miles were rather bad with several places where the car might have been hung up on the high center if I had allowed the wheels to drop into the deep ruts. We got to Swamp Point two hours after we had left the blacktop opposite the head of the North Kaibab Trail. Much to our surprise, a Land Rover from Canoga Park, California was parked there. In the morning we found that the couple who had come in it had gone down to the CCC cabin near Muav Saddle to spend the night (Art and Karen Foran). They hadn't known anything about the cabin nor about water sources in the vicinity. I told them about the spring ten minutes to the east and about the crucial points of following the trail down to Shinumo Gardens. They were not very determined to reach the river via the old trail. In fact they turned back as soon as they came to some brush near the top of the Hermit Shale where we were just getting started on our day's excursion.

Before leaving the rim Sunday morning, we had scrutinized the photo and the landscape. From the rim we couldn't be sure that the terrace shown in the picture was not the surface of the Supai rather than the top of the Redwall. I decided to go down and follow the Esplanade and perhaps climb above the general terrace to match the picture after the distant objects fell in place. We finally reached fairly good walking on the Esplanade on the east side of Muav Canyon after very disagreeable bushwhacking on the slopes below the two or three springs. Water is quite prevalent here below the Coconino. Some deer trails were helpful, but they never continued very far at a time (mescal pit 20 minutes before the end). Four hours after leaving Swamp Point, we reached the angle where the Esplanade cuts back to the east below Rainbow Plateau. We could see that the distant scene agreed perfectly with the Hillers' photo and the terrace in the middle distance was the one on the Redwall rim which we could now see so well. After careful study and much jockeying back and forth including climbing down as far as we could on some ledges, Reider and I came to the frustrating conclusion that Hillers had been on a terrace about 300 feet lower below the top massive cliff of Supai. He had left the trail much lower than we had and would have accordingly avoided most of our mean brush. It would have taken us two or three extra hours to go back far enough to get down and then return to the place directly below our stance and we didn't have the time. However, we all felt rewarded for the trip since our position gave us marvelous views of the entire region. One could see exactly how the Bass Trail descends the Redwall. There were impressive overhangs in the Redwall in the narrows above where the trail descends.

One item that kept coming to mind was the question as to why Hillers' left the trail to go over to the east side of the canyon and get this view. Was he down here before any trail improvements had been made and from a distance had he realized that the vista would be superior from the east side?

On the return we experimented by going up the slope in the middle of the bay just south of Rose Point. We could see that the Coconino was covered by slides, and we found that the walking was not bad since the bed of the ravine was almost free of brush. Deer trails guided us through the towers of Kaibab

Limestone at the rim. As soon as we reached the rim however, we had to go down and up the steep slopes of Saffron Valley and we had one more lesser ravine to cross before reaching the road. This route, even going uphill, required only two hours and 45 minutes to return to the car. It is the best way to reach our viewpoint, but it would not be an improvement when one wishes to go down the Bass Trail.

Along the road back to the car we saw a turkey fly up into a pine. In one of the meadows as we drove along, Nancy and Reider pointed out several fine bucks and we saw two or three groups of deer in the headlights along the road to Jacob Lake. We took time to go out to Point Sublime. Nancy and Reider were thrilled with it.

(Cairn on the Esplanade where a descent from there to the lower terrace is possible.)

Kaibab Coconino descent on the east side of Papago Canyon
[November 11, 1967]

Last spring when I was looking for Indian ruins east of Zuni Point, I noticed a place on the east side of Papago Canyon where one might be able to get through the Kaibab and part of the Coconino. What made this more interesting was the possibility of going along the Hermit east to a slide that covered the Supai and also a place in the Redwall not much farther northeast where a descent looked very probable. At the time, I went down through the limestone to the rim of the Coconino, but further effort seemed fruitless. From above, I had formed the plan of going down most of the way through the Coconino to a west sloping ravine and then getting over into the main one near the bottom. During the intervening months, I had decided to give this route a better try and get down to where it would be clearly impossible to proceed. I thought the investigation would be a good project for a short day.

Although I reached the ranger office around 8:00 a.m., I encountered some reluctance in giving me a permit for the trip, and I spent quite a bit of time trying to get a companion, either Ken Hulick or Larry Henderson. Ken had another commitment and Larry was in Phoenix. I also parked the car farther west than necessary and took extra time getting to the point of descent from the rim. One should park east of the head of Papago Canyon where the highway starts downgrade. The best place is only three or four minutes walk from the rim.

Getting through the upper ledges of Kaibab requires a bit of study, but there is more than one way. If I were going through here repeatedly, I would build cairns. The idea is to get down to a column of reddish Toroweap Sandstone just above the beginning of the ravine through the Coconino. At the top of the Coconino I felt discouraged again. I could see what had turned me back last spring. The plan to switch from one ravine to the main one down below seemed very precarious, and furthermore, I could see that there must be an abrupt drop in the main bed right at the bottom. I continued downward with the thought that I had resolved to go as far as I could even though there was little chance for success. Well down in the Coconino, however, I found rather fresh deer droppings. The deer don't use this route extensively enough to form a trail off the rim, so I didn't take this slight evidence as proof that I could get all the way through. There were three or four places in the ravine where the way below would be invisible until one stood on the edge of a steeper pitch. I would face in and find handholds. There were always enough toeholds a convenient distance apart. One had to take care to find them, and when I was about halfway

down the Coconino I made a rather poor decision, to leave my knapsack and canteen while I went ahead unencumbered. When I finally saw that my ravine was better than it had looked from the west rim of Papago Canyon above, I hated to go back after the canteen and food. The route kept me in suspense right to the last, but there was a crack that had been out of sight from above. By 11:30 a.m. I was down on the Hermit. If one became familiar with all the right holds, he could come down much faster, but the loose rocks in the ravine would remain a hazard if several people were coming down together.

Walking along the shale to the northeast was easier than it had seemed from above. Much of the route was shown by a deer trail. I kept rather close to the upper cliff. There was no problem with brush, and much of the shale was soft so one's feet could dig in. I spent a little time trying to go right down through the Supai in the main draw, but this is out. It was 12:15 p.m. when I reached the yellow rock slide covering the Supai all the way down. If I had brought water and food, I could have gone down to the rim of the Redwall. Since I had given my word to be home by six, I am afraid that I couldn't have gone much lower that day. As it turned out, I spent quite a time visiting with Jim Bailey and still got home by 5:30 p.m. In a normal hiking day, I could go down to the Tonto and return, thus filling in another distinct route from the rim to the river at the mouth of 75 Mile Canyon.

[Proved possible for me on 6 21 68 (also see July 7, 1969).

National Canyon

[November 17, 1967 to November 19, 1967]

My two former trips into National Canyon had whetted my interest in going clear to the river and also in finding the spring that E. D. McKee had noted at the base of the Coconino up in the narrow part of the canyon. These objectives were not entirely consistent because I would need more time at the lower end, but still I would have to park the car on the road approaching the trail down through the upper narrows. Allyn Cureton went with me and agreed to walk rather late Friday night by flashlight and the moon. I left Flagstaff as soon as I could get off after my last class and picked Allyn up when he was through work. We ate in the car to save time and I was able to drive the car about four and one half miles past the place where I became nervous because of the mud in September. On foot we found that I could have driven almost another mile. We made rather good time even with no better light than we had. I showed Allyn the shelter cave with the many names on the wall and also had him direct his light up to the ruin on the shelf. Below the Coconino we followed my former system of making our way over the big rocks in the bed rather than look for the trail. During the return Sunday afternoon, we kept a sharper lookout for the trail and found it by pieces. We learned that the horse trail, after getting down by the Coconino, follows the bed for only a short way. Then it avoids obstructions by going up to the left and then down to cross the wash to the right slope. Here it goes up and then drops down through the woods and crosses the bed again. From here it rises and drops some and then climbs to the base of the Coconino to the spring. The leg up to the right and down to the wash and then up to the right of the spring took me ten minutes of walking time. The spring doesn't run much volume, but it consists of a pool about ten feet across and eight inches deep. There are some tools nearby for keeping the pool cleaned out. Fencing just below the pool seems to be intended to keep stock from getting a drink and then going down to the lower parts of National. Actually, a man can creep under the fence and follow a good trail down to the bed to the part where the wash becomes easy for a horse. Evidently the trail was constructed not only for the sake of leading stock to water but also for getting stock into the broad valley below.

