

COPY OF THE PERSONAL DIARY OF THE U . S . GEOLOGICAL SURVEY  
KEPT BY GEORGE C . SIMMONS OF THE  
JULY 1956 CATARACT CANYON EXPEDITION

June 1, 1956

Today I am reminded that it is time to complete final arrangements for the forth coming boat trip. The field work at Slick Rock has been so occupying this summer that no opportunity has presented itself for checking equipment in Grand Junction. The reminder to get busy comes from good wife, Celia. She wants me to make out a will before departing. These trips, whether spelunking, mountain climbing, or boating, always seem to be a source of worry to her. So I muster up some consoling facts about our three fine boats which as far as I know are water virgins.

June 24, 1956

The long silence from Dick Lewis has prompted a trip to his camp near Kigalia Guard Station in the Abajo Mountains. Sons Clarke and David enjoyed riding Dick Jr.'s horse while Dick, Russ, and I discussed plans. New developments: 1. Departure date set back from July 1 to late in July; 2. Food will consist largely of flight rations; 3. The sixth man in the party will be a U.S.G.S. paleontologist.

July 14, 1956

Saw Sam Pyeatt in the Grand Junction AEC Compound today. He relays the information that Dick has set a July 19 meeting date for the river party in Junktown, and plans to embark July 20. I am to call Frank McKeown by radio at Orange Cliffs, and notify him of the departure date.

July 16, 1956

No luck in contacting Frank. Radio and quite a few miles of jeeping are his only contacts with the "outside".

July 17, 1956

Frank "radioed" me at Slick Rock this morning, much to my relief, and will meet with the crew in Grand Junction.

July 18, 1956

Drove into Junktown from Slick Rock, a hot five hour drive in a gutless jeep. Used the afternoon to purchase assorted odds and ends: salt tablets, bottle of rum, sun tan lotion, swimming

trunks, etc.

July 19, 1956

Spent today checking over the boats. Our fleet consists of three Army surplus, 10-man, black neoprene life rafts. Each boat is about 15 feet from stem to stern, and about 5 ½ feet in the beam. The boats' principal structure is a tube, perhaps two-feet in diameter, forming the outer rim of the boat. The tube is divided into two parts by an internal, horizontal, flexible diaphragm. In use, each half is inflated equally through separate valves. Should one half become ruptured, the other half contains enough air to keep the boat afloat, and could be later inflated to the capacity of the entire tube.

A neoprene layer forms the bottom of the boats. Inside, the boats are divided roughly into thirds by two inflatable seats, which lack several inches of reaching the elevation of the main tube. Outside of the main tube on all, save the stern, is an inflatable bumper guard.

Men in the U.S.G.S. shop in Denver constructed wood seats to fit above the rubber ones in the boat. The seats fit in the frame containing the oar lock assemblage. The latter consists of two 3/8" steel pins set in holes drilled into the frame, so that the pins form an inverted "V" with a small opening at the apex.

Our oars are top grade ash, have a perfect grain lie, and are nine-feet long. They taper slightly from handle end to blade end, so that they can be slipped into the open "V" of the oar locks near the blade, but will not slip out near the handle end.

From today's inspection it seems that: 1. the bumper guards leak on two boats; 2. the bumper guards will have to be tied close to the boats where toe oars sweep; 3. There is too much play between the oars and locks; 4. the oar locks, mounted so as to be equi-distant from each seat are too far away from the seats for me to get a full pull, but should be correct for the rest of the party, all of whom are larger and longer limbed than I.

Frank arrives early this afternoon.

Dick and Russ don't get in until after work, and with bad news. The U.S. Forest Ranger from Monticello Utah will be unable to make the trip due to the dry season in the La Sal National Forest.

July 20, 1956

What a day! First, Arnold Brokaw badgered me into signing a statement releasing the U.S.G.S. from any responsibility, should some accident be incurred on the voyage. Finally we got another man to fill out the party. About 10 AM Charley Sparks and Alvy Newman departed with the boats, followed by Bill Brueggemeyer and a pick-up load of food, life preservers, pumps, sleeping bars, etc.,—a real Okie. Don Wyant set arrangements to pick us up in Hite.

