

Harvey Butchart's Hiking Log

Introduction and Early Protologs

To conduct a full-text search of this volume, use the Find in Page Command (Control-F or under "Edit" in your browser's menu). For a complete chronological listing of hikes and locations, please see Table of contents.

Butchart annotated a series of hiking maps, including western and eastern half of the Grand Canyon and others from throughout the Grand Canyon region that are also available.

Wayne Tomasi, a Grand Canyon hiking enthusiast, prepared the following version of Dr. Harvey Butchart's hiking log. Wayne spent hundreds of hours reading, typing, and editing the hiking logs housed at the Northern Arizona University Cline Library. This edited version of the Butchart hiking logs includes only hikes in the area that Harvey and Wayne mutually agreed to call Grand Canyon Country. This Country includes the Grand Canyon, Marble Canyon, the Little Colorado River Gorge, the Paria River Gorge and Plateau, Lake Powell, and Lake Mead. Wayne notes that his transcription of Butchart's logs begins with Harvey's brief introduction of backpacking. Harvey's description of Little Colorado River exploration has been moved to the beginning. Finally, a section of Butchart's earliest logs, written by Harvey from memory, are segregated under a heading of "Protologs."

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INTRODUCTION

In 1945, I moved with my family to Flagstaff, Arizona where I was to teach mathematics at Arizona State College. Soon after our arrival, we spent a day at the Grand Canyon and came away saturated with its grandeur. On the way home, we noticed the little sign, Viewpoint 1/4 mile. We had seen enough for one day and assumed that the view would only be an anticlimax, but we parked the car and walked out to the point overlooking the Little Colorado River Gorge. The sight below was anything but an anticlimax. This gorge was different from anything we had seen. At first you may wonder whether there is a bottom below those walls and towers. Of course there is, but down there it seems like a different world. Could a walker follow that sandy

riverbed? Would he meet some impassable waterfall or go crazy hemmed in by prison-like walls for so many miles? This view became a must for our out-of-state visitors.

Our first vacations in the west were family affairs. We hit all the show places: Bryce, Zion, the Grand Canyon's North Rim, and Oak Creek Canyon. We went on ambitious hikes to Supai, Phantom Ranch, and Rainbow Bridge. But as my wife and two children developed other interests, I began to go exploring in the Grand Canyon by myself or with a few college boys. Anything I heard about the Canyon from other hikers became a lure for me. My firsthand knowledge of Grand Canyon National Park grew.

J. Harvey Butchart

Backpacking in the Grand Canyon

The hiker doesn't stand for very long on the rim of the Grand Canyon. After he has tested his climbing legs on the 30 miles or so of mule trails, he may want to get away from the dust and tourists to see for himself some of the secondary attractions such as the high fall in Clear Creek, the mines and caves below Grandview Point, Hermit Rapids, or the Thunder River area. Joseph Wampler's little book is a guide to activities for a couple of fascinating weeks at Havasu Canyon. There is a challenging chapter in Sunset magazine's Discovery Trips in Arizona. It characterizes the Grand Canyon as an expanding wilderness contrasting the present almost-absolute solitudes off the beaten trails with the hey-day around the turn of the century when mines were being worked, guides were leading tourists to gardens and orchards by the river, horse thieves were driving stolen stock across a ford in the river, and as a sideline a lone miner was distilling his own moonshine. The writer also has a few words of wisdom about the danger of dehydration, a far more present hazard in the summer than the dramatic trail-side cliffs and very scarce rattlesnakes. Before one ventures into areas where he may well be the only visitor for years, he should test his hiking strength in 100 degree plus heat. One can be overtaken by a feeling of weakness even when he drinks all the water he wants.

After serving the sort of apprenticeship described above, I was caught up by the canyon. The faint dotted lines on the classic Matthes-Evans map were a challenge for me to see all that white men have ever seen. The chapters in McKee's Inverted Mountains concerning the old trails became my bible and the early books by G. W. James gave me leads for plenty of hikes.

Identification of pictures taken before the naming of canyon localities was the grist for many a hike. One trail to the river, identified by pictures taken both upstream and down, was completely lost and I rediscovered it after half a dozen tries spread over several years. Otis Marston of Berkeley briefed me on a number of canyon puzzles. He suggested locating the lost Hopi Salt Mine, the route used by Harry McDonald from the Walhalla Plateau to his mines at the mouth of

Lava (Chuar) Creek, a suspected Indian trail from Unkar Rapid to the south rim, a climber's route used by shipwrecked river runners up to the south rim between the Boucher and Bass Trails. These objectives offered a consistent program of exploration. Finding the way to the summits of named peaks and mesas was another objective. Breaks in the great Redwall Limestone are rare enough to make finding them a satisfaction. The Grand Canyon is less than a two hour drive from my home in Flagstaff, Arizona and yet the details, natural bridges, Indian ruins, caves, and climbers' routes seem as little known as if they were in some remote area of Alaska. Possibly the most serious omission on the standard map was the location of reliable water sources. Some of the springs which were reliable at the turn of the century have since gone dry, but there are dozens of seeps that were never charted.

Unless you have very precise information from experienced canyoneers, and there are only a half dozen or so who have hiked widely in the remote areas, you should learn the canyon in short stabs. You should never be more than half your canteen away from a known water supply, and you should remember that feet blister when the socks are continuously wet with perspiration. You will need protection for your head even if it is only a handkerchief with the corners knotted. Most climbs involve walking on loose rockslides so one should remember the danger of rolling rocks on companions below. Travel with as light a pack as possible so you can cover greater distances between water holes. For summer nights with a temperature minimum of 70 degrees, a single cotton blanket is more comfortable than a too warm sleeping bag.

During the past 10 years, I have averaged about 30 days a year backpacking through the remote areas of Grand Canyon National Park. I started with the objective of going wherever I knew that anyone had been without using a rope. Otis Marston, who practically retired from business to become the greatest collector of Colorado River lore, suggested numerous projects, and Merrel Clubb, the authority on Beowulf at the University of Kansas, got me started trying to climb as many of the named summits as I could. Whenever I could find a good teammate, I would take him along, but no companion is better than one who is accident prone or who can't keep a fair pace. About half my treks have been solo.

One of my most ambitious hikes was a solo trip lasting six and a half days. I left Lipan Point and started down the familiar Tanner Trail to the river. After 50 years of neglect, it was surprisingly distinct. There are a few places where it is marred by rockslides, and there is at least one place where it is easy to lose. There is no water near the trail until you reach the river after the 10 rough miles. Four hikers have died in the park during the past ten years, and for some reason this trail accounted for all four. A seasonal park ranger took a solo hike and his body was found at the base of a 100 foot cliff. Whether he got too close in the dark or became irrational from thirst is not known. The next two victims were clearly cases of dehydration. A man led two teenage boys down to the river without adequate canteens. On the return, they were benighted and missed the trail up the only break in the Redwall. By morning they were so thirsty that they knew their lives

depended on reaching the river. This would have been easy if they had started back to the water as soon as they missed the trail to the rim, but the man had become irrational by the time he and the boys came to an 80 foot fall in the bed of a dry wash. He insisted that they could all climb down the vertical wall if they would take off their shoes, socks, and shirts. After throwing the apparel to the bottom, the man started down. After going only a few feet below the rim, he fell, turning over three times in the air. One of the boys became hysterical and wanted to jump after him. The younger and heavier boy led him back up the wash and out to the west where they soon found a safe way to the bottom. They were now walking barefoot on the 140 degree rocks of the dry wash, but they didn't stop to climb a few yards to get their shoes. It was a little over an hour of normal walking to the river from here, but the lighter boy never made it. About half way there, he sat down in the searing heat and didn't respond when the other suggested that they should go on. After his companion left, he staggered in a couple of circles and died.

All three thought they knew something about desert survival. They had thought they could get enough water from cutting into barrel cactus and they tried to eat raw mesquite beans instead of bringing food along. Next the sole survivor further misused wilderness lore. When no help came by noon of the third day, he followed the river which is sure to lead one to civilization. He even used some logs for a raft and went downriver eight miles to Hance Rapid before he realized he would surely drown if he persisted. A helicopter and a crew of men on foot searched Tanner Wash and the surrounding area from Monday until Friday. When hope was gone, the chopper made one last sweep farther downriver than before and picked him up. He was 30 pounds lighter, but he recovered rapidly.

The fourth victim of the summer heat at the bottom of the Tanner Trail was an elderly Navaho Indian. He had come down ostensibly to gather herbs, but he may have just been tired of living. He was carrying no canteen and died about a mile from the river.

My thoughts as I hurried along with food for a week were far from such disasters. I was interested in seeing the marvelous scenery and tracing the old Horsethief Trail to the north rim. I doubt whether a dozen people use the Tanner Trail in a year, but I was intrigued by fresh footprints ahead of me. At the river I met the makers and we visited for an hour before they started back and I went on. I soon crossed the river by lying prone on an inflated air mattress, paddling with my hands. The knapsack stays up out of the water, but I used a plastic sheet as a liner to keep the contents dry in the event that I should roll off the mattress. I had previously followed the east bank of the river to the mouth of Lava (Chuar) Creek, but now I wanted to get to the upper part of Lava Creek by a more direct but uncertain route, up Basalt Creek. The map showed a spring in the east arm, but when I reached the place there was only a few cupfuls of water there that were as warm as you would like in a bathtub.

Furthermore, it tasted like a strong dose of Epsom Salts. It was already dusk when I reached the divide between Basalt and Lava Creeks. I had enough light left to find a safe way down through the Tapeats cliff and was encouraged to hear the gurgles of the little stream in the bottom of Lava as I approached in the dark.

A major project for the trip was to see whether I could find a route up to a break I had previously discovered in the rim of the Walhalla Plateau. On a visit to Cape Final, I had picked out a likely place in the ravine just west of Hubbell Butte. On Saturday I started out taking only a lunch and my canteen. Near the turn where the main arm goes north there's an overhang in the Tapeats on the north side of the stream. Thirty years before a party of rangers had reported finding Indian ruins there, so I went up to investigate. Under the broad ceiling there had been a cluster of six rooms and one of them was three-fourths intact. There are pictographs on the rock above. The canyon country seems to have had many inhabitants around 1100 ad. How they made a living in this beautiful desert is anyone's guess. Midget corncobs have been found in many places. There was a previous occupation, known only from peculiar split twig figurines deposited in certain caves, that dates back to 1500 B.C.

Beyond the ruin the streambed is mostly dry, but at one place there is a pretty dripping spring festooned with maidenhair fern. The ravine coming down west of Hubbell Butte is not far beyond. The climb to the top of the Redwall was quite routine except for a place in a lower shale cliff where I had to backtrack to find the weakness. This was hardly the old burro trail where McDonald came down from the rim. The Supai is the next formation above the Redwall Limestone. I went southwest to get into the main arm of Lava Canyon and then turned north, climbing breaks in the Supai as I came to them. Eventually I was above it and on the Hermit Shale. I made a loop around the base of a small pinnacle of the still higher Coconino Sandstone. Time was running out, but this level would give easy access to my break in the rim and I turned back with a sense of accomplishment. Walking through manzanita along the broken ledges takes all of one's attention, but at one point I happened to stop for a moment. I saw something that had been completely missed before: a fine natural bridge on the other side of the canyon. I estimated that it was about two-thirds as large as the one Senator Goldwater had discovered from the air nine years before. Sunday morning was spent visiting the bridge from below and photographing it from across the canyon on its level, the lowest fourth of the Redwall. At the end of the trip, I reported it proudly to the Park Service. I was deflated when I learned that it had been previously sighted from the air by the charter pilot, James Hartman, but mine were the first and only pictures of it from the ground.