After walking for two and one half hours by 11:30 p.m., we stopped for the night north of the place where Reider and I had come off the east rim. This part of the trip was especially easy because of the wild horse trails. About 8:00 a.m. Saturday morning we got going and were down at the big bend near Capstone Spring by 11:00. In a few more minutes we came to the first showing of Redwall at the turn to the north. Again we saw the smoke stained shelter cave on the west on our way north but missed the rock shelters on the terrace. On the return we found both. The west side cave with the level sand left by floods is only a few minutes walk north of the first Redwall, just north of an open area following a shallow Redwall narrows. It is 35 minutes walk north from it to water in the bed. The other terrace with the ruins on it is only six minutes walk from the water by a small cottonwood, the farthest south that water shows in a dry season. Just north of this tree the canyon makes a gentle bend to the east, and at the turn back to the north a ravine comes in from the east showing the small bridge where a wash has cut through its bed. Another arm of this ravine has a travertine deposit forming a cave.

Something that I hadn't noticed on the former visit was that there is a lot of charcoal bits buried in the sand of the rock shelter terrace. A similar terrace farther north, fully 30 feet above the streambed, shows driftwood fragments and likewise lots of bits of charcoal. We conjectured that this broadly spread charcoal was not from prehistoric campfires but was rather brought down by a superflood after a forest fire on the plateau. A carbon 14 date might establish that the rim was well forested at an early date. This surprisingly high drift terrace was under a broad overhang of the Redwall cliff. The formation which Dr. Beus considers to be Devonian Limestone first shows near here. The crossbedding that I considered unusual for Redwall is at stream level just beyond. Stan Beus thought that this must be Devonian Limestone which he is helping E. D. McKee measure.

Allyn noticed names and dates chalked on the wall at the high Indian ruins above the trail at the top of the Coconino. Possibly someone threw a rope over the projecting poles and was able to pull himself up. The date was 1955.

After a leisurely lunch, Allyn and I walked on and reached the place Reider and I had slept. Here we left our packs and started on by 1:35 p.m. In 20 minutes more we reached the place where the bed drops suddenly, where great blocks form a real barrier. After Reider and I had given up the idea of going down among these blocks and had found the bench on the west a dead end, I had decided to use the bench to the east as a bypass. This would have worked, but Allyn showed me that he could get down through the blocks. I proceeded to find a second and easier way to do the same. It involved some straddling the flowing stream. The return here was more difficult, but I succeeded by facing down with my feet on one wall and my hands on the other and going sideways and up.

After only a few hundred yards of progress along the bed, we were stopped by a chockstone which had collected a terrace of boulders and gravel forming a 15 foot drop. Allyn thought he could get down here but I pointed to the poor travel below. There were many spots where the entire bed was filled with a pool. We could also see that the bed must drop a good many more feet to the river level, and I concluded that there would be more of the same type of barrier. We first climbed out of the bed to the east, but from that height we could see a distinct deer trail on the bench to the west. It was not hard to back up and climb to this trail. We soon discovered that this trail was only intermittent. In many places it was every deer and bighorn for himself. Going was slow and precarious with a fatal slip always a possibility. However,

progress was possible. After many minutes of this, we came to a place where we could go more than halfway down to the streambed. Still the last 30 feet seemed impossible and we found another trail going on at this lower level. This continued to a bare slope of whitened rock that led back up to our former level. Now we could see ahead to what might be the cliffs across the Colorado. Allyn led me up and over a hump on the higher bench and announced that he could see the river itself. The meager trail continued and I decided that we had time to proceed to a view up and down the river without having to reach our packs after dark. Just as a safety factor, we were carrying flashlights as well as cameras. We noted that the last half mile of bed was level and sandy and fairly wide, quite a contrast to the bed higher up where we could have walked down to within about 60 feet of the bottom, but it appeared that this lower drop was sheer. One could rappel and Prusik back up this impressive wall. (6 22 70, climbed down here O.K. Last eight feet bad for me, but I could use a log.)

The view up and down to the river were outstanding from our level, possibly 230 feet above the water. As far as we could look downstream there was no break in the sheer cliff below us, but about a half mile upstream, we could see a travertine (?) cone which might serve as a ladder down the cliff (a rockslide no chance). Thus we haven't ruled out the possibility that the aborigines came along the shelf on the right side of National and followed the bench upriver to this cone before coming down to the river for a rim to rim crossing.

On the return we kept closer to the base of the upper cliff on our bench and made better progress, but it still took an hour of pressing on to finish with the steep bench and get down in the bed below the upper barrier. We reached our packs by 5:30 p.m. with time to spare before dark. Saturday night I was bothered a bit by being too warm, quite a contrast with the night before. I heard a mouse chewing on my cookies in the pack, but I merely moved it further away from my head.

On the return I was telling Allyn about some of my recent trips and almost passed the highest water source. However, I had built a small cairn in the middle of the bed which stopped us at the last chance to fill our canteens. We ate a slow lunch at the junction with the biggest tributary in the Supai coming in from the east and reached the car by 8:10 p.m. The first thing we had to do was to change a flat tire. When we were most of the way back to the safe road, we got the car stuck in the bed of the wash where the crossing was quite steep. After some work with a shovel, we backed it out and found a bypass already cut through the sage away from this hazard.

Olla Cave

[December 3, 1967]

Donald Davis had studied the cave locations left at the south rim by Lange and DeSaussure and he gave me the location of their Olla Cave along the Redwall rim on the east side of Grapevine Canyon. I had been down here from the Grandview Trail twice in 1962, the first time through deep snow. When my projected long trip down Mohawk Canyon fell through because of car trouble, the visit to Olla Cave seemed to be the most interesting one day trip I could think of.

It had snowed a few inches only two days before, but since I had done this climb down through the Coconino and Supai in snow before, I didn't hesitate to take it on. Chuck Johnson and Allyn Cureton went

with me. Both of them are nervier on the cliffs and stronger on the uphill climb than I am, so there were no qualms about the strength of the party. We got to the Grandview parking about nine and set off. The weather was still cold with melting only in the sun clear down to the Redwall and the air was as clear as it ever gets. Navaho Mountain stood out sharply and the winter sun added beauty to all distant scenes.

We found the going plenty tricky, even on the trail. My shoes didn't seem to grip through the snow as well as the boots worn by Allyn and Chuck. I had to grip rocks and brush with my hands for safety. We left the trail along the ridge dividing Grapevine from Cottonwood and stayed along the crest for several hundred yards. A coyote had left fresh tracks in the snow, so we rather used them for a guide. We went down and to the north. Getting below the lower Coconino was something of a problem, along a sloping ledge. Then we angled to the left and reached the main bed of the wash where we could get through a couple of rather continuous Supai ledges. On the descent we left the bed only to dodge huge chockstones and brushy thickets. The snow was a hazard right to the bottom of the Supai and along the landslide area where the first Redwall is covered on the right. Farther north there had been enough sun to clear the ground. We made rather good progress when we came to the terrace at the top of the Redwall in the sun.

The location left by the WSI men and relayed to me by Donald Davis put Olla Cave a little below the Redwall rim a short distance south of the deep indentation in the rim that is noticeable on the East Half Map. When we came in sight of this easily recognizable notch, we cut back to the next crease in the rim and went down to inspect the area for possible caves. There were none, so we consoled ourselves by eating lunch. Chuck and I got through before Allyn. As a secondary objective, I had elected the project of going out along the promontory as far as time would allow, until 1:30 p.m. We knew that Allyn would have no trouble overtaking us, so Chuck and I set out to see what we could see. When we got around the indentation, Chuck noticed some shelters under the top cliff across on the south side of the indentation. They didn't seem like much, but we could see that one could go down to them, and they might be interesting.

I had been thinking all the time that we would need lights to explore Olla Cave, so I was rather disappointed to find that they were nothing but two quite adequate overhangs. We became more interested when we noticed a piece of juniper wedged tightly into a crevice in the ceiling and another piece propped up among some rocks. There were some very small stalactite formations indicating dripping water at some ancient era. There seemed to be no smoke marks on the ceiling, so we weren't too much impressed. The cave has a rather steeply sloping floor, but one could build a platform if he wanted to spend the night here. The depth was quite adequate to keep one dry in the most slanting rain. My biggest thrill concerning this cave came when I reread Donald's letter and found that the true Olla Cave has a stick wedged in a ceiling crack and another propped up by rocks. So we had visited Olla Cave in spite of the misleading location. On the return we kept out of the wash, along the base of the lowest Supai cliff. This went better and so did the Coconino to the west of the fault ravine to the east of the main one.. On the snowy rocks we needed two and one half hours to reach the car from the cave. (Mescal pit seen on the return along the Redwall rim.)