Don and Dick have a long talk about photographs and maps. We tell everybody good-bye, and the question we are put to most is: "Will the map tubes float?"

Finally we escape—some four hours behind the equipment.

The party consists of: Russ Campbell, Hank Dyer, Dick Lewis, Frank McKeown, Dick Rezak, George Simmons.

Dick Lewis, henceforth to be referred to as Looie, is in charge of the group and is also head of one of the two mapping projects, for which the trip is being made. Frank McKeown is the geologist in charge of the other mapping project. Russ Campbell, geologist, is Looie's assistant, and Hank Dyer, geologist, is assistant to Frank. Dick Rezak is a U.S.G.S. paleontologist. He will simplify the fossil collecting and identify some of the Paleozoic strata. I, though a geologist, am along as guide. Dick, Looie, and Russ work out of headquarters in the Denver Federal Center. The other three have headquarters in the Grand Junction AEC Compound.

We drive to the site of the former AEC Inter-River Camp on the Green River, and fail to find the equipment trucks there as expected. However, we are located by Hank Moore who has been jeeping along the river bottom looking for us all day. Hank gives us some air photos covering part of the route.

We drive down the Green for 10 miles to Hardscrabble Bottom, the embarking point. We unload our jeep station wagon. Then Frank and Hank drive off in search of the missing vehicles.

The Hardscrabble Quartet cracks the label on the gin bottle at 6:15, and follows with a quick supper at 6:30.

Looie and I try our luck at poaching a few catfish. Our luck is bad, but the surrounding mosquitoes have a feast. At dark Frank and Hank return, having found the lost equipment trucks. We unload the trucks, and Alvy, Bill, and Charley, heed back with the vehicles.

We try to rig up the oars with leather bindings, but are defeated by mosquitoes and a faltering Coleman lantern.

Four young prospectors come up the river with an outboard, and dock at "our" landing. One boy has been stranded near the confluence of the Colorado and Green for almost three weeks. He was picked up by the other three who saw his signal fire smoke from upstream.

A jeep arrives with a couple—lots of company out here.

We turn in at 10 PM—climbing on the Moenkopi ledges above the river, but no escape from the mosquitoes.

Looie's perpetual jokes and good humor promise an enjoyable voyage.

The moon swathes the cliffs with silver paint to the unsymphonic drone of the hungry horde.

Saturday, July 21, 1956

We all had a miserable night, too hot to stay in a sleeping bag, and too many mosquitoes not to. We are glad to be up at 5:15.

The equipment forms isolated heaps of confusion all about us. We decide to fix breakfast first.

After breakfast everything is moved to the launching site. All are solemnly pleased to see that all three boats float. The Robert E. Lee shoves off with Dick and Looie at 8:00 AM. Hank and Russ follow in the Dixie Belle at 8:20. Frank and I police the area, then cast off at 8:40 in the Jeff Davis.

The boats are all overloaded. Also, all bottom canvases on the boats leak, especially so in the Robert E. Lee. We must wrap the oars today, too.

About 10 AM we spot a doe fording the river, and offer thanks that we have delicious flight rations and are not tempted to shoot Bambi's mother.

At 11 AM the White Rim member of the Cutler formation makes its first appearance. This

I take to mark the boundary of Labyrinth Canyon above and Stillwater Canyon below.

The assumption regarding the location of the junction of Labyrinth and Stillwater Canyons was probably erroneous, and I believe it is considered to occur some 5 miles farther down stream at the apex of Bonita Bend.

At 1 PM we meet for lunch at the mouth of Millard Canyon. All have decided that we have too much equipment and the surplus is cached. Frank can get to the river here with a jeep and retrieve the gear at a later date.

2 PM near the start of Bonita Bend the Organ Rock member of the Cutler fm. crops out. There is small scale interfingering with the overlying White Rim member.