This north-south inner valley of Lava Creek, under the rim from Point Atoka to Cape Final, has a special fascination for me. A double fault or graben parallels the rim. There are several small springs and groves of small trees where the birds seem to congregate on their spring migrations. It is not surprising that I returned to this valley repeatedly. I learned that one can come down the

deer trail from a place along the rim west of Point Atoka, follow the Hermit Shale bench, and then trace out a route directly into the north arm of Lava Creek from the saddle separating this valley from Kwagunt Creek to the north. The dry fall at the bottom of the Redwall bars further progress down the wash, but one can go to either side and reach the bottom. On another occasion, I found a fine route over the saddle to the south into the Unkar drainage. With or without a companion, I have climbed Juno and Jupiter Temples and rappelled down the lowest part of the Coconino Sandstone to take a short cut off Cape Final. We also went up Hubbell Butte and walked across the top of Poston Butte, the only one of all these which was already capped with a cairn. I conjectured that the solitary miner, Harry McDonald, went by here leading his burros from the rim to the bed of Lava Creek. We found that we could walk down the Redwall directly north of the ruin more easily than we could get through the Tapeats directly up from it. A still easier way to get down the Redwall is to go north and then come around below Point Chiavria. I have found a second way to get through the Tapeats cliff to the east of the ruin, but a still easier way that I noticed from a distance between the two I have used, was probably the burro route. I should now go back and connect in one passage from the bed of Lava to the north rim; the route that I think McDonald used for his burros.

After the half-day for photographing Hartman's Bridge, I headed down Lava with my pack for the beginning of the Butte Fault Trail. On this occasion, I hopped back and forth across the small flow in the bed. There is a substantial spring just below the ruin which in cool weather keeps water running all the way to the river. During August the evaporation is such that less and less water runs on the surface until there is only water standing in potholes for the last two miles above the river. On another trek I tried going up on a terrace on the south side of the stream. Right where it topped out there was an Indian ruin, and I saw another farther along. Potsherds at these sites indicate an occupation of over 100 years around 1000 ad. Progress is faster on the relatively unobstructed terrace. One wonders how much more humid a climate was necessary to allow dry farming here. The terrace finally gave out and I had to follow the stream. With Marston's information as a guide, I had no difficulty in noting a large metal corn grinder fastened to a cottonwood stump. The bootlegger had cut off the living tree and then fastened the mill to the level wood. Even in 1928 when a ranger party first reported this, four new saplings have grown around the grinder. They now have diameters of approximately six inches. A tree ring count would probably prove this still quite a bit older than the prohibition era. Pictures taken 12 years ago show the flywheel intact, but now part of it is broken and rocks and clay are caught in the machine. Some superflood of the future may take the whole tree. Twenty yards up a side ravine there is a small, cool spring near which is the rock platform for the still itself. A few barrel staves and hoops are still marking this spot. This old sign of private enterprise is only about two hours walk from the river and has been visited by people who were boating down the Colorado River.

Beginning at Lava Creek about a mile up from the river, there is a great fault which roughly parallels the Colorado River. It forms a rough route for crossing several side canyons: Carbon, 60 Mile, Awatubi, Malgosa, and then over to Nankoweap. Between it and the river there are several great buttes in a rough north-south line: Temple, Chuar, Kwagunt, and Nankoweap Mesa. These give the name to the route, the Butte Fault Trail. It has been used by prehistoric Indians, prospectors, horse thieves, and geologists. There are two facts about a route which arouse my interest. One is that someone has done it before and the other is that the route has never been used extensively. This route was my main objective for the trip. The geologist and authority on trails, E. D. McKee, had swum across the Colorado and had walked some distance up Lava Creek and he had been down with a pack trip into Nankoweap basin at the north end of the fault, but he had not covered the Fault Trail. The horse thieves crossed the canyon by coming down from the south rim on the Tanner Trail, then along the east side of the Colorado River to a low water ford, up Lava Creek to the Butte Fault, over to Nankoweap Creek, and then up the Nankoweap Trail to the north rim. On Sunday night I slept by Lava Creek where the fault starts. No water was running in the creek but I could fill my canteen from a pool that was several inches deep. About 3:00 a.m., I was awakened by the sound of rushing water in the brook. It had taken this long for the spring water miles upstream to saturate the bed dried up by the August sun. For streams, as well as men, the same amount of water goes farther at night.

On Monday morning I started early with my gallon canteen almost full. I knew I would find water in Kwagunt Creek or at the worst, I could walk down it two miles to the Colorado River. As I read the map, I wouldn't be able to reach the river before then. There was a slight possibility of some water before Kwagunt, but I didn't count on it. As it turned out, there was no water before Kwagunt and I was wishing that I had started with a full gallon. I found myself rationing my water and still having to walk for at least an hour with an empty canteen. The scientists say that a man can lose 5% of his body weight from perspiration before he is in trouble. Camels and burros can lose up to 25% of their weight and drink back the lost water in a matter of minutes with no ill effects. Today I climbed up 1000 feet and then went down into the next valley about four times. There were clouds and a threat of rain each afternoon, but there was no water at all for the eight hours between Lava and Kwagunt Canyons and the sun burned down all day.

A Note About Sleeping - One thing to remember is that summer nights in the Grand Canyon can be insufferably warm inside an ordinary sleeping bag. A pitiful sight is a string of boy scouts toiling up the Bright Angel Trail in their heavy uniforms wearing neckerchiefs and carrying packs overstuffed with heavy sleeping bags. A corner usually protrudes and you can see that they are brand new. It took me a few summers to learn that a single blanket is about right. On the six nights of the Butte Fault Trek described previously, one blanket was too cool for only an hour or two one morning and my plastic sheet, which was my only protection, was added reinforcement. The tenderfoot may also wonder about rattlesnakes and mountain lions. A more important hazard would be the night prowling rodents. At the camp on lower Lava, I kept hearing rustling sounds

around my pack during the night. After feeble attempts to get it away from the mice, I carried my pack far enough away from my bed so that I wouldn't hear the pests. Strangely enough, I didn't notice any food missing in the morning.

In the arm of Carbon Creek that follows the fault, there are a few seeps. The water dries leaving a white deposit. An old prospector once told me that this water sickened his companion. The side canyons between Lava and Kwagunt all lead to narrow gorges through the river cliffs with impassable dry falls barring the way. Near the top of the divide between Carbon and 60 Mile Canyons, there is an old corral formed with barb wire. It seems like an odd place for this, especially since there is no water nearby. This area must have seen some real traffic at one time. After John D. Lee was executed for his part in the Mountain Meadows Massacre, rumors flew concerning a cache of gold nuggets he was supposed to have hidden somewhere in the Nankoweap basin. Mines were worked for silver and copper near the mouth of Lava Creek, and there are many claim markers along the fault, especially as you descend into Nankoweap.

After a trying day in the heat with barely enough water, I was glad to make an early camp by the running water in Kwagunt Canyon. The next day was a long one. I left my gear near Kwagunt and climbed over into Nankoweap Canyon. This was my second visit but I still hadn't located the end of the Nankoweap Trail. I had kept above the Supai formation and then climbed down a crack to join the trail at the top of the Redwall. The map shows the trail ending just below the Redwall. On a later trip, I located the bottom end of the trail also, but this time I scrambled up a ravine to find the lower end of the trail as shown on the map. Occasionally it would be obliterated by slides, but I traced it rather well to the top of the Redwall and then followed it far enough up to the last cliff at the top of the Supai to identify it. It's hard to believe that it was once used for stock, because now there are places where a man on foot has to proceed with great caution. When I returned to Nankoweap Creek, which has a better flow than either Kwagunt or Lava, it was already dusk. I thought it would be easier and more pleasant to inflate the air mattress and put my shoes and clothes in my pack. Riffles sound like major rapids at night, and by the time I had landed and tried to walk barefooted among the river boulders, I saw the error of my planning. Instead I struggled through the willow and mesquite thickets on the right bank. When I finally reached the mouth of Kwagunt and had walked two miles to my bedroll, it was after 10:00 p.m.

The return to the south rim on Wednesday and Thursday was over a now familiar route. It took nine hours to follow the fault from Kwagunt to Lava Canyon, but the rest was clear sailing. I went down Lava to the river and floated on my mattress for a half mile below the rapid. The east bank of the river is mostly level sand and gravel with here and there a struggle through a minor thicket, but I reached the foot of the Tanner Trail in time to make camp by daylight. Most of the time I'm impressed by the scarcity of rattlesnakes, but just as I was thinking how long I had gone since seeing one, a small one buzzed at me on Wednesday, and on Thursday a big one warned

me when I was walking straight toward it. Sometimes I go up the Tanner Trail in close to five hours, but on the last day of the six day trek, it took me six and a half. I must have been worn down but I had seen what a tough life the horse thieves elected and had independently found one of the finest Indian ruins in the park as well as one of the four best natural bridges. I came back with numerous exclusive pictures and memories that will last the rest of my life.

Exploring the gorge of the Little Colorado River [1956 to 1964]

I had not heard very much about the Little Colorado River Gorge. I found the US Geological Survey map of the lower portion, and the eight indicated trails to the bottom of the gorge intrigued me. I soon learned, however, that most of these are not trails in the usual meaning of the word. For instance, a party of geologists carried a ladder for use on the Blue Spring Trail. Bighorn sheep may still use the trails, but burros could manage only two of the eight. In 1954, I became acquainted with Otis Marston, the intrepid boatman from Berkeley who chronicles all things pertaining to the Colorado River. His letters contained a wealth of information about the entire area. He told me that there had long been a rumor of gold at the mouth of the Little Colorado River. Melvin McCormick of Flagstaff said that a man named Jim Coleman had actually found a little gold seven miles up the river from its mouth.

In conversation, correspondence, and books; I learned a few more items concerning the area around the Little Colorado River Gorge. Major Powell reported seeing an Indian ruin near the mouth of the Little Colorado. In the magazine *Arizona Days and Ways*, I saw pictures of a river party swimming in a blue lagoon at the mouth of the river, and *Life* showed this water contrasting sharply with the muddy Colorado where the two rivers meet. Gradually, the Little Colorado rose to the top of my list of hiking ambitions.

In April, 1956, I visited the river for the first of eleven treks deep into the gorge. I had inferred that one could reach the mouth of the Little Colorado by using the Tanner Trail, the head of which is on the south rim of the Grand Canyon just east of Lipan Point. I knew from previous experience that this trail is long, rough, and without water. Still, with food for only two days, I was able to set a fast pace. What a difference the summer heat makes, when the canyons become deep traps. Thirst and resulting madness have killed four people near this trail during the last decade. A thorough apprenticeship on the well maintained trails shows you the necessity of carrying plenty of water, but even when you observe this precaution, you are weakened by the heat.

In early April, however, conditions were perfect and I could enjoy the views, the pinnacles near the north rim, and the great buttes near the river. The Little Colorado River, in its lower course, goes west from Cameron, then turns north, and finally goes west again for the last seven miles

before it joins the Colorado. The morning sun shining directly through this 3400 foot gash in the plateau illuminated Chuar Butte directly opposite the river's mouth. When I reached the foot of the Tanner Trail, I paused to note on the other side of tumultuous Tanner Rapid, the contrast of black lava and red shale in the same cliff.

It is only seven river miles from Tanner Rapids to the mouth of the Little Colorado, but it must be about twelve rough miles on foot. My eyes were my guide as I followed the best route I could; up over the knolls to the east and then down through the willows, mesquite, and open dunes along the east side of the river. Progress is comparatively easy until you reach an old camp below an abandoned copper mine. Looking north you see an abrupt change. There's a 300 foot cliff quite close to the river, with rough slopes both above and below it. Fearing that the upper talus might lead me higher and finally prevent me from getting down to the river, I chose the lower route.