Across from Cape Solitude
[December 9, 1967]

Among the items in the Powell story of the first traverse of the Grand Canyon that I had found hard to believe was the casual mention of Walter Powell's climb up to the rim from near the mouth of the Little Colorado River. Wesley Powell says that Captain Powell set out to climb a point between the rivers and several lines later says that by comparison of the barometers, they have learned that the rim is 3000 feet above the river. He doesn't indicate whether the climb was made on the north or south side of the Little Colorado or even whether it was directly up from the Colorado itself. I figured that it could not refer to the route up Salt Trail Canyon six and one half miles up the Little Colorado and then to the north.

More evidence that there might be a route down from the north near the mouth came from Ralph Haynes who relayed the information from an Indian who said that he knew a way down west of Salt Trail Canyon, but that he didn't think Haynes would want to try it. Those of us who had seen the gate through the shale to the valley two miles back from the junction thought that this would be a likely place to look for the route. However, the fact that the 1926 river sheets of the Little Colorado didn't show a route here made its existence look doubtful. If the supposed route here should be any more difficult than the Blue Springs Trail and the Indian Maid Trail, I wanted no part of it.

I met Mr. and Mrs. Doug Shough where the Tuba City Road turns off from US 89. They had never been over to Marble Canyon across the reservation. I had heard of a shorter way to reach the head of Salt Trail Canyon from the highway than the route I knew, from Cedar Ridge. Thus we tried two roads but neither panned out. Even counting this delay, I went from home to the parking across from Chuar Butte in less than three hours. I just looked for the best used road that went in the right direction and made only two short false moves. There are a number of correct choices, at least two, because in returning we found ourselves on a different road. By the time we were back near the break in the red rock ridge which extends seven miles west of Cedar Ridge Post, we were back on the same road. A rather well traveled road goes south to a point just west of the head of the bay where we found the descent route. A quarter of a mile to the north, an obscure track turns off to the west and goes to the best scenic viewpoint where a good sized cairn marks land's end. From here the route I had picked for an attempt on Chuar Butte seems impossible, but there seems to be a fairly sure route up the Redwall on the south side of 60 Mile Canyon. (Jim Ohlman has done this. Grubb and Haggart climbed Chuar but missed this route.) One gets a most impressive idea of the entire east part of the Park, from Saddle Mountain to Vishnu Temple.

While Mrs. Shough stayed in the car to keep warm out of the biting wind, Doug and I went back to inspect the only possible ravine through the Kaibab Limestone. I had the idea that we would soon reach an impasse, so we put down our food and canteens up on the rim. Doug went ahead and got down the ledges much more calmly than I did. There were three or four places where I had to face in and use poor finger grips to let myself down short overhangs until I could find something to stand on. I suppose if I had been alone, I would have given up. Doug found several stones piled up in one place to help in getting up one ledge. It was the only sign for the entire route that we were not the first men to try this.

Below the Kaibab Limestone there was no difficulty. The Coconino was completely broken and all the Supai was likewise either buried under landslide material or else easy. When we came to the Redwall we saw that we would have to get out of the bed. We could get a good view of the situation by going up on a spur to the east. Beyond this to the east, there was no possibility to get down, but we could see across the bay a minor ravine paralleling the Little Colorado. The bed of this ravine consisted of slide material

which we could have walked down. We were tempted to go around the rim of the Redwall and finish the descent, but it was getting late for men without their lunches and water. Besides I had to get back to Flagstaff before 6:00 p.m., so we reluctantly returned. We estimated that it would take about two and a quarter hours to go from the bed of the Little Colorado to the rim here.

Spencer Trail and east of Lee's Ferry
[January 14, 1968]

Since the snow would keep me from approaching most interesting areas in the canyon country, I thought I would carry through a project I had been thinking about for years, the climb up east of Lee's Ferry. The new blacktop road in from route 89A was in fine shape even though the ground was still covered with a few inches of compact snow right down to the river level. The north facing Echo Cliffs were strikingly beautiful with only red streaks showing through the prevailing white. The Echo Peaks were like something out of the Canadian Rockies. Even before I started up the trail, I began snapping pictures right and left.

The new concessionaire, Bob Melton, pointed in a general way to the start of the trail, but I thought I knew enough about where to find it so that I didn't listen closely. As it turned out, I started up the talus slope too soon and missed the lower part of the trail. A post was propped in a rock pile above me on the slight ridge, but still when I came to it, there was no trail. Farther up I could scramble through a break in the ledge, and just above this I found the trail. On the return I followed the trail, or what is left of it, all the way down, and I believe I saved time by using the shortcut. There are very few cairns along the trail, but there are some pieces of lath standing as markers installed by a boy scout troop a couple of years ago. I could have followed the trail by constant vigilance, but the markers do help. In the Grand Canyon National Park, a trail as badly eroded as this one would be given a very bad name by the rangers. How the trail builders found the best way to pass certain ledges by swinging to the north and then to the south is quite interesting. At one level rather near the top, the trail actually slopes gently down to the south to reach the area where it can make the final switchbacks to the rim. On the way up I didn't waste much time in trail finding, but on the return, I lost it for five minutes. The rough and loose footing and snow near the top were impediments, but I went up the 1500 foot climb in 75 minutes. Strangely, I wasn't much faster in the descent, 68 minutes. Furthermore, I stopped for several pictures on the ascent.

The whole area is photogenic, up to the Paria, west to the Vermilion Cliffs, and down and up the river, and especially across to the Echo Peaks. If you have any breath left when you top out, you lose it in one big gasp when you look to the east. I had known the Glen Canyon country, but somehow I wasn't quite prepared to see Navaho Mountain, Tower butte, and all the mesas so well. When you get down close to the rim of Glen Canyon, it is vastly impressive. The walls are as sheer as the straightest in the Little Colorado. It is like Toroweap on a smaller scale.

After getting to the rim at 10:15 a.m., I walked north fairly close to the rim to the highest spot in the first half mile. One could look for miles at the dark winding slot of Marble Canyon cut in the white expanse of the platform. There is some broken country cut through with ravines immediately to the east of the raised rim above Paria, but then it levels off for a mile or more. I had hoped to reach Ferry Swale, but I found the walking through the breakable crust very tiring. I must have forced myself at the usual gait required to

walk in the nine inch snow, because I developed some unusual pains where tendons were taking a beating. I settled for a swing east and then south to the rim at Mile 6.5. I had told Mr. Melton that I would be back to the car before 5:00 p.m., and I actually started down the trail about 3:15.

There were surprisingly many tracks in the snow and bare sand on the plateau. I recognized jackrabbits and saw one. There must have been cottontails and numerous mice. I saw one of the biggest porcupines I have ever encountered. It waddled up into a clump of scrub oak where the camouflage was perfect. There were also a few cattle.

On the way back I had to go north away from the canyon rim to be able to cross a deep ravine. When I had crossed one fork, I could see a pair of shelter caves only a few minutes walk out of my way. The bigger one had a sort of trail up into it with smoke stains on the ceiling.

Tonto east of Indian Gardens
[January 20, 1968]

George Billingsley had told me about a trip he had taken with several companions up Pipe Creek from the Bright Angel Trail. They were able to get around two or three barriers in the granite and then they found a crack in the Tapeats on the west near the head of the gorge which made it possible to climb out to the Tonto. I'll have to ask whether they did this loop from the rim and back in one day. It was before the big snow when trail travel was easy.

My project for the day was to find the break in the Tapeats cliff, but I thought that I would also stop by for a chat with Larry Henderson and also ask Emery Kolb a couple of questions, particularly about Moran's visits to the canyon. Unfortunately, neither Larry nor Emery were at home. The Kolb Studio was closed although the walks were well shoveled. I don't know how long the studio will remain closed.

The most unusual experience I had all day was my encounter with the largest herd of antelope I have ever seen. I was daydreaming at the wheel about 8:00 a.m. about three miles before reaching the junction of US 180 and state route 64. I came over a rise and saw a flock and my first thought was to wonder what the sheep were doing so far from the reservation. I braked abruptly and woke up to the fact that they were antelope. First I tried a picture, but since the camera wasn't easily available, most of the animals were rather far away before I snapped it. Later I realized that the film hadn't turned with the lever, and I don't think I took a picture at all. Then I began counting and got up to 35. As an estimate, there were about another 35 that were harder to count. This is more than I thought were anywhere in this area. It had been 18 or 19 years since I had seen 23 in one band near Walnut Canyon.

About 9:00 a.m. I finally started down the Bright Angel Trail. The mules had packed the snow almost like ice. My shoes have almost no cleats left and I had a bad time with my footing. Although I took precautions and even walked in the gutter where possible, I must have fallen six or seven times. The snow was clear down below the Redwall and I needed two and a half hours just to reach Indian Gardens.