The day is hot so tie swim or float in the life jackets to keep cool.

Lots of small Indian ruins are spotted at the base of the White Rim, and at 4 PM we stop to inspect one. Hank and I climb a short rock pitch to a ruin, but find no evidence of inhabitants other than the dwelling itself.

The larger buildings are made of irregularly shaped slabs set in a durable adobe matrix so as to form smooth surfaces. The smaller ruins are not so well constructed, and many consist of rock walls without any matrix.

At 5:30 we camp on a sand island in the middle of the river. The mosquitoes start in again, but not nearly as bad as last night.

We decide on a beer appetizer before supper, I draw a Menu #7: Turkey, Pears, Date Pudding.

We are all tired tonight, especially Looie who got a heavy load of sun while cooling off this afternoon.

Frank swims out to a small adjacent island to ignite a log pile—in hopes that the smoke will hold down the mosquitoes.

Fortunately, a light breeze comes up, and we all sleep well.

Sunday, July 22, 1956

I crawl out of the sack at 5:15 AM and find myself the straggler—nothing easy going about this crew. Frank and I load up the canteens with river water which settled overnight in the bailing buckets.

Our drinking water was principally obtained from the Green and Colorado Rivers. We filled our bailing buckets, allowed the silt to settle overnight, and decanted the water into our canteens without treatment. No gastronomic side effects were noted.

It had been my unvoiced idea to rotate partners every half day so as to avoid any possible personal friction which sometimes develops toward the end of a long tiring day, when faces get long

and tempers short. The others teamed up so readily with their shipmates and seemed to prefer the boats they started in, that it was deemed best to continue as before.

It is funny how one can become so attached to an inanimate object. My old yellow boat Nicholas Needlefoot, falls in this category. I suppose it is because of the association of so many good times together, along with the feeling of security which comes with learning both your own and the boat's limitations, from handling in a variety of situations.

Well, this morning I felt a preference for the Jeff Davis. Only yesterday morning I picked the least favorable looking of the three boats for myself as I thought the others, not having had any white water experience, should have the better of the boats. Now the boat I selected seemed to be a bit better than the other two.

Frank and I drop behind the others to collect some chert samples from the Organ Rock member. Chert is a uranium mineralization guide in Frank's area of mapping.

Frank is particularly busy with notes and plotting contacts so I try not to annoy him and occupy myself with binding leather to our oars. The oars are finished, and handle much better than before.

This morning is mostly cloudy and cool. So, the oars get a work out in the new fittings, and we make good time in spite of slow water.

About noon we lash the boats together amid stream and form a lunch raft. We have passed into the Rico fm. and the canyon has become steeper and narrower.

Previously, I had scouted out parts of the canyon from the White Rim on the Inter-River side, but the country we are now traversing cannot be seen from the White Rim. Spectacular as is the canyon above with its great Wingate cliff, it doesn't compare with the gorge we are now in. One cannot pass through many of the canyons of the Green, or for that matter the Colorado, San Juan, Yampa, Dolores, San Miguel, Gunnison, etc. without feeling the stupendous grandeur of his surroundings and the minuteness of himself.

At 1 PM Frank and I stop to sample and photograph some fossil logs near the base of the Rico fm. The logs are in sandstone above which lie a few thin fossiliferous limestone beds. A few feet below is a section composed dominantly of limestone. Frank places the top of the Hermosa ls. at the top of this section.

The afternoon is cooled by a little wind and a little rain. We finally catch the others at the confluence of the Green and Colorado Rivers—where they are swimming—5 PM.

The boats are stripped, hauled ashore, and the hulls swamped off and left to dry while we eat supper. After the meal we check all seams and the hulls for leaks. Looie and Dick find a small tear which they repair in the Robert E. Lee. All of the boats have small leaks around the mast wells, and operations are decided upon for the wells and keels.

Everyone in bed by 9:00 PM. No mosquitoes!!