There was no sign and I began to have misgivings about the route. The cliff came progressively closer to the water, and finally the bank gave out. The great bulk of Chuar Butte loomed directly ahead, and I know that I had come three fourths of the distance from the copper mine to the mouth of the Little Colorado. A salt-draped wall came down into deep water, and nearby a crude ladder made of driftwood poles leaned against the cliff. Only three rungs were left, and two of them were loose at one end. The rusted nails showed that a white man had intended to use this route to the notch in the cliff above, but even if the ladder had been sound, I could not have scaled the remaining ten feet to safety. I had to retrace my path along the river and camp at the beginning of the cliff near the copper mine.

The next morning I took the route above the cliff which I had decided against the day before. In places the trail is still clear, but there are gaps where one is only a few feet from a 300 foot cliff, and the footing is on shale sloping right to the brink.

Carrying only a canteen and a light camera, I moved fast enough to reach the Little Colorado River and get a few pictures, then returned to my pack with time left to follow the Colorado back to the Tanner Trail and climb back to my car the same day.

After I returned from this reconnaissance, Dock Marston introduced me to the story of the Hopi Salt Expedition. Until 1912, a few Hopi Indians performed the annual ritual of going from their reservation home to get salt at the mouth of the Little Colorado. Although the Hopi obtained most of their salt by trade with the Zunis, this strenuous pilgrimage brought honor to the participants, and the special salt secured was supposed to bring success to the entire clan. Mr. Marston told me where to find a published account of the Hopi expedition of 1912. In 1937, a Yale University scientist, Mischa Titiev, interviewed Sun Chief, who at the age of seventeen had been one of the three participants in this final Hopi salt trek, and obtained his firsthand story of the undertaking.

Sun Chief related that before starting out, the pilgrims had to purify themselves according to certain rules. Along the way they performed ceremonies at special landmarks. The Hopi had a feeling of superstitious awe for the region near the mouth of the Little Colorado River. There was even a taboo against gazing idly at the scenery.

About four and one-half miles upstream from the mouth of the tributary, there's a large mound of travertine built up by a gas-charged mineral spring, which forms a pool at the top. The Hopi believed that the ancestors of the human race had come from the underworld through this spring. They called it the original Sipapu or ventilators in the floors of their kivas. Another reason for their awe here was that they believed the spirits of their deceased kinsmen still lingered in the area.

The exact place where the three Hopi hobbled their burros in 1912 and started their descent into the canyon is clear. The 1924 US Geological Survey map shows Salt Trail Canyon reaching the river six and one-half miles from its mouth. The trail is currently marked on the map. On the rim of the canyon itself, a pair of large cairns, or rock piles, mark the trailhead, and smaller cairns are frequent along the route.

Sun Chief remembered seeing pictures on certain rocks depicting a fur quilt and a crowing chicken. He recalled a cave, which only the senior member of the party was allowed to inspect. Anything new in the cave was considered a bad omen, but an old corncob or grinding stone would predict good health and prosperity.

In his account Sun Chief mentioned the Sipapu, but on this point his story does not agree with nature. He reported that the spring was quiet when the pilgrims arrived but suddenly began to boil. Every time that I have visited this site, the gas has bubbled hour after hour without stopping.

Near the Sipapu, there was a wet spot where one of the three men took off some of his clothing and pulled out handfuls of the sacred clay. A feeling of weakness which later affected all three men was attributed to the fact that the clay digger should have removed all of his clothing.

Sun Chief related that when they came to the junction of the two rivers, they followed the Colorado, but he failed to specify whether they went up or downstream. Since he was a boy of seventeen when he went on the famed pilgrimage and it was twenty-five years later when he gave his verbal account, it is hardly to be wondered at if he was sometimes a bit unclear about minor landmarks along the trail. He did, however, recall that at the end of the trail it was necessary to use a rope to get down to the river. He was also definite in remembering a peculiar

rock where they fastened the rope. This rock, shaped like a man's chest, was where a demigod had changed himself into stone.

Using the Chief's account as a guide, Mr. Marston had been trying for some time to identify the location of the source of the Hopi salt. On one of his river trips he had seen a deposit of salt on the east side of the river five miles upstream from the mouth of the Little Colorado, and he thought this might be the location. It was around the bend in the river, and this agreed with Sun Chief's account.

Accepting Marston's choice of this location for the salt site, I was eager to cover the trail from Salt Trail Canyon to the spot. At the end of May, 1956, two months after my first sortie, I started off. Since I was not familiar with the reservation roads, I went to the mouth by the same route as before. Two months had made a great change in both rivers. The red flow from the upper Little Colorado had ceased weeks earlier, and the only water in the bed had been coming from Blue Springs and smaller sources in the lower twenty-one miles of the riverbed. This mineralized water had covered the red silt with a filmy white mud as smooth as cold cream. The Colorado was pouring past in the spring flood, and the brown water held back the tributary in a deep blue lagoon. Above this long pool the bed of the Little Colorado rises an average of twenty-eight feet per mile, more than four times the grade of the Colorado River. The permanent flow from the springs is more than three times the flow of Havasu Creek, and the flavor of the water is a disagreeable mixture of table salt and Epsom salt. The tincture is weak, and a doctor had pronounced it safe to drink indefinitely. I have used it for up to thirty-six consecutive hours, but the flavor became increasingly repugnant, and I was glad to dip my canteen again into the muddy Colorado.

The minerals in the brackish water almost make it unfit for drinking, but they make it a treat for the eye. Over the talcum powder mud, the pools are pale blue, and the cascades break into sparkling spray. The view from Cape Solitude, 3400 feet above the junction of the two rivers, shows the contrast of the pale blue of the shallow upper stream, the indigo of the deep and quiet lagoon, and the brown of the irresistible main stream.

After a night near a rock cabin, I was off to an early start. Going up the riverbed is relatively easy. Sometimes you may fight a bit of brush, but mainly you walk on sand and gravel, fording the stream occasionally. The coolness of the water is pleasant, but you may have to brace against the current. Cameras should be kept in waterproof bags.

Each bend in the canyon presents another terrific vista of upsurging walls cut by ravines into towers and ramparts. My senses could appreciate only a limited amount of this overpowering grandeur, and I began to notice the little things - a deer track or a water ouzel doing its dipping curtsy between dives. I noticed a shallow cave at the base of the wall on the north side and found

smoke stains on its ceiling. A few men have come and gone here, but the wilderness remains as it has been for a million years. You wonder whether this Eden is still safe or whether dam builders will harness the spring and summer floods. You hope that a careful calculation will convince them that hydroelectric development here would be a financial loss. Improvements should be made on the trails so that more people could enjoy these glistening cataracts and turquoise pools, but there the improvements should stop.

Up a side ravine I saw a salt spring, and my scramble to reach it was rewarded by a fine view down the river. Around the next bend I came upon the original Sipapu. It is a chocolate-colored cone about twenty-five yards wide at the base and ten yards across the flat top. A pool ten feet across occupies the center, and the billious yellow water hides the bottom. By the cupful the water is clear, and the taste is no worse than that of the mineralized river water. More gas than water is coming from the stem of this morningglory pool where, according to the Hopi, the ancestors of the human race emerged. Mr. McCormick of Flagstaff, who was here in his teens when his father and uncle were working the mines, tells how they would jump into the center of the pool. The gas would pop them to the surface for an unintended reenactment of the Hopi myth. When I had picked my way through the tamarisks, over rocks, and along gravel bars for another two miles, I came to the first side canyon. It had to be Salt Trail Canyon, but for the first hundred yards I could see no trail. After I had scrambled up the shale to the east, I saw a trace of a trail on the other side. Numerous cairns guided me, but it is a rugged route, especially through the Redwall and again in the limestone at the top. It occurred to me that the discovery of this route must have been a hunter in hot pursuit of a bighorn sheep. I could see why the Hopi felt the need of supernatural help for this pilgrimage. I sampled the water from a pothole near the top of the Redwall and was surprised to find it just as salty as the springs below. At one or two places piles of bright chert fragments decorate the top of flat rocks. They must have been carried down from the rim and left as calling cards. I realized how much more this trip would mean to a Hopi believer than to a vacationing mathematics professor. It satisfied my craving for natural beauty and my curiosity about a little known part of Arizona. To a Hopi it would be linked with prosperity and status and even have a bearing on the afterlife.

When I hike away from my bedroll and food supply, I usually turn back soon after noon, but this trip was an exception. It was nearly three o'clock when I passed the large cairns marking the head of the trail and continued on to the ridge where I could see the Echo Cliffs beyond Highway 89. Car tracks showed that one can drive a car to within a quarter of a mile from the trailhead. While hurrying back, I was careless at the top of the Redwall and lost twenty minutes by overshooting the right place for a safe descent. Darkness caught me more than an hour's walk from my camp, but as it was too cool to sleep without my bedroll, I stumbled on through rocks and brush until I reached it.

I had planned to go to Marston's salt site in the morning, but after thinking it over I decided that it did not fit Sun Chief's description of the location he had visited. True, it was around the bend in the river, but it did not fit in a more important detail. The site could be reached without the need for using a rope. One can walk the bank upstream to the spot. I thought Sun Chief could hardly have been wrong in remembering the need for a rope to scale the cliff at the site of the salt he had visited. I had previously walked the west bank past Marston's location. So I decided to return to the car without visiting it.

Less than a month after this trip up Salt Trail Canyon, two airliners collided twenty thousand feet above the mouth of the Little Colorado. Most of the grisly debris fell on the west side of the river, but the park authorities closed the area to all except investigators of the disaster.

By the time I was free to go there again, I had read in the August, 1914 issue of National Geographic Magazine an account by Emery and Ellsworth Kolb, photographers at Grand Canyon village, of a trip they took with a loaded burro down the Tanner Trail and along the east bank of the Colorado River to the mouth of the Little Colorado. They photographed and described things which seem to have been fairly well known at the time, including the rock cabin where I had camped on my first trek into the area. The Kolbs not only found tools and a plough left by the man who built the cabin (supposedly a man named Beamer) but they saw the clearing for his garden. River runners can still note the swinging door, the neat window, and the bed made of driftwood with plaited rope springs. One can only wonder what sort of man wanted to live here, how he thought he could make a living, and when he came and left.

If I had read the Kolb's article before my first trip into this region, I would have followed their route above the river cliff on my first attempt and would not have observed the driftwood ladder which I had noticed leaning against the cliff where I was forced to turn back.

About this time I read another account of Sun Chief's 1912 salt expedition, this time in his biography, Sun Chief, by Simmons. His story of the trip was essentially the same as what he told Titiev, but with one very important addition. To Simmons he stated that about thirty feet from the spot where the pilgrims had to use a rope to get down the cliff to the river, they saw a ladder of driftwood poles made by a white man. As soon as I read this, I knew that Marston had been wrong and that I had already been to the Hopi salt source. The ladder was a positive identification and I was sure there could be no mistake. However, I still wanted to find a way down from the trail above, and I was also eager to see the Blue Spring Trail.

My desire to see the latter was increased by reading the account in Desert Magazine of a trip taken by Kit Wing and Les Womack, two park rangers. They had used most of two days carrying two hundred pounds of equipment from the rim to the river. To get down they considered a

climbing rope an absolute necessity. Their heaviest load contained a sixty-pound boat, and they also carried forty pounds of drinking water.

Just after Christmas in 1957, I tried to find the Blue Spring Trail. Leaving my car at Desert View, I followed an old wagon road north to the vicinity of Comanche Point. This is the prominent peak along the rim four miles north of Desert View. Acting on impulse, I detoured to climb it.

About once a year I reach another finest viewpoint in the park, but my vote for Comanche Point still holds. The nearest point on the horizon is four and one-half miles away, behind Desert View. You can swing through 360 degrees of striking scenery, from the pastel colors of the Painted Desert to the needle-sharp summit of Vishnu Temple.