Above the trail to the east beyond Indian Gardens, I noted more terracing and old trails than I had before. I was reminded of pictures of the area with almost no trees but showing tents or shacks on this side. At

the junction with the Tonto Trail, the park service has a sign announcing that it is 3.2 miles to the Kaibab Trail. This is odd since on the South Kaibab Trail the sign says it is 4.3 miles to the Bright Angel Trail, and this figure was first put up as 3.4 miles. The sign along the Bright Angel Trail also says that there is no water along the route, whereas most of us have found water flowing in Pipe Creek by the old frame cabin.

It had been something like 18 years since I had been along this part of the Tonto Trail and I was surprised at its good condition. It had been used recently by mules with steel pegs on their shoes to prevent slipping on the hard packed snow. As I approached the upper end of the Tapeats gorge in Pipe Creek, I followed the rim, but I failed to locate the break that Billingsley had used to climb out. As we had agreed to play bridge Saturday evening, I felt that I should be back at Indian Gardens starting up about 2:00 p.m., so I didn't spend much time on the prime objective. I didn't inspect the building up the creek from the fall. The roof over the porch has given way, possibly because of the heavy snow, and someone has ripped most of the south wall away.

It took me 45 minutes to walk from the building back to Indian Gardens, so I believe that 3.2 is a good estimate of the mileage between the Bright Angel and South Kaibab Trails. I walked out with less slipping and no falls in less time than I took to get down in the morning, about two hours and 25 minutes. The mules wear shoes that don't slip at all, and they gained on me a little, but I was able to keep ahead.

Pipe Creek
[January 31, 1968]

Before Christmas George Billingsley headed a group from the hiking club up Pipe Creek from the Bright Angel Trail at the end of a hike down the Kaibab to Phantom Ranch and back by way of the Bright Angel Trail. The walk and climb through the schist and Tapeats were through unknown country and he was very smart and lucky to get through with no major delays. Chuck Johnson went down with me to see this area while George took three companions including his girl friend, Sue Varin, to the river at the mouth of Horn Creek. They were following my directions concerning the route as Allyn Cureton had found it in the spring of 1958. For some reason I could remember that route after ten years more clearly than most. The three boys and one girl made the climb down through the slot in the Tapeats, saw the ponderosa pine growing in the inner gorge, got down to the bed of Horn, and bypassed the two falls in fine style. They reached the mouth of Horn in only two hours and five minutes from Indian Gardens. They returned after eating lunch by the rapid via the bed of Horn up to the Tonto Trail and got back to Indian Gardens by 2:45 p.m. The snowy trail down from the rim was safer underfoot than it had been on January 20, but I was among the few in our party who didn't fall although we hurried down and reached Indian Gardens in 75 minutes. Chuck and I were down where the Bright Angel Trail gets to the bed of Pipe Creek by 10:30 a.m. I was immediately impressed by the rugged narrowness of this section of Pipe. It is as grand as any side canyon and much more accessible. Within 15 minutes we reached the first real barrier where a huge chockstone has blocked the ravine. Travertine has built up below over sundry smaller boulders. Some of the permanent water comes over the top of the fall under the huge chockstone, but about half the flow comes out near a round hole about halfway down the travertine apron. According to instructions, we climbed up a broken slope to the east. About 100 feet up we were able to advance to the south. I saw how we might return to the bed, but Chuck preferred to continue at the high level looking for another descent.

He found it just as we could go no further at this height, down the projection and then back into the recess. When we got down, we followed the bed back to where I had suggested descending and at the bottom we found a good cairn left by the Billingsley Party.

Progress upstream to the fork in the canyon was easy. George had told me there would be another major barrier up the main canyon to the east. It appeared shortly, a very similar chockstone formed a fall. Without retreating very far, we again scrambled up to the east. There were a couple of chances to leave the slot we were in and go around the crags to the south, but we thought that progress would be more certain if we climbed still higher. There were some bad spots that slowed me almost to a standstill, but we reached the base of the Tapeats. We learned later that George had led his party south at a much lower level and had succeeded in getting back down to the bed. However, when I noted a little trail construction up here, we felt rewarded. We followed the trail, obviously used by burros, deer, and probably bighorns, to the north around the angle and saw that it led to the Tonto level.

There is a good deal of red granite in this area, and just below the Tapeats the rock seems still different from granite or Tapeats Sandstone. It seems soft and rotten and there is quite an overhang above a relatively level floor. When we were investigating this as a possible shelter used by man, we saw no smoke stains and were about to leave when I noticed two bits of Indian pictographs. The light colored rock had spalled taking some of the picture with it, but there was still the upper part of a stag with the antlers as elaborately done as they are at Mallery Grotto near the upper tunnel of the Bright Angel Trail. We ate lunch on this trail below the Tapeats and then followed it easily as it sloped down to the south right to the open bed of Pipe in an open area ringed by Tapeats cliffs. While we were coming down next to the eastern wall, Chuck noticed something that proved to be a prospector's monument about three feet high. It is about 40 yards west of the bed that was dry along here. The water seems to begin below the gravel bed in the open area, but before Christmas Billingsley reported water all along here. Where the old map showed a spring to the northeast of the head of the Tapeats gorge, there was still quite a lot of ice both at the lip above and more where the drip lands at the bottom of the cliff. George had given me the information that the break in the Tapeats cliff is on the west just opposite this spring. We soon saw where it had to be, a little north of an impressive overhang in the Tapeats. It is only about 300 yards short of the very end of the amphitheater with all the rest of the walls absolutely impossible. What a chance George was taking with a grueling retreat and an arrival at the rim long after the 8:00 p.m. ending which this escape route made possible. We could imagine the sense of relief that his party must have felt when they saw this climbable break.

In the streambed below this spot, Chuck spotted an old weathered metal sign still holding to its tubular post. Although all the enamel was gone, it still read in raised letters Pipe Creek. The sign was well above ground but the shaft was bent and we decided that it had formerly stood up by the Tonto Trail and that a great flood had carried it down and had left it standing in this improbable position. Deer and bighorn droppings on the steep route up the rocks convinced me that these animals can get up and down with greater ease than a man. At one place there is a chockstone in the fairly broad crack that forced me to do a split with one foot on either wall. At the top the former party had built a small cairn. I realized then that on the 20th I had walked past this ravine within ten feet of the cairn and had dismissed it as impossible after the top 40 feet.

In observing the west side below the Tapeats from where we ate lunch, I decided that the easiest way to bypass the fall just above the fork would be to go up the west fork until one could get to the grassy slope leading up to the base of the Tapeats. From here one could walk with ease around into the upper amphitheater. Since we had discovered the aboriginal trail on the east, we were glad that we had done it the hard way. We both decided that George had found a most interesting route into a dramatic and surprisingly accessible piece of real estate.

Quartermaster Canyon

[February 4, 1968 to February 5, 1968]

Ever since Donald Davis succeeded in finding a climbing route down into Quartermaster Canyon, I had been intending to see it too. Bill Belknap's insistence that there is a well built trail into it further stimulated my desire to look into these things. I also vaguely remembered that Martin Litton included the Quartermaster Viewpoint among his tourist attractions.

Since there might still be snow and mud along the route from Peach Springs past the Meriwitica Canyon approach, I thought it well to follow Davis' suggestion and come to Quartermaster via the Diamond Bar Ranch Road. I was surprised to find the road north from route 66 towards Pierce Ferry so smooth and fast. One could drive it as fast as any highway if it were not for the dips that one comes on without warning. At the end of the trip, I went along about 50 mph until one dip sent me into a temporarily weightless orbit.

I had never been in this most interesting region. The Joshua tree forest on the way to Temple Bar isn't as thick as the one in here. Comparisons are dangerous, but I can't remember as impressive a stand in the Joshua Tree National Monument. I drove nine miles out of my way to see what there is at Meadview. This is the land of the real estate speculator. For miles and miles in this whole area, they have bulldozed straight lanes through the Joshua forest and surprisingly there are quite a few people living in vacation homes and trailers off by themselves. The view is fine, not only down to the bit of Lake Mead but also all around towards the desert mountains. One extensive cliff south of Diamond Bar Ranch was still well plastered with snow. Perhaps I should have taken time to drive another ten miles and see the boating area called South Cove.