Monday, July 23, 1956

I wake up about 4:30 AM—beautiful alpenglow on the cliff tops. At 5:15 I get up and take a few pictures.

After breakfast Frank takes a lot of Brunton readings while I seal the mast well of the Jeff Davis, and try to make things as river worthy as possible.

Looie is anxious to get moving and shoves off at 9 AM. Hank and Russ shove off at 9 :45, and Frank and I at 10:00.

From now on our trip will be covered by the U.S.G.S. river maps of 1921, printed in 1922: "Plan and Profile of Colorado River, Lee's Ferry, Arizona to mouth of Green River, Utah; San Juan River, mouth to Chinle Creek, Utah, and certain tributaries." Mile markers are printed on the maps starting with "0" at Lee's Ferry. As there were few named reference points in the canyons until recently it has become customary to refer to rapids and other things by their location in regard to the mile markers.

We assemble on a shady beach across from Spanish Bottom (Mile 213) to look at some supposed outcrops of Paradox.

Looie is still eager to get moving and reach the mouth of Cross Canyon. I would sooner see the party together from now on. He goes on with Dick after I warn him to look over the 5th rapid.

Frank finished his work and we weigh anchor in company of the Dixie Belle.

This morning we all donned life jackets. They will henceforth be the uniform of the day. Earlier this year on two one-day trips on the Dolores River near Slick Rock all of the jackets were tested, and found to function properly.

Otis Marston, Dean of the Colorado River, Has devised a system of classifying rapids. In essence, the system rates a rapid from 1 to 10 according to its severity—the higher the number the more difficult the rapid.

In my 6-man boat, Nicholas Needlefoot, I usually run Class 1 to 3 rapids without looking them over. Class 4 rapids I check if I've not run them before. Last summer on the Western Speleological Institute Marble—Grand Canyon Expedition we used a 10-man, black neoprene boat like the ones on our current trip and found we could step up a class with the larger boat.

We view the first rapid at Mile 212 1/4 from mid-channel. Expectation is high as we start down the tongue. The tongue plays out and we get a nice ride on some 3-4 foot waves; (class 3). We quickly encounter Mile 212 Rapid. It has a steeper gradient and more waves than the first rapid. Another good ride and it looks like this Class 4 rapid has confirmed three more river rats.

At Mile 211 1/2 we run a Class 2 rapid. At Mile 211 is another Class 2 rapid with an "S" curve and a small rock island at its upper end. We pick the right channel which is carrying most of the water.

The 5th rapid looks easy from above, but so do lots of others, and we stop for a look. No sign of Looie and Dick.

The left side has some rocks, holes, and rough stuff. The extreme right bank has too many near surface rocks, and we decide on a course slightly to right of center.

Frank takes over the helm and I ride while Russ and Hank take pictures from the bank. Frank holds a good course and pulls us out in the eddy below on the right bank. We hurry back to get pictures of Russ and Hank.

The Dixie Belle is too far left and misses my last signals to pull right. She slips off the right side of the first big wave, but plunges into the hole behind. The second wave explodes under the

port quarter, and over she flips. Hard to believe if I hadn't seen it myself. I am tripping through the boulders, now racing down the beach. I hear Frank close behind. I knock off my hat and goggles as I run. The boys popped up in less than five seconds and the water is calm for a stretch below so there is no physical danger other than the loss of some of our closely calculated grub supply. But the outlook of the dunked is important so we waste no time. I grab the mooring line while Frank jumps in the boat and mans the oars. We reach the Dixie Belle in a minute. Frank grabs her and I take over our oars. I have trouble getting ashore so Hank climbs in and bears a hand while Russ tows from his aqueous position.

The boys didn't seem to mind the rain and are in good spirits, so I hasten upstream to retrieve the hurriedly left cameras, etc. after helping to upright the Dixie Belle.

When I return Looie and Dick have rowed up from a point 200 yards downstream and across the river. After a little chit chat they set out for Cross Canyon. We eat lunch. The 5th rapid is at Mile 210 ½ and I call it Class 5.