After climbing this peak, I returned to my project of attempting to find the Blue Spring Trail. I went east into the valley which begins at the very rim of the Grand Canyon and drains into the Little Colorado north of Gold Hill, the northern most of two buttes rising above this plateau. Navaho sheep corrals and abandoned hogans are common in this area, but near the dry streambed I came upon a structure which aroused my curiosity; a straight wall built of fieldstone, about three feet high, forty feet long, and two feet thick. The absence of any other walls here made me think it may have been a hunting blind.

After reaching the end of this valley above a sheer precipice, I made camp. Among the numerous water pockets in the limestone, I found one with several inches of water beneath two inches of ice. Winter camping is rugged, but at least there are no bugs. No frost formed on my bag because I slept under a cozy ledge.

In the morning I picked the most likely looking ravine for my descent. On the north side of the bay, the position of this agreed with my recollection of the position of the Blue Spring Trail as shown on the map. No car tracks were to be seen, and there was no cairn at the top, but I started down anyhow. It was difficult enough to challenge a man without a rope, but I finally reached the rim of the Redwall directly above the river. Here, about ten miles up from the mouth, the vertical walls often come right into the quiet pools. The spring water stays above freezing, but I had no desire to go swimming. It was just as well that I had missed the Blue Spring Trail and couldn't get down the last cliff into the river. My return to the car that night was different in that I improvised a more direct cross-country route, but I still had to walk two and one-half hours after dark.

Further study of the map showed me where I had missed the trail. It was in the next bay to the south. On a morning in late May, 1958, I walked from Desert View to the north of Gold Hill so early that I decided I had time to visit Cape Solitude above the junction of the rivers. Ranger Dan

Davis has nominated this for the finest viewpoint, and I can see why. The sky island called Chuar Butte is just a mile to the northwest, Marble Canyon opens to the north, and to the west the pinnacles of Walhalla Plateau loom above you. The morbid note was the debris of the double plane wreck still exposed below.

The detour to Cape Solitude was longer than I had anticipated, and it was about six o'clock before I neared the head of the Blue Spring Trail. My gallon canteen was nearly empty, and I faced a situation which could become embarrassing. Where would I get water? There was a frog croaking several hundred yards away at an apparently empty stock tank. If I stopped long enough to investigate, I would lose my bare chance of reaching the river by daylight. But from what I had heard of the need for ropes and ladders, could I hope to reach the bottom that night anyhow? Brashly I started down.

There is something odd about this trail. For the first fifty yards it's a well constructed horse trail. This ends abruptly above a hand-and-toe scramble down rough ledges. Quite soon I came to a place which really made me wonder. Twenty feet ahead was a cairn, but to reach it I had to sidestep along a mere crack, holding to another at shoulder height. This is above a forty-foot shear drop, and I was not too much surprised on a later occasion when some friends who wanted to see the Blue Springs changed their minds right here. Luck was with me that evening, and I never lost the route for more than a few yards. I reached the springs by 8:30 p.m., only twenty-five minutes after dark. Incidentally, some of the arrows do not locate the trail. I think geologists used them to indicate locations of fossils.

After the difficult upper part of this trail is past, you are due for a surprise. There is a well built horse trail the rest of the way to the top of the Redwall. In 1921, surveyors were here locating dam sites. Perhaps they brought supplies down the hard part of the trail on their backs and then used horses. I wonder how they could bring horses down these cliffs, but recently found the answer. Five miles upstream, the Horse Trail comes down from the opposite rim. Don't ask me why they didn't just bring their supplies down that trail in the first place! Since I only wanted to reach the mouth the next night, I spent my entire time reconnoitering upstream. The mud and quicksand were so bad that I carried a stick to jab down and make sure that there was a bottom. At one place a spring in the bed keeps some black sand dancing. Another spring up on the wall forms a fan of travertine covered with ferns and moss. I had hoped to reach the last of the spring water, but later learned that this is twenty-one miles above the mouth, five miles farther than I had time to go on this occasion. I did go three miles upstream from Blue Springs until the Redwall Formation was out of sight below ground. These big springs at the foot of the trail issue from fissures less than a foot above pool level. To collect so much water from the desert, there must be quite a system of underground plumbing.

Back from my six mile side trip, I started downriver with my pack at 8:30 a.m. Quite soon I had to cross deep pools with no bank except the wall. Wing and Womack chose the hard way to do it, with their sixty-pound boat. I simply lay on my air mattress and paddled with my hands. Getting wet every fifteen minutes was a pleasant relief from the hundred plus heat. The deepening Redwall trench forms the most spectacular part of the entire gorge. White cascades over the travertine barriers lured me into using the last of my color film. A mishap occurred when I caught my inflated air mattress on a catchclaw. For the next two nights, I would go to sleep in comfort, only to wake up with a rock in my ribs.

Below the Redwall, I stowed the mattress and forded the river at will. I missed seeing the Coleman Gold Mine, but I noted the mouths of Big Canyon and Salt Trail Canyon. There was time to examine the Sipapu. I had been drinking the spring water for twenty-four hours, and the muddy Colorado was a welcome relief.

The next day as I started down the Colorado along the Beamer Trail above the steadily rising cliff, I watched for a ravine where I could go down to the ladder and the Hopi salt. After an hour of rough walking, I came to one with a ruined cairn at the angle where the rim turns away from the river. Across the way, most of the descent was in sight. This obvious slope ends at a small cliff above the bed of the wash. Before giving up, I looked over the edge and saw a cairn on a shelf eight feet down. A large block of sandstone furnished a safe anchorage for my rope, and I got down by using knots to assist my grip. (This is not the rope descent the Hopi remembered. In fact, when I brought my friend Allyn Cureton here in 1959, he was able to climb down without a rope.) The shelf I had now reached led to an easy scramble down to the flat bed, which soon ended at a thirty-foot drop to the riverbank.

This was the right place - I could now see the ladder. I crawled under an overhang to a pocket directly above the ladder, but I was afraid to test the crumbling wind-eroded ledges below. I even had some bad moments while getting back. I must have been a bit shaken, for I forgot to look for the fabulous rope-support rock that is shaped like a man's chest. Halfway to the Beamer Trail above, I remembered it and went back to look. It is in plain sight, the most peculiar example of erosion of bedrock I have ever seen in the bed of a wash. It stands out like a saddle horn a foot in diameter, and it is located exactly where you need to fasten a rope for the shortest rappel. (When I was back here with Cureton we doubled a seventy-five foot rope around this projection, and it was more than adequate.)

Although I had left my one short rope above, I could have followed the Beamer Trail to the south end of the cliff and returned along the river. But since pictures would be needed for a full report, I went home instead and wrote letters to Dock Marston and Dan Davis, telling them how to find the place. I said that I would return later and take definite pictures in cooler weather if they didn't do this before I got back to it.

Dan passed the word to Fred Kiseman Jr., who is now teaching in Phoenix. Fred had been interested in repeating the Hopi expedition before I had even heard of it, and his wife had glimpsed the ladder while they were coming down the river. With two companions he now went down Salt Trail Canyon, rappelled to the river, and found the shallow salt caves. He identified most of Sun Chief's landmarks, and recorded the trek on film, had the salt analyzed, and published a full account in Plateau, the journal of the Museum of Northern Arizona.

I heard that some young Hopi tried to renew the salt tradition a few years ago but were unable to locate the place.

My next visit to the Little Colorado River Gorge was by far the easiest, but nevertheless it was a real thrill. One of my students, Alan Osbon, had a Saturday job tending an automatic river flow gage eleven and one-half miles downstream from Cameron. The USGS engineers have constructed a most interesting means for reaching this gage. You cross from the south rim to the north by a hand-powered cable car. It accommodates two people, and there is no railing above the seat level. As you gather speed in your coast to the middle of the canyon, the one-inch cable seems very inconspicuous above the thousand feet of empty space. We let the old cat die so that I could take a couple of pictures, and then Alan pumped us up to the north rim. From there we walked a half mile to the head of Sheep Trail, the only well built and maintained trail into the gorge. Another cable can get you across the bottom during floods, but Alan led me over the rapidly drying bed on stepping stones. An ingeniously constructed trail goes along the cliffs to the gage.

For several years after this trip I did not visit the Little Colorado, but in January, 1963, my daughter flew me over the gorge. The views changed so fast that I lost track of details. I was unable to identify some of my own pictures. A few weeks later I took several students, and we located the Hopi Crossing seven miles below Cameron at the beginning of the final gorge. We also inspected the dam site a mile and one-half downstream. Steel rods and cut wires show that a ladder had once been anchored here. The main canyon at this point is about three hundred feet deep, but a vertical walled inner gorge forms a sluice gate about thirty-five feet wide and seventy feet deep. Bureau of Reclamation engineers built a foot bridge that still spans this chasm. What a place this would be to stand during a flood! The bed is wide and not steep above this gate, and a seventy foot dam would back water under the Cameron bridge.

The topographical survey map of 1926 shows the general profile of the bed, but it does not locate the relatively abrupt slopes such as a drop of twenty feet in a hundred yards. This seems to indicate that the surveyors did not run a line along the entire bed but rather took spot checks from the rim. The profile map shows a steeper grade for the lowest twenty-eight miles, an easily remembered average of twenty-eight feet per mile. For the next twenty-two miles, the average is

twenty-one feet per mile. To interpret these figures one might recall that the grade of the Virgin River in Zion National Park is thirty feet per mile and that the Colorado in the Grand Canyon drops six feet per mile. The steepest mile of the Little Colorado is the part just upstream from Salt Trail Canyon, where the drop is seventy feet.

After seeing the Hopi Crossing and the dam site, our group tried to locate the Dam Site Trail. The difficulty in using the map is that since nothing is shown back from the rim, it's impossible to distinguish between a mere notch in the rim and a major drainage. We went down a big wash which ended at a precipice. A search on another occasion showed how we could get halfway to the bottom just west of the ravines, and on the third attempt we found, still farther west, the cairn-marked trailhead. The top thirty feet of this trail seemed steeper than the Blue Spring Trail and may require a rope.

Another trail shown on the maps a few miles north of the tourist viewpoint is the Moody. It is also well hidden, and a Navaho whom we met in the area told us that there was no way to get to the bottom. He spoke English well and certainly understood our question. He did point out Hell Hole Bend and thus confirmed our location. We were ready to agree with the Indian about the impossibility of getting to the bottom of the canyon when we decided to examine the end of the valley just north of Hell Hole Bend. During rains it would produce a 1200 foot fall, but now I could follow a bench north to an almost vertical crack. When I had descended as far as I dared, I found a heavy wire looped around a boulder. The wire had kinks in it for better gripping. We had run out of time, and I preferred to bring my own rope rather than try the wire.

A year later I was back. Numerous ledges made rappelling unnecessary, and a strong climber could have come down without a rope. Below the top cliff the route was still confusing, and I wasted a half hour investigating a dead end. The discovery of some fossil footprints compensated for this effort. I finally began to find cairns.

On the return these markers led me to an easier slot in the rim. A crude bridge of three juniper logs is at the bottom of this break, and higher is a fixed cable. Near the top a huge limestone slab has fallen across, forming a roof. Large cairns mark the trailhead, but it is easy to miss since it is about a third of the way from the plateau to the bed of the wash. The Moody Trail reaches the riverbed at Mile 33, twelve miles upstream from the fourth trail going down from the left rim, the Piute Trail. The best approach to the Piute Trail is by Jeep from Desert View past Cedar Mountain. When I undertook the investigation of this trail with some students, we would have appreciated having a map showing the region back from the rim. We walked for fifteen minutes in the wrong direction before we could locate ourselves on the river map. The route goes down a geologic fault where the strata to the east are sixty feet higher than the same rocks to the west. There is considerable danger of rolling rocks onto the person below you on the trail, but in only one place is it necessary to use one's hands for climbing. This route is direct and easy compared

to the Blue Spring and Moody Trails. The first permanent spring is at Mile 21, but the water tastes just as bad as at Blue Springs. We dunked in a pool to cool off on this July 4, 1963, and then walked three miles down the bed to where the map shows the Horse Trail. I climbed the talus to look for this east rim trail, but I came away thinking that no ordinary horse could negotiate the lowest two hundred feet.