The road up canyon beyond the Diamond Bar needs care. It repeatedly crossed the streambed and there are numerous loose rocks ready to flip up against a fender or worse. One reaches the plateau in about nine miles. The map of the Williams Quad is of only minor help in choosing the right road up here. I wasn't sure whether to head for a gate through a fence into the Indian reservation or follow a better track to the left. After a false start, I went through the gate. I could see where drivers had struggled with mud and snow rather recently, and I was a little worried too. In a bit more than a mile, I came to a much wider and well graded road going north. By the map, I knew that I should drive south for several miles before going north to a corral, but I wanted to see where such a fine road would lead me. One of my objectives was to reach the Quartermaster Viewpoint, and if I could find the top of the Guana Mile cable, so much the better. The best part of this road veered to the west and came to an abrupt end at a well filled cattle tank. Beyond here there are a couple of poor tracks. I followed one north and then east into a small valley and decided that it was getting too bad and besides that it wasn't going to give me a view anyway.

I next drove the good road in the direction of Peach Springs. It rises a good many feet as it swings to the south and southeast along a ridge. There are fine views in all directions. I got visual confirmation that I was near Quartermaster from here. It seemed farther than I thought it should be before I had a chance to turn north. Rather close to the main road there had been a peculiar pen requiring a great many poles of all heights. Some barbwire was still in place, and it was strung up to seven or eight feet from the ground. A couple of tracks branched here and I selected the one to the left. Before I had gone far enough to reach the corral shown on the map. I become worried about the muddy condition of the road. I also felt quite confused by the car tracks that are not shown on the map. It was also rather late, and I had hoped to get down into the canyon so as to sleep warmer. The idea of turning back and sleeping somewhere by Lake Mead appealed, so I gave up on this approach. There were even some soft spots on the main road where the snow was still melting.

However, instead of heading back down toward Diamond Bar Ranch at once, I decided to try again finding Quartermaster Viewpoint. This time I diverged from the fine wide road to the right as it headed north away from the hill. I passed another well filled cattle pond and when there would be a fork in the track, I angled toward the open flat that went to the northeast. This time I came clear to the end, to the plateau immediately west of the mouth of Quartermaster. For a better view and for pictures, I went down to the final rim. It should take only a little over an hour to drive up here from the end of the blacktop south of Meadview and it compares with Toroweap or any other fine viewpoint. They ought to put up a few road signs.

Sleeping below the frost line appealed to me, and when I got down past Diamond Bar, I began thinking of a restaurant meal. I thought I could get to the cafe at Temple Bar by a short drive from the Pierce Ferry Road, but I got clear to route 95 before I realized my mistake. Then I decided to call on Bill Belknap if he was free and drove on to Boulder City before eating. I phoned and talked to Mrs. Belknap but Bill was out of town.

After a comfortable night at the Boulder Beach Campground, I started back to look for the trail into Quartermaster. This time I left the car where the narrow primitive track first meets the graded road about ten miles from Diamond Bar Ranch. Since I was trying to locate the south arm of Quartermaster as directly as possible, I walked southeast and kept away from the deep washes as much as possible. I see now that it would have been better to go out on points frequently enough to keep my bearings. I still had to go down and up ravines. When I thought I was about past the three forks of the west arm of Quartermaster, I did go out on a point to look ahead. I thought I was looking at the south arm, but now I begin to wonder whether it may not have been Jeff Canyon. I had already crossed a valley with wheel tracks still showing where I crossed it. The next valley was deeper and steeper walled than any of the predecessors. Since I could find no trace of a trail here, I went up the other side and soon came to another just as deep and steep. I thought I could see something like a trail on the other side, but when I got there, all seemed natural. After lunch near the end of this draw, where one could scramble up a broken slope of a low ridge topped by parapet only to look down a smooth straight wall for several hundred feet. I went to the plateau again and continued east to get my bearings by locating Jeff Canyon. There was another deep valley that came into the same spectacular canyon. From the distance over to the next canyon east, I am becoming more and more sure that I was looking at Jeff Canyon all the time. The wheel tracks must lead to the south arm instead of the south fork of the west arm. These forks and arms of Quartermaster must be

closer together than I realized. By now it was well after two o'clock and the sky had changed from absolute clarity to a thickening overcast. I should have brought warmer bedding and more water so that I could camp by the car. I got back to the car a little worried about the weather and drove home Monday evening. It took me only two hours from where I parked the car to reach Route 66 west of Hackberry Wash. I had seen quite a bit of new country for me including Quartermaster Viewpoint, but I had seen neither Belknap's trail nor Davis' route down the south fork of the west arm of Quartermaster. Another visit is an absolute must.

I was close to four or five Gambel's quail in the junipers south of Quartermaster and some more in the canyon leading down to the Diamond Bar. There were also flocks of small birds, possibly vesper sparrows and chickadees. There were lots of deer sign and occasionally I would figure that some droppings were from bighorn sheep, but cottontails and one jackrabbit were the only mammals sighted (plus cows).

Soon after leaving the valley with the car tracks, I came to a faint car track contouring the hills and going in my direction. This was farther uphill from where I had crossed in the forenoon. When it finally turned up a ravine toward the main road, I climbed out toward the car. The rest of my route was almost flat.

Quartermaster Canyon route reconnaissance
by Donald G. Davis
[September 22, 1967 to December 23, 1967]

I had developed an interest in visiting Quartermaster Canyon because it appeared to have promise as the best land route to approach Bat Cave across the Colorado, and because it seemed to be the least known of the western Grand Canyon side gorges containing large springs. F.R. Twenter, the author of USGS Water Supply Paper 1576 A, had analyzed the waters of all the other large springs of the Hualapai Reservation except Warm Spring below Toroweap, but he viewed Quartermaster Spring only from the rim and described it as almost inaccessible. In an interview with Edwin D. McKee at the USGS building in Denver, I learned that McKee had made a measured section of the Redwall in a west arm of Quartermaster but thought the formations below the Redwall would be impractical to descend where he had been. However, he had been told by someone that a full descent was possible, and suggested to me that I start with the east branch, which I understood to mean Jeff Canyon.

Lower Quartermaster Canyon has a flat alluviated floor for much of its length, similar to that of Meriwitica Canyon but narrower. Above the spring the canyon branches, forming Quartermaster and Jeff Canyons which are separated by a long point. Upper Quartermaster proper has in turn a west arm and a south arm, and the west arm has a west, middle, and south fork above the head of its main gorge. All these can be identified on the Williams 1:250,000 sheet. In this report I apply the term fork specifically to the upper tributaries of the west arm of upper Quartermaster.

On my return in my pickup from South Dakota to California, I set aside a short period for an investigation of this area. I drove in from Hackberry by the Diamond Bar Ranch road because, while this was not the shortest route from Flagstaff, it involved only 20 miles of really stony road as opposed to about 40 by the

Buck and Doe Road from Peach Springs. By driving the rocky parts at walking speed, I avoided the blowouts that plagued me when visiting the Bat Cave overlook in June.

I took the side road to the corral shown southwest of Jeff Canyon on the map, and drove on a track beyond it to the wash junction about one mile ESE of the corral, where I parked after driving 64 miles and three and a half hours from the paved highway. Here I shouldered a day's supplies, including carbide lamp and one and a half gallons of water, and started down Jeff Canyon at 6:30 p.m. on September 22. My intent was to use my time as efficiently as possible by walking down canyon despite approaching darkness, until route problems or tiredness called a halt. The former were quick to appear; within one to two miles the wash dropped in a sheer fall over the lower half of the Redwall. Stopped here, I decided to ascend to the point between Jeff and Quartermaster for a comprehensive view of both canyons. Toward the SW end of this point, near its highest part, I made camp after dark, establishing a very comfortable bed in the duff of a live oak shrub. I discovered that the dead century plant stalks, which abound on these Redwall plateaus, make excellent if short lived torches. The rosette of dead leaves, held up ablaze on the end of the stem, will illuminate a wide area for several minutes.

Before breakfast the next day, I took a stroll to the NW side of the point where, as almost everywhere along these rims, the Redwall cliff drops sheer into the abyss. As the vistas expanded, this turned into an unplanned walk to the point's outer end over a mile to the NE. Prickly pears were ripe, and I flushed a flock of quail which were feeding on them. Well out on the point I crossed a deposit of basaltic lava which was not mapped in USGS Water Supply Paper 1576 A. It is now cut off from deposits on the Hualapai Plateau, but fills a minor topographic depression which appears to line up with a small lava exposure which fills a shallow dissected channel directly across Quartermaster Canyon. It seems likely that the lava flowed along a stress channel which then extended NW SE across the course of the present Quartermaster Canyon. On a lava slope I also found a large heap of stones, presumably an old mescal pit, that had been built up to a height of five feet on the down slope side.