While trying to catch a quick cat nap after lunch a yellow racer gives me quite a start by brushing unexpectedly against my leg. He had a brown lizard in his mouth and continues into the rock pile where he was headed, unperturbed by my shouts.

A Class 3 rapid is at Mile 209 ½ Big boulders make the right side impassable. There is a cluster of boulders in the center. The best route is just to the right of the center boulders. However, as Frank and I pulled out close to the break on the left side, we choose to run the thin tongue on that side. The tongue is closely guarded on either side by a hole, but we slip through without difficulty. The Dixie Belle takes the other route.

The Class 2 rapid at Mile 209 is a very pretty one. It has a well developed "V" tongue, Frank takes us straight down the center—we ride smoothly on the gentle swells—the sides of the "V" draw tighter and tighter till we reach the vortex—then choppy water all around us as we pitch on the waves in the main channel.

No sight of the Robert E. Lee above the small canyon upstream from Cross Canyon so we

The canyon just upstream from Cross Canyon is now called Y Canyon.

run the broad shallow Class 1 rapid between the two canyons. We spot the Robert E. Lee, and pull into camp at the mouth of Cross Canyon.

We have a big time joking about the upset at supper time. It seems that several thousands of dollars worth of equipment will be written off to the upset. The actual losses are: Hank's Brunton compass, 1 Cooking kit, 1 first aid kit, a 200' length of manila line, 1 small tarp, also some of Russ's air photos got a little damp.

Tuesday, July 24, 1956

Curses, my camera is gummed up—no pictures thus far.

Looie heads up the small canyon to do some mapping. Russ goes up adjacent Cross Canyon

for the same purpose. Frank and Hank hike upstream to map. Some luck these guys have: the axis of the Meander Anticline follows the course of the Colorado River which marks the boundary of Frank's and Looie's areas. Faulting parallel to the anticlinal axis can prevent any undesirable features from creeping across the river into either area. What a break for scientific interpretation.

Dick replaces the patch on the Robert E. Lee bumper guard while I load up canteens from the "spring". The spring is actually river water, filtered through sand, and seeping down from upstream.

I straighten things up around camp then retire to the shade of a cottonwood tree.

Everyone is back in camp before noon. Looie found a black, 7-man neoprene boat like the rascal we used on last year's Grand Canyon trip. I get mixed up on history and paint Monitor instead of Merrimac on the little beast, much to the amusement of the others.

We load the boats and they shove off to a vantage point observing the Class 2 rapid below Cross Canyon. Upon receiving a signal Looie and I paddle the Monitor with boards to the middle of the rapid. We try to upset the boat for the photographers.

We grab the starboard safety line and fall to port. In the water we go, but the Monitor won't flip—so we are foiled.

Mile 207 rapid is a bare riffle.

Russ and Frank have been doing a lot of stop and go mapping today. We pick a camp on the left bank at the upper end of the Mile Long Rapid. From here I can see ½ mile upstream to the site of the first camp Dave Arnold and I pitched in Cataract Canyon, 10/27/52.

Tomorrow will be our toughest day on the river. The talus walls make for poor camping, and the roughest section of the canyon is here. To make tomorrow easier I decide to scout out the Mile Long Rapid today. Looie comes along.

The Mile Long Rapid is a tricky stretch of water, and forms a series of eight rapids at this stage. The 1st, 3rd, 5th, and 7th are easy. The 2nd is not a dangerous rapid in itself, but catching a load of water here might make a boat uncontrollable for important positioning on the 4th, 6th, and 8th. The best overall route figured is as follows:

1 (Class 1)—Go down right side of tongue to get in position for 2.

2 (Class 4)—Miss the heavier water and hold position by sneaking down the right bank. 2 trails into 3.

3 (Class 2)—Go down the tongue and skim the right side of the small boulder in the center and at end of rapid. Main position by skimming the right side of another small boulder in center between 3 and 4.