There were only two trails left for me to investigate. To find the head of the Horse Trail, I used the map of the Blue Springs Quadrangle. After a day of scouting the reservation roads, I was ready for another major project. I wanted to walk the rest of the bed from Mile 16 to Cameron at Mile 57. There was no record that this had ever been done.

A Navaho had told Womack that a waterfall would make boating through the upper gorge impossible even if the river contained enough water. I was willing to bet that I could find a way past any obstruction in the bed of such a silt-choked stream. Mud would be a greater threat to steady progress than would a rockfall. During early summer, heat would be a problem. In April, July, and August; floods would present another hazard. Drinking water might be scarce in the autumn. Therefore, Christmas vacation seemed the best time to undertake the long walk.

On January 1, 1964, my wife and another faculty couple, the Gibsons, drove out with me to a point on the right rim at Mile 9. We ate our lunch and then climbed a knoll for a better view of the blue water in the Redwall trench and of Salt Trail Canyon to the north. Then we drove, after one bad guess, to a draw that led to the Horse Trail. When Ellery and I began to find signs of a trail, he turned back, wishing me success in my venture, and I was on my own for the next two and one-half days. He was to park my Jeep for me at Cameron. If I couldn't get to the bottom of the gorge or if I came to an impasse in the bed, I would be in a difficult situation. I hoped that my two-quart canteen would be adequate.

The Horse Trail soon reached the usual dropoff at the top of the Coconino Sandstone. After a short search, I found the bypass to the right. A ledge carries the trail to a scree-filled ravine. The only other problem was the 200 foot descent to the riverbed. I wasted 15 or 20 minutes before I noticed a ledge on the other side of a dry fall. A huge slab had fallen on this shelf, but even a horse could walk through the tunnel formed by the leaning rock. On reaching the bottom, I walked downstream until I found the Redwall Formation, which proved that I had overlapped my previous trek. Ice covered the pools but the riffles were open water. The weather was relatively mild, and my down bag was warm enough.

The geological formations in the Little Colorado are not as colorful as those in the Grand Canyon. The transition is gradual until the nondescript brown of desert varnish covers all but the scars of fresh rockfalls. The charm here depends not on color but on form. There are towers cut off from the rim, great pyramids of shattered rock, and then smooth walls that are sheer for a

thousand feet. To keep my bearings among these miles of confusing similar walls, I noted the time on my map at each right turn in the canyon. I thus avoided the lack of orientation I had felt on solo trips down the San Juan and Marble Canyons. The cold had frozen the mud on my January trip, and I could walk over the waterholes on safe ice. Still there were places where I could fill my canteen. At Mile 40.5, a hip-deep pool crosses from wall to wall. The ice was a fine bridge.

The bed is mostly sand and gravel interspersed with fields of boulders. Near Mile 40 is a Hell's Half Mile, a jumble of rocks, some of which are as big as a house. The bed must drop twenty feet within a hundred yards. The Little Colorado has been known to flow seventy thousand cubic feet per second, more than the usual spring flood in the Colorado itself.

If I had been prospecting for ore, I would have been disappointed. Still, there was plenty to notice. Eight miles upstream from where the Redwall went under, it showed again, and here at Mile 24 was the best cave shelter I saw. The floor had been cleaned by a flood, but there was still one burnt stick, the only sign besides the trails that people had even been down here. A geologist would find this trip rewarding. I found fossil footprints and noted that the Hermit Shale is missing.

A more startling discovery was a rockfall crater. A block of sandstone seven by seven by five feet had fallen 950 feet into the wet sand. The shock wave had stopped in a circle twenty-three feet in diameter, forming a hole five feet deep. The rock must have fallen recently, for a flood would have washed away the sandy rim of the crater. This rockfall was in Hell Hole Bend, and I still had twenty-three miles of walking and another night in the open before I would reach Cameron, my destination. For the second campsite, I found a brushy terrace with a concentration of driftwood. An all night fire dispelled the cold. On the home stretch I came once more to the cable crossing. Farther east the walls drop fast, but this narrow part of the canyon is still breathtakingly deep. I believe the view was even more impressive from below than when we were hanging from that spider line in the sky. The monotony of the last weary miles was broken by finding a ringtail cat dead from unknown causes and a live porcupine far from the nearest pine. The trek was a great experience, but I was glad to see the Cameron Bridge.

The map gave me one last challenge, and it was a first rate puzzle. The map shows the Indian Maid Trail going up to the east rim directly opposite the Moody Trail. Several men went with me to trace the Indian Maid Trail to the opposite rim. Allyn Cureton found some pottery fragments of a rare type, which an expert at Window Rock has identified as early Navaho. Jay Hunt, sponsor of the college hiking club, found two cairns and wanted to continue up the main ravine. I insisted, however, that we follow the route shown on the map over to a parallel ravine farther west. Here Allyn and I did some interesting rock climbing before we had to admit that this ravine is impassable. By this time it was too late to check the main ravine that day. On another weekend

I took some men down the Horse Trail to see Blue Springs. We returned to our car on Sunday early enough to look for the head of the Indian Maid Trail. There are no road signs, and we were lucky to hit the rim within a quarter of a mile of the right ravine. The prospect was not encouraging. Behind a promontory, where I had hoped to find the trail, there was no sign of it. We passed three cracks in the rim as we walked to the ravine where the map showed the trail. The top of this ravine was smooth-walled, more obviously impossible than where Allyn and I had turned back on the previous trip. I returned to the most likely looking location of the three slots in the rim near the main ravine where I started down. Within a few yards I came to the severest test, a block wedge in the crack. I had to let myself down and feel for footing beneath. The rest of the descent was steep, but care in route selection brought me to a series of cairns. The way was clear to reach the part of the Indian Maid Trail which we had found on our earlier trip.

Map study and many systematic sorties over a period of several years had brought me to my goal, an intimate knowledge of this fascinating gorge.

EARLY PROTOLOGS

My first visit to Phantom Canyon

[date unknown]

This was on the first day of a two day hiking club trip to Bright Angel Campground. Three of us got away soon after lunch and went up the bed of Phantom Creek. The two students (Taylor and Wilson) were real hustlers and I was struggling to keep them in sight. When they came to the fall in the Tapeats, they stood back and waited for me. One of them said It's Your turn Dock. Show us how to go on. I backed up a few yards and climbed the wall on the south side. They saw me find the grips, but still neither of them offered to come up the same way. I went on to the junction with Haunted Canyon and figured that it was time to turn back. I met one of the boys who had succeeded in getting up the same wall, but he turned back with me.

My first visit to Supai

[spring, 1946]

Jim Jackson was president of the hiking club at the college and they went to Supai for their spring outing. I recall that we cooked as a group. The mine shacks were still in place at the campground just north of Havasu Falls. I can recall going up Carbonate Canyon and noting the mine shaft there, but the most impressive thing I did on that trip was to walk to the river and back. Right after the second World War, there was no trail down to the river, at least for long stretches where the way was overgrown with a dense tangle of wild grape vines. Jean Rowe had told me about killing seven rattlesnakes on the way to the river so I carried a big stick to defend myself. I wondered how I would ever see the rattlers under the tangle of growth. There were places where I tried going along the base of the cliff in order to pass the worst thickets, and in

this way I found a couple of mine shafts quite far downstream. They were deep enough to require ventilating machinery.

Toward the river I got rather high on the slope to get away from the vines and I slipped and came down with one hand on sharp limestone and the other on a barrel cactus. I used my stick to help keep my balance when I was crossing on the tops of the travertine dams in the creekbed. It took a long day of struggle to go from our camp near Havasu Falls to the Colorado river and back. This was a four day trip since at that time qualified hikers were allowed to add Thursday and Friday to their weekend for the club spring trip.

My first trip to Clear Creek
[sometime in 1948]

This must have been quite early, perhaps about Veterans Day, 1948. It was an overnight hiking club trip to Bright Angel Campground. I got down to the camp well before noon and I would have taken off for Clear Creek soon thereafter, but one of the students wanted to go along. He held us up until about 12:30 p.m. With darkness so early, we knew that we had to shortcut down the steep shale to get a refill for the canteens and then come back by the regular trail. On the way back wherever there was a bit of downhill trail, I broke into a jog but still we got back to camp after dark. The student was nearly lame the next day and had a bad time while getting out.

Indian Gardens to Hermit's Rest loop hike
[perhaps February 21, 1949 to February 23, 1949]

I recall that Jean Rowe and I had 40 pound packs to carry down to Indian Gardens where we camped overnight, in fact two nights. I had only a bunch of old blankets for a bedroll which I carried over my shoulder like a horseshoe in addition to a pack with the communal food. This was the time that I left the party just before sunup and walked the Tonto Trail over to Hermit Creek and then returned to Hermit Rest and got back to Indian Gardens about 11:00 p.m. I had been given a three mile ride along the West Rim Road, but it was something like a 26 mile day.

Supai
[May 14, 1949 to May 15, 1949]

This was a family trip taking our kids and Tommy Benson and Yvonne Cogdill with us to see Supai. The children got horseback rides and plenty of swimming. We did the usual climb down to the bottom of Mooney Falls and probably scrambled at least part way up Ghost Canyon to the west of the campgrounds.

I am rather sure I was at Supai with the hiking club again before I began taking pictures of my trips, say for four days in 1948.

Roaring Springs and Ribbon Falls [perhaps June 3 and 4, 1949]

We had a family trip to the North Rim and Bryce and Zion. I walked down to Phantom Ranch from the North Rim and got back the same day even though I took the short detour to see Ribbon Falls and almost an hour for the inspection of Roaring Springs. I climbed up into the mouth of the cave and found an old pair of rubber boots that had been left there. On this trip, we scrambled down through most of the Kaibab on the Transept side of the campground to look at a small Indian ruin that we had been told was there. There were signs that they had pumped water up to the rim from a small spring down there.

Grandview Trail [perhaps sometime in 1949]

On a day trip with the Pullens down the Grandview Trail, we went around to the west side of Cottonwood Canyon and Jean Rowe and I tried going down the creekbed below the Tapeats. We didn't get very far because of the lack of time. I recall that I wondered how we would get out of there if the Grandview Trail should give way where it was held up by logs.

Old Bright Angel Canyon Trail [sometime in the 1950's]

I was camping at the North Rim sometime in the fifties when I decided to see the Old Bright Angel Canyon Trail that was replaced by the constructed trail down Roaring Springs Canyon. I didn't have my own map and I recall that I studied the map under glass at the North Rim Lodge. The next morning I went down the North Kaibab Trail to Bright Angel Creek and up the trace of a trail along the far side of the creek. I was able to tell where to cross the creek and go up through the Redwall. Some telephone line was lying around which helped. I got along the top of the Redwall over to Trough Spring, but then I lost the trail in the Scrub Oak. Rather than beat my way up the brushy slope, I backtracked and went up the Kaibab Trail. After more map study, I went out the next morning and followed the road that crosses a meadow away from the Point Imperial and Cape Royal Highway. When I got to the rim across from where the trail comes up, I could see the switchbacks in the brush below. I walked around and went down the trail, most of which was still in evidence to Trough Spring and then came back out the same way.