Two caves near the end of the point could be entered only a few yards. I was surprised to find that the point dropped off not sheerly, but in a ragged ridge that may or may not be possible to descend into the canyon. I reached the lowest Redwall before turning back due to growing hunger, thirst, and lack of time. There would be route finding problems in the Devonian limestone below, but numerous old animal tracks and beds (probably of bighorn sheep) down to my stopping point at least suggest the possibility of a through route. While looking from the end of the point, I was also surprised to hear a burro bray, seemingly from the Tonto level in lower Jeff Canyon. I wondered if they have traveled along the Tonto from Meriwitica.

A sharp shout NW from near the end of the point would raise as many as 13 detectable, though not loud, echoes.

Directly below the dissected lava filled channel in the NW wall of Quartermaster Canyon is a crack in the Redwall which might be a route to the base of the formation. I could not see into its depths, however, and there may be falls in the recesses. In my opinion the Devonian limestone and Muav below would present problems at best, and might be completely impractical at worst.

From the point I could not see any likely routes into Jeff Canyon, and the south arm of upper Quartermaster was out of the question because of a large fall in the lower Redwall. I therefore decided to take a close look at the west arm. I broke camp about midday and left my backpack at 1:30 p.m. on a hilltop south of the head of the west arm. Descending northward into a slowly deepening valley, I found myself in the south fork, which entered the main gorge of the west arm a few hundred feet east of a fall dropping from the middle fork. There was a small fall in the bed of the south fork at the base of the Redwall, but I bypassed it by traversing to the right and descending a broken point to the next level. There were other falls where the bed steepened in the Devonian limestone just below, necessitating a traverse back to the left under the first fall and along a distinct game trail several hundred feet to the west along a bench to a point below the fall of the middle fork. From here it was an easy descent to the main bed of the west arm on a talus. At this point I found the disarticulated skeleton of a bighorn sheep among boulders in the bed.

Further descent of the bed was fairly straightforward, although slowed by boulders and an excess of catclaw, Hackberry, and hoptree brush. At several places falls required leaving the bed for distances up to a few hundred feet, but satisfactory detour routes were obvious. I continued to the area where the west arm widened at its approach to the junction with the south arm, far enough to satisfy myself that there could be no impassable obstacle to continued travel toward the river. I then turned back, as late afternoon was approaching.

Before returning to the plateau, I investigated the possibility of ascending by the west fork, which enters the west arm opposite the south fork. I bypassed the falls in the Devonian in the west fork by a delightfully spectacular but quite safe traverse along an exposed ledge, only two feet wide in places, to the west of the falls. This gave access to a bowl beneath a fall in the basal Redwall. The cliff here was only about 15 feet high and undoubtedly climbable, but I thought it unwise to try it unbelayed, so returned the way I had come. The middle fork is hopeless.

Bighorn sheep had been in the bowl beneath the Redwall fall in the west fork, but it was not clear to me how they reached it. The narrow ledge I traversed showed no signs of traffic, and I had to break down two catclaws and a prickly pear bush to travel it. There was a larger ledge just above, but this had a break which, for me at least, was impassable. Neither was I able to decide where McKee would have been likely to take his measured section. I had supposed he might have descended the west fork, but he did not mention encountering anything tricky in reaching the very base of the Redwall. If, on the other hand, he used the south fork, he should not have found it particularly difficult to continue on below the Redwall.

At 5:45 p.m. I reclaimed my backpack and was back to the truck by 6:30. On a future trip I would park closer to the south fork by going out a faint track which leaves the main track one quarter mile north of a fence corner west of the stock dam north of the corral, and goes north up a gentle grassy valley to a divide. From here this track should be drivable at least a few hundred yards further north down another gentle grassy valley which is tributary to the south arm of Quartermaster. To reach the south fork of the west arm, it is necessary to go NW on foot across another divide.

This dam pond was dry and I found no springs, but thundershowers on both afternoons were enough to replenish little water pockets in the canyon beds, though not sufficient to set any falls running. A flood

while in the canyons would possibly strand one for a while by blocking crucial spots on the route, but to be trapped and swept away would be unlikely.

Aside from the rather unpromising crack in the NW wall of Quartermaster Canyon and the untested possibility of descending from the Quartermaster Jeff Point, the route down the south fork of the west arm of Quartermaster is the only way I found into this canyon system. Since this latter route was not visible from the inter canyon point, it is possible that there may be other routes I did not see perhaps in the east tributaries of Jeff Canyon but the places where such possibilities exist are quite limited.

In spite of the vast extent of Redwall Limestone exposures in the Hualapai country, I found far fewer cave openings in the Redwall here than in many sections of the eastern Grand Canyon. Those I have found and entered have been open only as far as the fill has been able to slide out. Several such holes are conspicuous NE of the debauchment of the south fork into the west arm of Quartermaster. In checking these I found a striped skunk in a crawlway, but did not press the acquaintance. There are more openings in the Devonian and Muav limestone in the west arm than there are in the Redwall, but most are inaccessible. (Quartermaster Trail on the east side of the south arm!)

Quartermaster Canyon

[February 17, 1968 to February 18, 1968]

Chuck Johnson and I left town Friday evening and slept where the Diamond Bar Ranch road leaves the Pierce Ferry road. It was just right in my winter weight bag. We got away before seven and ate breakfast in the car where the Diamond Bar road meets the Buck and Doe Road from Peach Springs. We also parked the car here and walked to catch the trace of a road to the southeast by skirting the base of the higher hills to the south. This took us to a track that came down a steep grade and continued north into the south arm valley of Quartermaster. This is the only valley along here that has a car track, so we presumed that this is evidence of the trail Bill Belknap had announced down from the east side of the south arm of the canyon. I remembered that his pictures indicated the trailhead as not being at the bottom of the draw where it meets the vertical cliff, but we checked this jumping off place anyway. (Just below the real trail, up to the east.)

Next we climbed out of the draw to the east and went over one hump after the other. We could see that the upper part of this rim is more broken and sloping than at other places and that there are numerous benches breaking the Redwall and Devonian limestone below, but even though we descended to a level even with the end of the draw, we couldn't locate anything resembling a trail. Although we could have gone down a chute to a level a little lower, we were convinced that there was a continuous drop below this next level down. Since we had checked the rim for at least a quarter of a mile north of the draw and had noted that it was becoming more impassable ahead in the sense that we couldn't descend at all, we reluctantly abandoned the search for the Belknap Trail. I would like someone to take me back there and rub my nose in it, but as of now, I am unconvinced that there is any such trail down from the east side of the south arm of Quartermaster. A bit of counter evidence was an old five gallon can we found on the way back along the top of the plateau.

After 45 minutes of fruitless search, we gave up and went over into the south fork of the west arm of Quartermaster where Davis had found a practical descent. On the climb out of the draw, I dislodged a 300 pound rock and scraped a shin as I fell over it. Chuck found a swallow tail butterfly that was still wet and unable to fly. It had little chance of survival on this overcast day with rain threatening. We bypassed one small crease in the rim and soon were going down a draw leading to the south fork of the west arm. We ate lunch where it dropped over the small fall. The bighorn skeleton noted by Davis was still there. I remembered Donald's instructions by heart, but I think we would have done the same thing that he suggested anyway. It was a simple walk down just around the point to the right, and we soon discovered that we were on something better than an ordinary deer trail as we went to the west toward the base of the fall from the middle fork. After getting down the scree on this side, we dodged the rough going in the bed by going along the slope to the left. About the time Chuck called my attention to a pothole filled with green water below the fall from the west fork of this arm, I noticed that we were again on quite a good trail. Where this ended, I cut down a short scree slope and found a pick and shovel below a large boulder. While Chuck was holding them for a picture, he saw an initial on the pick handle, either a P or a D. The trail seemed to be obliterated before it reached the pothole, but I concluded that it had been built that far to water stock. We saw a few deer tracks in the mud between the big rocks of the steep bed through the Devonian limestone section, but there were no further indications of a trail. There were no difficulties whose solutions were not immediately obvious, as Davis had noted, but the going down the steep and narrow defile was slow and required caution. It is one of the most awe inspiring canyons I have ever seen with many pinnacles and mammoth Indian clubs standing on their small ends. Fresh looking rockfalls add to the feeling of insecurity. It would be no place for a large group of varied backgrounds. I can imagine Donald's sense of relief when he saw that he was coming to the junction with the south arm where the canyon opens up and there is no longer a chance of finding an impassable barrier. I am also amazed at his luck in finding himself in the south fork of the west arm. It seems to be the only place for a descent in this large double canyon. It took us just under two hours to get from the end of the ravine in the plateau to the junction with the south arm and less than two more hours to reach the spring.

A few hundred yards north of where the west arm meets the south arm there are many holes in the dark brown rock. Most of these caves are inaccessible, but one was at the top of a short talus. When I inspected it, I found one petroglyph and several poorly rendered pictographs in bright red clay. An unusual feature was bosses of the wall smeared with the red pigment as though someone had tried to erase some of the pictures with water. After I photographed these on the return trip, we climbed to a higher cave across the valley. Here we found several very meager drips, the only water besides some temporary rainpools between the plunge pool beneath the west fork fall and the spring. There were numerous nondescript charcoal markings on the wall here and some cuts as by a knife point. One bit of modern writing gave a peculiar name with the address of Valentine, Arizona. No date was shown.

The broad valley from here on was remarkable for the broad area devastated by flood strewn boulders. There is some forage, however, because we saw seven burros and a fair amount of deer and bighorn signs. There were sparse groves of crucifixion thorn on the slopes and a good deal of Mormon tea. We heard a few birds along here.

The walk from the junction with Jeff Canyon took less than an hour. The spring doesn't show from very far up canyon because of a slight bend. The smooth cone of bare yellow travertine is the most obvious

sign that it is ahead. The spring now comes out on the south side of the bare half cone, and this area is dense with primulas and shrubbery. The burros have trampled a clearing where we decided to camp. It was 4:20 p.m. when we arrived and after a few minutes we started on to the river with our packs. The broad flat travertine terrace north of the broad sloping bare apron at the spring was most interesting. Here one finds a barb wire corral, a piece of window screen, and also evidence of more ancient use. Diverging travertine lined channels meander over quite an area where there was an aboriginal irrigation system. These were probably cut in the soil, but now they stand up about a foot above the level of the nearby bare rock. Over to the east side of this terrace there must be some moisture in the ground because the thickets are still verdant. At the north edge of the large terrace we could see a little of the river and got a view of the fall directly below and to the west. We could hear the water gurgle near the bottom, but the bed above the trail was dry. We could also see four small shelter caves about halfway from the fall to the river on the left just above the bed. Belknap had marked a picture to locate Aleson's home about here, so I wanted to see it.

We went down the travertine to the brink of the fall and found a good trail up the other side. When we left the trail we were able to walk down a slope just to the north of the caves. The largest and lowest one had a number of empty cans in it and two full ones. The new looking one was filled with a fluid and labeled Pyrene. From here I climbed above the jungle along the slope out to the river and took some pictures in the fading light from the granite ledges west of the mouth. After climbing up a small ravine I followed the trail back to the wash above the fall and continued along the bed to the campsite. The night was too warm for comfort in my down bag, and I had to keep my jacket over my head all night to baffle the mosquitoes.

We took about seven and a half hours to get back to the car, but we spent 20 minutes inspecting the shelter caves north of the mouth of the west arm, and we used 45 minutes for lunch and over an hour to reach the car after getting to the plateau. We had a disturbing experience when we got to the area of the final ascent. I didn't recognize the fall from the middle fork because I had remembered it as being closer to the south fork. Both of us thought the area was completely different from what we had come down. After some minutes spent in the scree directly under the south fork end, we decided to go back down the canyon and study our footprints of the day before. It was a most uncomfortable feeling to think that perhaps we had found an arm that was altogether different from where we had come down. We happened to see a slight trail a few yards above where we were walking and went up to it. Then both of us recognized the plunge pool of green water beneath the mouth of the west fork. If we had gone lower than this slight trail when we were almost to its end, we would have wasted at least another half hour and would have had a lot more of the most unsettling feeling a person in the wilderness can have, being completely disoriented. We both felt stupid when we realized that if we had gone only 50 yards closer to the cliff below the fall at the middle fork, we would have recognized the scree slope used for the descent. We felt helpless for only 20 minutes, but we had a bad time for that interval. We took a chance on the Buck and Doe road to Peach Springs and found it safe to drive although rutty from a recent soft state.

We both felt that it had been a most rewarding trip and that Quartermaster Tanks with the best for interest and grandeur. It would have taken me days to locate Donald's route down, but with his information I had logged another descent from the rim to the river. Perhaps I am exaggerating the time I would have needed to find his route. The attack should have been to go out on the various points that separate the arms and forks and study the rim. I probably should have closed in on this route after a solid day of walking.

Quartermaster Trail

[March 3, 1968]

After two failing attempts to locate the trail and some further study of Belknap's pictures with the trail penciled in, I felt sure I could walk right to it. Donald Davis had loaned me his copies of the pictures, so to make doubly sure I would be on the beam this time, I carried them along.

Although I had gone to bed about midnight after hosting a bridge party, I was up about five and was driving away by 5:30 a.m. It took a bit over two hours to reach the Buck and Doe road west of Peach Springs and by 9:30 a.m. I was parked where the Diamond Bar Ranch road joins the wider one. It required 72 minutes to walk southeast to join the faint track contouring the north slopes of the hills and reach the road end where the upper valley drops off into the south arm of Quartermaster. This time I noted where one could get into the area by car from the southeast. There is a good track coming down the main valley. It must connect with the turnoff nine miles back from my parking. There were fresh tracks of a power wagon along here, and where Bill marked the trail as starting up out of the valley at road's end, the four wheel drive had broken a new track up towards the Jeff Canyon drainage.

I had decided that Chuck and I had passed by the trail and had gone too far north along the rim, and upon pulling out Bill's picture on the spot, I saw that this was correct. On my first visit four weeks earlier I had actually seen a bit of the upper part of the trail and had gone down it a few yards. I hadn't noticed where it switched and had missed the goal. Chuck and I had gone to the end of the streambed above the cliff and had thus been within pebble tossing distance of the place where the trail goes around to the ledge along the north south cliff face. As Bill says, it is a sneaky trail that doesn't seem to have a future, but when one rounds the corner out over space, he sees that the ledge is very adequate even though it is below a straight wall with something like an 800 foot wall below. Some of the purple prose that Ives wasted on the route to Supai might really apply here except that the width of the ledge gives plenty of assurance of safety. After a few yards of hugging the upper cliff, the trail continues down to the north by switching down a grassy slope and then comes to another narrow ledge just before it goes down a long talus to the bed of the valley. The ledge, just before it gets onto the talus, was widened with steel rods and juniper trunks. There is an old gate here, but it is so ruined that it would break up before one could swing it shut.

One wonders how much use this trail gets now. There are some rockslides over it and many catclaws and other bushes at various places. I think one could still lead a horse along it, however. At the bed of the wash below, it crosses to the west. When that side becomes rough, it goes back to the east, but finally one just follows the bed in the middle except locally where the burros have made a better trail. In the present state of the trail, one needs to watch his footing, but he can make much better time than he can coming down the west arm. I had intended to turn around when I came to the junction with the west arm, but while I was concentrating on finding the best path, I passed it by. I was halfway between the junction with the west arm and the junction with Jeff before I realized this. At the rate I was going, 100 minutes from the rim to my turnaround, I believe I could have gone from the rim down to the spring in three and a half hours.

On the return after lunch, I climbed up to the west a little to the north of the shelter cave and verified that Chuck Johnson had correctly interpreted a huge pile of small fragments as a mescal pit. Even with time out for pictures, I went back to the rim in two hours. I would say that I kept to the trail more than 95% of the way. Near the very top, I saw something on the trail that I had missed on the descent, a very fresh looking cigarette. The power wagon tracks may be connected with several new survey markers spotted around the plateau. Another observation I made on the return to the car was an inscription on a slab of limestone in the middle of the faint car track near the fence. It was the date 1935 with initials RDL, I believe and two more letters, Ut.

It was 5:00 p.m. when I reached the car, but I went to the old tram anchorage above Bat Cave.

Letter from Donald Davis
[February 26, 1968]

14573 Cortina Drive
La Mirada, Calif. 90638
Feb. 26, 1968

Dear Harvey,

If I missed Belknap's QM Trail, I am at least in good company now. It looks as if the only way to satisfy ourselves about it will be to go there with the photographs in hand, which I intend to do on my way east in spring, if not before. If you decide to try it again first, let me know and I'll send you the pictures to take with you. On second thought, I assume yours will be ready for comparison soon, so I'll just send them on to you now.