Down the Old Hance Trail to Sockdolager Rapids [sometime in 1952]

Where do we go from here? That was the thought occurring to the three of us: Marvin Hole, Boyd Moore, and I. We were in Hance Canyon, a side canyon leading down to the Colorado River between Grandview Point and Moran Point. We had been told that you couldn't get down this creekbed to the river by two experienced canyon hikers who were professional geologists. And yet we were almost sure that this must be the route referred to as the Old Trail. Mr. Edwin E. McKee, the geologists and former Chief Naturalist at Grand Canyon National Park, had written that the Old Trail, although completely obliterated, had been located a few miles west of the Red Canyon Trail, which is still shown on the official map. We were in the only deep side canyon between Grandview and Red Canyons below Moran Point.

We also knew from reading G. W. James, that ropes and rope ladders were used near the river in the granite. We could see why. Before us the little stream dropped over a ten-foot fall and just beyond that we could see a still deeper drop. The sides of the narrow bed were vertical and well polished. We didn't intend to use ropes, and we hated to give up. Upstream a few yards, there seemed to be a chance to climb out of the bed to the east. When you are approaching the crest of the ridge, there is a tense moment. Will the other side give a route for descent, or will it be vertical? This one was all right and we were soon down to the bottom of the wash below this series of falls. It would be awkward if we were to miss this route on our return, so we left a marker, a dead stalk from a century plant.

After only five minutes of easy walking, we came to another barrier fall. This time we thought the route lay to the left or west. After an attempt to scale the cliffs here, we gave it up as being too dangerous in the rotten rock. Only 50 yards farther upstream, we found an easy climb up and over this ridge. It was farther down to the bottom this time, but the walking was over nothing worse than a talus slope. It seemed only a short time until we were stuck again. We knew by now that we must be rather near the river, and it would be most annoying to have to give up at this point. The only possibility seemed to be to the east, and it was steeper here than it had been before where we had succeeded. The climb wasn't very long, but the other side seemed still harder to descend. I went ahead past another ridge and saw that the descent there was out of the question. One of the boys started down where we had topped the first crest and soon reported success in getting to the bottom. Right at the river, we easily saw that we had to make a very slight detour to the west again.

Success and vindication! We recognized the view up the Colorado as the scene given in an old book above the caption, AAt the foot of the Old Trail. @ We were in the heart of the Granite Gorge although the beginning of the granite was less than two miles upriver. The river seems very narrow here, although we found that it takes a good arm to throw a rock clear against the cliff on the other side. We were at the beginning of Sockdolager Rapids which made such an impression on the two Powell parties. Here there was no question of walking along a boulder

strewn beach even at low water. When we first saw the mouth of Hance Creek, it was near the end of May and the high water was racing by. The estimates of waves as high as the boat was long, seems like something the badly frightened party had imagined, but the four or five foot waves we noted had a way of popping up across the entire river and continued as far downstream as we could see. Anyone who fell into that water would go a long way whether alive or dead.

The high water had backed up into the south of the creek and this lagoon was quiet, a most pleasing contrast to the torrent a few feet farther out. The day was warm and we followed the example of the travelers who had been here more than a half century earlier. The comments in the Hance Ranch guest book often mentioned a swim in the Colorado. We were able to swim up to a platform in the granite below the last fall which was inaccessible except from this approach.

Echo Cliffs and Navaho Bridge

[May 8, 1952]

This was a hiking club trip to Zion and Bryce but I have pictures only of the Echo Cliffs and Navaho Bridge. I recall that we stopped there long enough to drop big rocks from the middle of the bridge and were impressed by the noise they made when they hit the water. The reverberation in the canyon was almost like a cannon. I walked west along the north rim of Marble Canyon to get a better picture of the bridge.

First Trip to Thunder River

[July 4, 1952 to July 6, 1952]

This was my first trip to Thunder River, the one with Henry Hall. I followed the east rim of the lower gorge of Tapeats Creek to the overlook down the river, but I didn't get down to the mouth of the creek on this trip. I saw how it could be done using the scree slope on the west side. Henry had a hard time on this trip and took something like 12 hours to get from the car to the creek. We must have started out very early because I don't recall that we separated. I believe I went ahead on the first day and got down to the river and back while Henry was continuing down to the campsite. We had a little rain on our way out and this relieved the water situation since it put fresh water in rainpools.

South Kaibab and Bright Angel Trails

[December 27, 1952]

This must have been a one day trip down the South Kaibab Trail and up the Bright Angel Trail.

Grandview Trail to New Hance Trail loop hike

[January 22, 1953 to January 23, 1953]

This was going to be a one day trip down the Grandview Trail, along the Tonto to Hance Rapids, and up the New Hance Trail. When Robert Gardner couldn't make it in one day and he and Boyd stayed by a fire at Hance Rapids overnight, I went home and carried food back the next day. I met Gardner on the Bright Angel Shale of the Hance Trail and then went around and met Boyd coming up the Grandview Trail Sunday evening. I had no map and missed the proper way to come up the Redwall in Red Canyon by very little. I was on the trail until I was supposed to follow a shelf around the corner and walk up the trail to the top. Instead I scrambled up a crack to the top on the north side of the promontory. The last light of the winter day showed me where I should try to go up the Coconino and then I lost the trail in the dark when I had a few ledges above me in the Kaibab Limestone. I scrambled from ledge to ledge and got out about 8:15 p.m. Then I had to walk the rim road to pick up the car at Grandview Point. I was driving toward the village when a ranger car came east with three college girls to look for me. After I took the students to the campus, I tried to sleep about three hours before getting started back to help Gardner and Moore. We were home to Flagstaff about 11:00 p.m. on Sunday.

Phantom Creek and Haunted Canyon

[May 23, 1953 to May 27, 1953]

A four day trip with Boyd Moore. We went down the Hermit Trail and probably camped at Monument Creek. I believe we had time the first day to go to the mouth of Monument and back. The second day we walked to the Bright Angel Trail and went to the river and over to Phantom Ranch. We still had time to walk up Phantom Creek and camp above the fall in the Tapeats. On the next day we walked up Haunted Canyon and inspected the shallow cave above the spring. I recall that we went up to the Redwall at the head of Haunted Canyon and I climbed a lot higher on the wall than Boyd wanted to. Still I couldn't bring myself to take the chance of getting spread-eagled helplessly reaching for tiny handholds and make it out on top as I think a very good climber might have. On the fourth day Boyd and I walked out the South Kaibab Trail and over to our car. I can't recall having to walk all the way to Hermit Rest, so I suppose Roma took us to the take-off point while we left one car at the South Kaibab Trail head. One point of interest was that we found a name and date in pencil in the cave above the spring in Haunted Canyon. I recall that the date was 1926. Later Euler found split twig figurines in this cave after Peck had missed them.

South Kaibab Trail and Bright Angel Trail loop hike

[July 20, 1953]

A one day trip with Jim and Linda Burdette down the South Kaibab Trail and up the Bright Angel Trail.

Hance Rapids

[January 23, 1954]

A one day trip to Hance Rapids and back.

Clear Creek

[February 21, 1954 to February 24, 1954]

This was the time Boyd and I went down and slept at Bright Angel Campground. Then when we were high above Bright Angel Creek on our way to Clear Creek the next morning, I remembered that I had not let the water out of the radiator of the 34 car. It had a slow leak already and I was carrying five gallons of water in the back seat to fill the radiator before returning to Flagstaff. I put down my pack and took my canteen and a lunch and hiked back down to Phantom Ranch and then up the South Kaibab Trail. After starting the water to drain about noon, I turned around and hiked over to Clear Creek. On that day Boyd had tried to go down the bed of Clear Creek to the river, but when he saw that he would have to trust his shoe soles to get back past the little waterfall, he gave up that idea. On the third day we hiked out. When I was coming up the South Kaibab Trail with only my canteen and a lunch, I did the walk from the campground to the rim in 170 minutes. This was my fastest time ever. In 1957 I made my fastest time carrying a pack. It only weighed about 19 pounds and I made the trip in 188 minutes from the campground to the head of the South Kaibab Trail.

Hermit Trail to Granite Rapids

[August 1, 1954 to August 2, 1954]

Ellery Gibson and I went down the Hermit Trail and to the river at Monument Creek. At that time the Purtyman river running gear was cached there. Later they got mules to the place and took out all but two heavy rubber boats. Georgie White came along later and with Elmer's permission, she tied them with their bottoms exposed and set them loose in the river. They were found several months later among the driftwood of upper Lake Mead. I experimented above Granite Falls with air mattress navigation and found it quite handy. I could cross to the far wall and get back with no tendency to be swept into the rapid. We then walked over and camped by Hermit Creek. The next morning Ellery and I went down to see Hermit Rapid. Then he walked back to the rim while I paddled down to Boucher Creek on my mattress and then walked up the Boucher Trail. I got there about a half hour behind Ellery.

Floating the Colorado River through Sockdolager and Grapevine Rapids

[sometime in September, 1954]

This very memorable trip occurred just after college began. I met a young GI teacher in the training school, Ben Surwill, who liked my idea of using an air mattress on the Colorado River. He went with me down the New Hance Trail and we took to the water below Hance Rapids. The most noteworthy sighting was a bighorn ram in the Supai ravine of Red Canyon. It was large but old and not quick and it lay down as soon as it was out of sight the first time, at very close range of about 15 feet. We caught up with it two more times until it went down the Redwall break to the bottom of the gorge about a quarter mile from its head in the Redwall. Ben and I tried to walk past the rapids, but at Sockdolager and Grapevine Rapids, we got by only about a third of each on the right side. We rode the waves in good style with the mattress extended crosswise like waterwings. Ben went over one rock where the water seemed to fall several feet at a steep angle on the downhill side. I had gone to the rocks on the left to try to crawl past this place, but he hailed me just as he went over. I would guess that the water over the rock was only three feet deep, but he went over it without scraping or getting flustered. He had to pull over in an eddy and wait for me to catch up. We got to the Kaibab Bridge after 6:30 p.m. and ate our supper before starting up the Kaibab Trail. Ellery Gibson had come down to the bridge to see us arrive about 6:00 p.m. and at 6:30 p.m. he went back to the rim and told our wives that we wouldn't be along that night. Ben had been good in the water, but he was slow on the trail, six and a half hours to the rim. Roma had taken Ellery's advice and finally drove home, but Mrs. Surwill came up to get us about 2:00 a.m.

Floating the Colorado River from Tanner Rapids to Hance Rapids
[sometime in September, 1954]

About two weeks later, I undertook to paddle my air mattress from Tanner to Hance Rapids. A freshman from Winslow, Arizona (I believe his name was Hanson) convinced me that he would be good at that sort of thing including the walk to the rim. Dale Slocum, who had gotten me quite a bit of publicity for my previous trip by air mattress through Grapevine and Sockdolager Rapids, and his friend, Young Veazy, wanted to go too. In fact Dale furnished the transportation up to Lipan Point where we slept by the car to get an early start. This was my first trip down the Tanner Trail and I lost it below the Redwall. I believe we walked the bed part of the way and then paralleled the trail but below it in the Tapeats. The freshman and I got to the bed below the Tapeats and then had to wait for the other two. When we did take off in the river, Veazy soon became quite ill and threw up. I asked Dale to take him back up the Tanner Trail while the boy and I went ahead with the project. My companion was fine in the water, but when we started up the Hance Trail I found that he was even worse than Ben had been. We took about eight hours to get to the rim and arrived long after dark. The boy was so sleepy that he took the two air mattresses for warmth and lay down in the gutter beside the highway. I spent the rest of the night trying to keep warm. After finding that the men's room was too cold and the floor of a generator room too greasy, I finally fell asleep for a short time when the sun hit Lipan Point. I couldn't get my sleeping bag because Dale had locked his car. Dale Slocum and Young Veazy hadn't arrived

even by morning light, and I wanted to take food and water down to them. A ranger loaned me a canteen but no food. I waited until a car came from Flagstaff with food before walking down to meet them. They had found a cache of canned food but they hadn't had a refill for their canteens since about 4:00 p.m. the day before. They had botched the trip by starting up too far west of the trail and then going back to the river to start again. When Veazy and Slocum finally came to the rim shortly before noon, Slocum was having a harder time keeping any sort of pace than Veazy.

Grandview Trail to Hance Canyon
[sometime in November, 1954]

This must have been the Thanksgiving trip with Boyd Moore and Marvin Hole. We went to Hance Canyon from Grandview Point and tried to get to the head of Sockdolager Rapids, but we turned back without quite enough time. Then we got on the Tonto without using the burro shortcut from the Archaean of the bed and walked around Horseshoe Mesa and slept the second night at Boulder Canyon. The next night we slept on the sand below the River Trail and came out the Bright Angel Trail the last day.

New Hance Trail to Old Hance Trail loop hike
[December 21, 1954 to December 23, 1954]

For the first night I slept at Hance Rapid and then went over to Hance Canyon via the Tonto Trail and the shortcut in from the east. I looked for a way to get down into Mineral Canyon without success. Later on students told me that they could do this with an approach from the west. At the end of the second day I was trying to find the right bypasses to get around the falls in the lower bed of Hance Canyon, but I didn't allow enough time to complete this project. I wanted to be sure that I could go up the Old Hance Trail and have time enough to retreat and go out the Grandview Trail if necessary. The old trail was all right.

Navaho Bridge Sheep Trail
[May 1, 1955]

This one day might count as experience in the Grand Canyon. We walked down the sheep trail a half mile upriver from the Navaho Bridge on our way to Bryce Canyon.

Point Imperial to Tanner Trail
[May 24, 1955 to May 27, 1955]

This was the trip when Boyd was drowned. We came down from Point Imperial to the Saddle and then lost the trail. We spent a dry night on the Hermit below the east end of Saddle Mountain and then got down a break in the top Supai to the trail leading to Tilted Mesa. Our break faced

Little Nankoweap and was not what I used by myself on another occasion. After a late breakfast at Nankoweap Creek, we walked up and inspected Kolb Bridge and I measured it with a string. That second night, and Boyd's last, we slept by Nankoweap Creek, and then went down to the Colorado river through lower Nankoweap Creek. We walked the right bank of the Colorado River to within about a mile from the mouth Little Colorado River and then tried to get across the flooded river. As I have detailed these events elsewhere, Boyd drowned and I slept that night near Palisades Creek and struggled out the Tanner Trail the next day.

Clear Creek

[sometime in November, 1955]

This must have been a two day trip to Clear Creek because I have pictures of Cheyava Falls to show for it. I believe Allyn Cureton and Don Finicum came to college in the fall of 1956, so I wasn't with them.

Tanner Trail and Hopi Salt Mine

[April 3, 1956 to April 4, 1956]

This was a two day trip to the mouth of the Little Colorado River. I got down the Tanner Trail and went to the mouth of Palisades Creek in good time. Then I had to decide whether to walk above the bluff for the rest of the way or to stay closer to the river. I had no advance information to help me so I stayed close to the river. When I got to the ladder against the wall and the salt deposits, I came to where the wall came straight into the water and further progress was impossible unless one were to climb the ladder. It was obviously not safe so I retreated to Palisades Creek and spent the night. Early the next morning I went up the bluff and found the Beamer Trail marked with a few cairns but with very little recognizable trail. I took a few pictures of the mouth of the Little Colorado River and then turned back. I was able to pick up my pack at Palisades Creek and still walk out to the rim on the Tanner Trail that same day.

Old Hance Trail to Sockdolager Rapids then out the Grandview Trail

[May 25, 1956 to May 26, 1956]

This was the time that I took Jack Morrow down the Old Hance Trail and we succeeded in getting to the head of Sockdolager Rapids by means of the three bypasses, first to the right, then the left, and then again to the right. We didn't encounter any chockstone near the river as it is now. We went back out the Grandview Trail.

Little Colorado River

[May 28, 1956 to May 30, 1956]

This was the trip when I expected to go to the Hopi Salt Mine which would be opposite the mouth of Kwagunt Creek, according to Dock. Then as I was approaching the Little Colorado River, I convinced myself that he had to be wrong, and I went up Salt Trail Canyon far enough to get a view of the Echo Cliffs. I slept at the mouth of the Little Colorado two nights and saw the Beamer Cabin, but I didn't go off the Beamer Trail and locate the descent to the Hopi Salt Mine. I think I noticed the big cairn on the point just north of the descent.

Deer Creek Falls

[June 4, 1956 to June 6, 1956]

This was a visit to Tapeats Creek and Deer Creek Falls. I must have been by myself. I was able to see the clear water of Deer Creek falling into the muddy Colorado, but the river was not as high as it was in Reilly's photo. I slept along Tapeats Creek and went over to Deer Creek and back without my pack.

South Bass Trail

[October 20, 1956 to October 21, 1956]

This was my solo trip down the South Bass Trail and across the river on my air mattress. I got as far as the bank of Shinumo Creek without going as far as Shinumo Gardens to see the old campsite. I slept on a pocket of sand near the Ross Wheeler.

South Bass Trail and Copper Canyon

[November 10, 1956 to November 12, 1956]

This was a trip with Don and Allyn. We left our packs near the old Ross Wheeler and hiked west on the Tonto Plateau. Without knowing about the descent to the mine in Copper Canyon, we walked the Tonto until we could look across to Hakatai Canyon. On the way back we saw the mine and went down to it. Then we followed the trail going up behind it and out toward the river beneath the Tapeats. We saw a mine across on the west wall of Copper Canyon, but we continued east near the base of the Tapeats without finding a trail all the way. We got down to the river a little upstream from the mouth of Shinumo Creek and then made our way back to our packs. We hiked out the following day.

South Bass Trail and Elves Chasm

[December 29, 1956 to December 31, 1956]

Allyn Cureton and I went down the South Bass Trail and along the Tonto to the west. This time we found the trail off the Tonto to the mine in Copper Canyon and then we climbed out the other side. We put down our packs between Garnet Canyon and Elves Chasm and then hurried in the

fading light to see Elves Chasm and back to our packs. The following day we walked up to the rim and spent a fairly comfortable night next to the barn at Pasture Wash Ranger Station. We spent more time down here than I had remembered. This was the time when we had Roma drive our car home from the head of the South Bass Trail. We intended to walk the Tonto Trail back to Hermit Rest, but I got worried about reaching water and we decided to go to the rim and walk the park boundary road. We spent a fairly comfortable night by a fire next to the barn at Pasture Wash Ranger Station and then we walked most of the way along the park boundary before a ranger named Iverson picked us up and took us to our car at Hermit Rest.

Cremation Canyon
[February 16, 1957]

This was a one day trip to see the split twig figurine cave in Cremation Canyon. I believe this was the time that I visited the seep spring high in the Bright Angel Shale on the east side of Cremation Canyon.

Clear Creek
[March 2, 1957 to March 3, 1957]

This was a trip over to Clear Creek to see the split twig figurine cave. Allyn Cureton was with me. This may have been the time that he and I walked up to see Cheyava Falls and then back to our packs. We still had time to walk clear out that same day.

Sockdolager Rapids
[March 9, 1957]

Ellery Gibson, Don Finicum, Allyn, and I went down to the foot of Sockdolager Rapids and back in one day. We used the trail off the west fork of Horseshoe Mesa. Allyn went down a harder way from below the Tapeats than I used, and he went up through the Redwall east of the trail in the hollow of the horseshoe.

Old Hance Trail
[March 16, 1957]

This was a trip down the Old Hance Trail and up the Grandview Trail with the variation that we went along the east side of Grandview Point on the trail that used to come off the rim back near where the hotel once stood. I believe that Allyn Cureton and I went out along the east base of Sinking Ship and then made our way down to the Redwall to intercept the Old Trail down there.

Old Hance Trail

[March 31, 1957]

Allyn and I went down the Old Hance Trail and took time out to climb into the big cave in the Redwall, Tse An Bide. Then we went down Hance Creek and did the three bypasses, but didn't have the bother of the chockstone near the river. We came back to the spur trail through the Tapeats on the west side of Hance Canyon and used the Grandview Trail to get out.

The Colorado River at Mile 79.9

[April 13, 1957]

This was the trip with Sharon and Elaine Crowder when I got to the river by a difficult route at Mile 79.9. In 1974 one boy made it down here but his companion fell to his death trying to reach water. I didn't have a very big canteen in those days and I was also pressed for water, or I might not have persisted in getting to the river. It was questionable right to the end.

My first hike down the Boucher Trail

[April 18, 1957 to April 21, 1957]

This was my spring vacation hike from Hermit Rest down the Boucher Trail and along the Tonto to come out the Bass Trail. It was my first time down the Boucher Trail and Dan Davis had given it a bad name. He said he had needed 11 hours to get down it, but I got down in five hours and 10 minutes including the time it took me to eat lunch under an overhang out of the rain. I looked around at the area including a visit to the river the first day. On the second day, I walked the Tonto Trail rather steadily without many detours except to look down on the Colorado River. I camped at Ruby Canyon after quite a long day of hiking. On the third day I reached the Bass Trail before noon and proceeded up to the rim. I believe I was able to get a refill for my canteen on the Esplanade and then I went on to Pasture Wash Ranger Station in the afternoon. The day was very windy and cold for April. I knew I would be cold sleeping out and it was too windy to think about keeping a fire going. I checked the back window of the ranger cabin and found that I could get in without breaking anything. I had a comfortable night on the floor inside and walked back to Hermit Rest on the fourth day.

Phantom Creek and Haunted Canyon

[May 4, 1957 to May 5, 1957]

This trip was at the height of the spring runoff from the North Rim and Allyn Cureton and I had some difficulty in crossing Bright Angel Creek. We went up the bed and had some assistance from a cable and a ladder that the engineers had installed when they were studying the idea of using the water from Haunted Canyon Spring to supplement Indian Garden water at the South Rim. They rejected this supply as not being enough and later removed the ladder at the Tapeats

Fall. Allyn and I slept near where a couple of sleeping bags were left in a garbage bag near the junction of Haunted Canyon and Phantom Creek. Lynn Coffin had told us to notice whether these supplies were still all right. As I now recall this trip more clearly, Allyn and I slept farther up Phantom Canyon. We went up the bed and saw a lot of water in a chute in the Bright Angel Shale. We didn't go up the last slope of water covered shale and around a bend into a sort of vertical tunnel or we would have seen a fine fall. This was the time when I left Allyn at camp early in the morning and went close to inspect the possible Redwall break in the Phantom Creek headwall. I had told him that I would be back at 8:00 a.m. or I might have gone up the Redwall at this time. We walked out that second day, using the route past Cheops Pyramid and down to the campground.

Great Thumb Trail

[May 25, 1957 to May 28, 1957]

Allyn Cureton and I had the idea of walking the Esplanade from the Great Thumb Trail around and down into Supai. We drove to the south rim with the idea of going out to Topocoba Hilltop from there, but the word from the rangers was that the road was muddy and dangerous, so we got into the car and drove around to Hualapai Hilltop. We were able to reach Topocoba Spring for camping although both of us were as tired as we have ever been by then. On the following day we went up the trail and out on Great Thumb Mesa around to the east side of 140 Mile Basin where we got down the trail to the lower spring. I didn't know there was a more reliable spring above at the base of the Coconino Sandstone. We pushed on to a pool fed by a seep in Olo Canyon for camping. We could see that the route was too slow to go on back to the car on the Esplanade to Supai in two more days, and since I wanted to be at home for our son's high school graduation, I elected to return much as we had come in. We varied the return by going up a talus and then into a ravine between Gatagama and Hamidrik Points. There was a place here that was hard and I had to give Allyn my pack. We slept near the end of the better part of the Jeep road and went down to the rain barrel at the end of the Topocoba Road for water in the morning.