You improved on my observations in finding that my route had artificial improvements. I had not seen the pick & shovel and had assumed that the obvious sections of trail were just unusually well defined game trails. In referring to the obstacles to ascend in the west fork, I presume you had in mind the cliffs of Devonian limestone immediately above the green pothole. The way around these into the little amphitheater above, at the base of the Redwall, is quite interesting. From the vicinity of the pothole you go on back up the middle fork until you can reach the base of the Redwall. From there two ledges switch back around the angle separating this from the west fork. The upper is broken down at one point and impassable, but the lower can be traversed all the way around, though it is only three feet wide or so in places and I had to break down catclaw and a prickly pear bush to get by. This is fun and rather reminiscent of the traverse at the top of the Redwall climb out of upper Phantom Canyon toward Shiva. Once in the bowl at the top of the Devonian in the west fork, however, you are faced with about a 15 foot ascent of a dry fall at the base of the Redwall. This is undoubtedly climbable, but sufficiently polished that I judged it advisable not to try without a belay. I doubt if there are any impassable obstacles above that, but there could be a surprise.

The route up the Jeff QM point, if possible at all, will be intricate and challenging. One thing that makes me think it may go is the concentration of sheep (?) tracks where it begins to drop off at the top.

It sometimes pays to watch late night television. On the 23rd I saw the last part of a 1959 Western whodunit, *Edge of Eternity*, which was filmed in Kingman and its environs. This ends with the murderer villain driving to the guano tram terminal and making the attendant lower him and his girl hostage toward the cave in the bucket. The hero, a Mohave Co. sheriff's deputy, jumps on the departing bucket and the showdown fight is staged out over the canyon, ending predictably with the villain loosing his grip and shrieking as he drops into the abyss. The tram in operation was more impressive than its ruins suggest. The bucket, suitably decorated with a bat symbol and the U.S. Guano name, looked bigger than an automobile. This is the only feature movie with a Grand Canyon setting I have ever heard of, and my own background with the tram and the Mohave County Sheriff's office lent it great interest for me. It was pretty well done for its type.

Dock seems to be under the impression that George Beck didn't enter the cave on his recent boat trip.

I knew that George had the Box 83 address two years ago, but wasn't sure he would still use it now, and guessed the quickest way to reach him would be to write in care of the place he was staying. I seem to have been mistaken in this.

If you are getting *Summit*, would you check the last month or two and the upcoming issues for articles by John Vincent Hoeman? He is my old climbing friend, now in Alaska, and he told me a major article of his was in the works, but did not say in what issue.

Yours,

Donald

Mohawk Canyon

[March 16, 1968 to March 17, 1968]

Jorgen Visbak drove most of the night after a meeting of the Explorers Club in Palm Springs and met me at the cafe in Peach Springs. After he had had breakfast we got away in my car about 9:15 a.m. I remembered Allyn Cureton's instructions about which turnoff from the Supai road to take. It is less than five miles beyond Frazier Well and bears a sign naming about a dozen tanks, the farthest one being 20 miles away. As we learned later, this road now goes quite a bit farther. Allyn had driven to its end and had told me that he had been able to see Vulcan's Throne on the Toroweap side as well as Prospect Valley on the south side. We found that the road turning to Mohawk Canyon is about nine and a half miles from the Supai road. One needs to slow down and exercise caution when driving it in a passenger car, but it is better than the track into National Canyon. There is one quite steep but short grade (this has been removed in use again 6/9/76) on the return that required low gear and a charge, but calling it a Jeep road is a slight injustice. The valley one drives down is quite similar to that at the head of National with much sage brush and some interesting erosional features, spiky towers in crumbling Kaibab Limestone and some bare talus slopes formed by limestone slides. Near the end of the road there is a shack, a corral, and a horse trough formed by cutting one side from an airplane wing tank. At the very end there is a similar manage with the same type of horse trough. No pipe leads to these troughs, but a piece of garden hose

hanging over a fence indicates to me that water is trucked in and siphoned into the trough. There was some rather clean water in the trough at the very end of the road.

Mohawk and National are twin canyons except that Mohawk is the easier one to reach and to travel through. The trail is better from the start. Only a few minutes walk from the car we saw a large shelter cave in the Toroweap Formation that had smoke blackened walls and ceiling. It was a twin for the one in National except that we saw no evidence of prehistoric occupation. There were many more initials and some dates scratched in the blackened surface of the rock than I had seen in the National Canyon shelter. The earliest date was 1895 but most of the use seemed to be in the 30's and 50's. This shelter cave is on the west side just above the Coconino. There is a steep spur trail leading down to a deep pothole at the top of the Coconino, a convenience for camping that I didn't see in National. The water seemed green with algae, but I didn't go down to see whether the color was due to scum. A short walk beyond the cave along the top of the Coconino leads to an overgrown talus where the trail descends in easy switchbacks. Just north of this descent is a well constructed and maintained fence where we had to untie a rope to let ourselves through a gate.

The bed is not as rugged with large rockfalls as it is in National. There is some sort of trail along one side or the other, but we stayed in the bed much of the time. However, when I saw a well built trail leading up out of the bed to the west, I thought of the spring at the base of the Coconino in National. We had just a little trouble following this trail and carelessly missed it once getting too high. Finally it came up to the base of the Coconino and in the recess in the Hermit Shale was a spring. Here no one has hollowed out a basin, and the pool was very shallow and only about as broad as a card table. There were plenty of cattle hoof prints and the place seemed a bit unsanitary for dipping water out of the pool. The flow at this time was a constant trickle from the rock above falling free of the wall, so Jorgen put a pan under the best spot and had plenty to drink in 15 minutes. We ate lunch here and were able to start on with our original supply unused. Jorgen was carrying one and a half gallons and I had two gallons since we didn't think that there would be any where we would stop for the night. There was even a good trail down from the spring to the bed of the canyon.

The Williams Quad map had helped us get the right start, but the Grand Canyon Quad is on too small a scale to be of much help in locating the hiker in the canyon. The National Canyon Quad doesn't show the upper part of Mohawk, so we had trouble telling what kind of progress we were making. When we were three hours walking time from our car, we came to a place where the canyon widens with big scallops in the east rim. On the west, the largest side tributary comes in, and a cowpath seems to go up into it. In ten minutes we had passed a small seep and then had come to some fairly deep potholes that may hold water permanently. Immediately beyond there is a high impassable fall unless one were to find a long bypass from lower in the side canyon. A definite trail went to the north at the mouth of this tributary, and Jorgen and I wondered whether it might go around the barrier and then up to the rim to the west.

The only actual route in, north of the trail, at the head was a break on the east side just north of the spring only an hour's walk from the head. There is no close approach by road to the rim here, so there would be no advantage in using it.

The stream terraces of soil and gravel remain surprisingly broad even in the lower Supai. We stopped to make camp about where the National Quad map shows the letter a in Mohawk. While Jorgen gathered firewood and made himself comfortable, I hurried on without a pack. I got down into the Redwall before I figured I should keep my word and return by 6 o'clock. At the ravine in the Supai just before the Redwall gorge begins, I saw a wet streak on the face of the fall on the east side, but I had no time to go up and check for water holes. If the walking continues as easy down through the lower formations clear to the river, I think that I could get to it in two more hours of walking (more like four hours). Thus I feel that I might reach the river from the car in seven and a half hours.

Besides four horses and a number of cows, all quite thin and agile, Jorgen and I saw a buck and a doe in the lower Supai. He also got a glimpse of a small animal something like a badger. There were also numerous birds. The scenery was similar to that in National and upper Havasu, at least in the upper part where we were.

We reached the car by 1:40 p.m. and had time to explore by car out to the end of the road. There were very few choices, but toward the end we aimed north and slightly to the west. A lot of miles of water piping have been laid to big metal tanks for watering cattle. Huge bulldozers have been used to throw up large clay dams and many of these reservoirs now hold water. We followed the best road northwest from the last large and recently constructed reservoir and soon came out to the end above Prospect Valley. The Uinkaret Mountains loomed large to the northwest. The cinder hills and slides into Prospect Canyon were just below. We had a perfect view of Vulcan's Throne and the head of the trail going down to the river on the north side. The headland nearby to the north cut off our view farther to the right than the Throne. We could see a great deal to the west and northwest including the valleys of Whitmore and Parashant. Mount Dellenbaugh showed to the west.

Much of the forest on this high ground between Mohawk and Prospect has been burned over, probably to help the grass, and from the road near the end of the line we had fine views of the San Francisco Peaks and of park features as far away as Cape Royal and Wotan's Throne. We found a track leading still farther north but the sage even in the middle of the dim road was only partially broken down. I declined to risk the road hazards along here, but even then I found that oil was leaking rather rapidly on my way out to the highway. I got home by using the ten quarts I had brought and also getting some more along the way.

One difference between Mohawk and the other canyons I have been visiting recently is that there is a ponderosa pine forest along the high hills at the head of Mohawk.