Rim to rim with car exchange

[June 1, 1957 to June 2, 1957]

This was the only time I crossed the canyon one way and then came home in a different car. Henry Hall and I walked one way and met three men who were friends of Henry walking the opposite way. We exchanged car keys in the middle. The creek was still running high and we had just a bit of trouble in fording it all right. They used to have makeshift foot bridges and this seems to have been one of the times when the bridges were out.

Climbing Shiva Temple

[June 5, 1957 to June 7, 1957]

Allyn and I wanted to climb Shiva Temple. We found the Tiyo Point Road blocked by fallen trees and we couldn't get very close to the take off point near the ridge that extends toward Shiva. We walked for about four miles through the woods from a road junction marked by a piece of metal nailed to a pine bearing the words Shiva Temp Exp. The west fork ended in the woods not very close to the best place to leave the rim. I conjectured that for some reason the 1937 Museum Party started from the end of this fire road and this poor choice explains why they didn't get any farther than the saddle below Shiva the first day. We got off the rim where E. D. McKee had suggested and then we didn't know whether to cross the ravine and proceed along the top of the promontory to get through the Coconino in the canyon directly east of the Tiyo Point Road. There was still some time so we experimented with getting through the Coconino in the canyon directly east of the Tiyo Point Road. We got through about two-thirds of the Coconino and then we were stopped. On the following day we went to the right departure point and got through the Coconino directly beneath it. After my study of the 1937 published photos, we were able to pick the right ramp to go up Shiva, the first of two reasonable looking places on the east side. Allyn helped me once by going ahead and pulling out a dead agave from the best route, and we got to the top in just over three hours from the time when we left the north rim. We turned west from the work table near the top of the ascent and crossed the mesa near its middle. Then we followed the rim east and north until we came back to the access route. We passed two of the four corners of Shiva where Emery said that he had erected cairns, but we didn't see any rock piles. I wondered whether the Anthony party had knocked them down. Allyn and I spent more than an hour on top and then got back to the North Rim in just under three hours. We went up the Coconino at the end of the promontory and found this a lot better.

Widforss Point and west
[July 4, 1957]

This was a one day hike along the rim to Widforss Point and west. Keith Runcorn was doing some geological collecting along the North Kaibab Trail.

Dripping Springs and Mesa Eremita
[August 3, 1957]

This was a hike to Dripping Springs and up the Boucher Trail to look around from the rim of Mesa Eremita. We walked south to a road and then came back to Hermit Rest on the Hermit Trail.

My first visit to Powell Plateau and the North Bass Trail
[August 17, 1957 to August 19, 1957]

This was my first trip down the North Bass Trail. I spent the first day getting out to Swamp Point and then walking out to Dutton Point on Powell Plateau. On the second day I walked down to Shinumo Creek using the trail as shown on the map and left my pack where I reached Shinumo Creek. Then I had time to go down past the old Bass Camp and on downstream to where I had been when I crossed the river from the south side on my air mattress. On the return the next day I took the burro route to shortcut the swing to the west in the shale.

Looking for the Point Atoko Route

[August 21, 1957 to August 22, 1957]

On these days I was scouting for a way down into Lava Creek. I walked a lot of the rim the first day and figured I had a way through the Redwall west of Hubbell and on the next day I found the Coconino Route west of Point Atoko. I went down here and took a picture from below the Coconino.

Thunder River and above Tapeats Creek Source Cave

[August 27, 1957 to August 28, 1957]

Dale Hall and I went down from the rim between Monument and Crazy Jug Points and slept near Thunder River. In the morning we went along the slope above the inner gorge of Tapeats Creek over to the source cavern. We must have come back and carried our packs out the same day. Dale hitchhiked to Flagstaff while I drove on to Toroweap.

Toroweap and the Lava Rapids Trail

[August 29, 1957]

I spent a few hours at Toroweap. I talked to John Riffy and then went down the Lava Trail in 70 minutes and came back up in 80. While down there I went along the bank to get a good look at Vulcan Rapid. I recall that there was some water in the lake north of Vulcan's Throne and I walked from there to the rim.

Cottonwood Creek to the Colorado River

[September 14, 1957]

This was the day that we found a way to go down Cottonwood Creek and get to the river by using the talus just upriver from the mouth of Cottonwood Creek. We also entered Cottonwood through the Tapeats break on the east side. Then we went rather high along the west side beneath the Tapeats and came down to the bed just back from the river.

Lee's Ferry to Badger Rapids

[October 27, 1957]

We were waiting at Lee's Ferry to meet Gene Foster and I figured I had time for a hike. I crossed the bridge to the south side of the river and followed rather close to the rim until I could look down on Badger Rapids. Then I went back to the south and got into the bed from the east tributary. Upon reaching the river, I went upstream and crossed the river on my air mattress. I had seen from the south side a place to go up about two-thirds of the way to the top and then go west along a bench to enter a ravine that brought me out on the plateau well to the east of Badger Creek. Then I walked back to the car at the bridge parking lot.

Clear Creek

[November 9, 1957 to November 11, 1957]

This was the Veteran's Day trip to Clear Creek when Don Finicum and I followed the arm that starts below the saddle separating The Howlands from Angel's Gate. We didn't try to go through the pass but stayed on the Tonto around the base of The Howlands. We got into the valley below the Tapeats immediately to the east of Clear Creek and were able to get down it close to the river. Finally, near the bottom we had to climb out and go down a break slanting toward the mouth of Clear Creek. We finished the loop by going up the bed to our packs near the foot of the Clear Creek Trail (cf. Clear Creek Trip - November 9, 1957 later entry).

Big Saddle, Tapeats Cave, Deer Creek Falls, Chamberlain Canyon, and Kanab Canyon

[November 27, 1957 to December 1, 1957]

This was the Thanksgiving trip when Don, Allyn and I were dropped off from my car at Big Saddle and came up to my car taken to the mine in Hacks Canyon by the Finicum's. We slept the first night at the Tapeats Cave after Don and Allyn explored it as far in as the main channel. The next night we spent a cold and windy time on the beach a mile or so west of Deer Creek Falls. The next day was warmer with a fire in front of me while I slept at the base of a cliff in lower Kanab Creek. The following day we wasted some time by trying to find a way out Chamberlain Canyon because we didn't know what Hack Canyon looked like. We slept in the dry bed of Kanab Canyon and got to the car at the mine about noon the next day.

Blue Springs Trail

[December 29, 1957 to December 30, 1957]

This was the time that I took a cold weather hike to look for the Blue Springs Trail. I went along near the Palisades of the Desert and got the view from the top of Comanche Point and then headed for the north side of Gold Hill. I mistook the bay to the north of Blue Springs Bay for the real one and I succeeded in getting down a ravine that slopes south on the north side of the bay as

far as the rim of the Redwall. There is no way to continue here short of following the Redwall rim upstream to where the Blue Springs Trail goes down. I had to break over an inch of ice to get water for camping, but I slept surprisingly warm by getting down to the Redwall and back. I walked back to the car at Desert View and went home late at night.

Mouth of Horn Creek Rapids

[January 25, 1958; February, 25, 1958; and March 15, 1958]

These were one day trips down the Bright Angel Trail and over toward Horn Creek. On the third trip, Allyn took me down his route to the mouth of Horn Creek from the south.

New Hance Trail to Old Hance Trail loop hike

[March 30, 1958]

This was a one day trip down the New Hance Trail and up the Old Hance Trail to identify pictures in the book of Stoddard's Lectures.

Asbestos Canyon

[April 4, 1958 to April 8, 1958]

This was the Asbestos Canyon trip starting across from Phantom Ranch.

Hermit Trail to Boucher Trail loop hike below the Tapeats

[April 19, 1958]

The one day trip down the Hermit Trail using the cutoff down the Redwall to Hermit Camp south of Cathedral Stairs. I stayed below the Tapeats from Hermit Rapid to Boucher Rapid in order to see how a river runner could have done this along a beach trail. He couldn't! I went back up the Boucher Trail in five hours and twenty minutes at the end of this strenuous day. The boys with me went directly up the Hermit Trail from the river and were waiting for me at the car. It took me three and a half hours to go from Hermit to Boucher, slower than if I had gone back and used the Tonto Trail.

Spur trail west of Cottonwood Creek to the Colorado River

[May 3, 1958]

This was the day that I finally got to the river on the spur trail west of the mouth of Cottonwood Creek. I checked the old map right where the trail had fallen away and went east below the Tapeats and then down to the west.

Aerial tram across the Little Colorado River Gorge
[May 10, 1958]

This was the time that Alan Osbon took me across the Little Colorado River Gorge via the aerial tram east of the viewpoint. We went down the Sheep Trail and while we were there he cleaned out the automatic river flow meter.

Cape Solitude, Blue Springs, and Tanner Trails
[May 26, 1958 to May 29, 1958]

This trip took me out to Cape Solitude, down the Blue Springs Trail, up the Little Colorado River Gorge three miles, then down to the mouth of the Little Colorado River, along the Beamer Trail with a detour down to identify the Hopi Salt Source, and out the Tanner Trail.

Grand Scenic Divide, South Bass Trail, and Royal Arch Creek
[July 4, 1958 to July 6, 1958]

I went down the South Bass Trail and camped at the seep spring below the Coconino around to the west. The next day I went down the east arm of Royal Arch Creek and down the main bed as far as the spring, but I didn't get far enough to find the natural bridge. On the first day I went out to the end of Grand Scenic Divide and also climbed Mount Huethawali.

Phantom Creek
[July 25, 1958 to July 26, 1958]

On this trip I went up Bright Angel Creek to where I could go up on the Tonto and walk around into Phantom Creek. This time I went up to the very end of Phantom Creek right below the usually dry fall. I also climbed Cheops Plateau.

Butte Fault Trail
[August 22, 1958 to August 28, 1958]

I went down the Tanner Trail and across the river to go up Basalt Creek over into the bed of Lava. Then I climbed through the Redwall just west of Hubbell and walked around to the pass between Lava and Kwagunt. I spotted Hartman Bridge and spend the following half-day going up to it from below. Then I followed the Butte Fault to Kwagunt and Nankoweap and went up Tilted Mesa returning to Kwagunt via the riverbank. For the return trip after using the Butte Fault again, I crossed the river below the mouth of Lava and went up the Tanner Trail.

Atoko Point Route to Nankoweap Trail loop hike

[September 20, 1958 to September 21, 1958]

This time I got out of the car near Point Atoko and went down through the Coconino and around to the Lava-Kwagunt Saddle. I didn't know that I could get down into Kwagunt here, but I did and slept in lower Kwagunt below the spring. The next day I went over into Nankoweap via the Butte Fault Trail and out to the river to inspect the cliff dwellings. Then I tried to go up the Little Nankoweap Canyon and found that the main bed is blocked by dry falls. I had to go back and out the Nankoweap Trail, without a trace (at the time) of where the trail went. I climbed up through a crack in the Supai and ate dinner on the Hermit level. Then I had to walk in the dark to Point Imperial where Roma picked me up about twelve hours after I was supposed to get there.

Unkar Creek

[October 18, 1958 to October 19, 1958]

This time I went down the Tanner Trail and up Unkar Creek above the Tapeats Fall bypass. I visited the Lookout Ruin above Unkar.

Hopi Salt Source

[December 6, 1958 to December 7, 1958]

Allyn Cureton went with me to see the Hopi Salt Source. We left our packs at Palisades Creek and followed the Beamer Trail to rappel down to the salt source and walk back mostly in the dark beneath the bluff to find our packs in the dark (cf. December 6, 1957 - Hopi Salt Spring later entry).