4 (Class 6)—The entire left side of the rapid forms a comb of jagged rocks out to a big boulder in the center. Most of the right side is blocked by large boulders over which water is pouring into deep holes followed by back lashes. A narrow safe route exists just to the right of the big center boulder. The target is about 10' wide. There are some nice 5-6 foot waves in the main channel below the rocks.

5 (Class 2)—This rapid has two poorly developed tongues—the weaker, left side, and stay left for 6.

6 (Class 6)—The right side of this rapids is the toughest stuff seen so far. The water plunges over the two monstrous boulders into mammoth holes—an ideal place for your mother-in-law—water in the center isn't much better as it piles through some jagged rocks. The only route is down the small chute on the left side.

7 (Class 2)—Follow the tongue down center, pulling left toward the end.



8 (Class 6)—Lots of rocks and holes on right and in center, dangerous. There is a safe tongue on the left side, however, entry is guarded by some small rocks which might deflect a boat to the center. So, it is better to make an indirect entry by working through rocks on the extreme left.

I hit the pad early.

Wednesday, July 25, 1956

Originally, the expedition was scheduled for an earlier date in belief that a little more water would afford a smoother passage. If the water looked too heavy we could hook the boats together in a raft and overwhelm the river if necessary rather than risk maneuvering or going through the agony of a portage. The water now is not as low as on the 1952 trip, but is too low for raft making, as many passages are too narrow.

Thus far I have been trying Norm Nevills' psychology of occasionally telling lurid stories of the ferocity of the canyon—so that when a bad rapid is reached the reality is nothing compared to its counterpart in oration.

This seems to have worked to my disadvantage as I think we should line the 4th break in the Mile Long Rapid and Looie wants to run it.

We pack slowly and carefully and securely. Most of the Robert E. Lee's load is stowed in the Dixie Belle.

Frank and I strap on our life jackets and run the Jeff Davis through 1. and tie up on the left bank. Hank and Russ do the same with the Dixie Belle carrying the Monitor in tow. The four of us line the Dixie Belle around the 2. Hank and I decide we can run the left side of 2 without trouble, and do so, continuing through 3 and pulling out on the left side above 4. Frank and Russ join us in the Dixie Belle. The entire party lines the Dixie Belle and Jeff Davis through 4. Dick and Looie go upstream and release the Monitor. It hangs up on the left side of the big center boulder of 4. After 10 minutes of pounding it finally breaks thorough and disappears downstream.

Looie comes down with Dick in the flagship on a beautiful run, 1 through 8 non stop, as planned yesterday.

Frank and I shove off after stowing cameras and run 5, 6, and 7. In trying to thread our way into the left channel of 8 I hang us on a rock. We start to roll right so I jump on a rock with a line intending to pull us back on course. Unfortunately or hilariously, depending on who you are, I fall over backwards into the river. At this moment we block the passage of the Dixie Belle. Hank tries to hold up the boat by grabbing a rock, gets jerked off balance, and falls in the river. He climbs aboard as Russ misses the guarding rocks and goes through the left chute without difficulty. Meanwhile Frank holds the Jeff Davis against some rocks while I thrash in the water with the line. Then Frank loses an oar. It lodges in some rocks on the left bank. I get to shore with a line and retrieve the oar, hand it out to Frank, pull the boat by line into the spot I was rowing for in the first place, jump in the boat as it passes, and polish the exhibition off with a sloppy handling job down the left side of 8.

I lose my hat and goggles at 8, but Looie discovers the goggles floating below and gets them for me.

We proceed to the rapid at Mile 203 ½ (Class 3 ½). We look it over then shoot down the

tongue into the waves below—good ride!

There is a rock island at Mile 203 Rapid (Class 2 ½). All boats try the shallow rocky left side, and all boatman spend time in the water lifting.

Mile 202 ¾ Rapids forms a series of three at the present stage. We take a good look then come down the tongue of 1 (Class 1); start down the tongue of 2 (Class 3); but pull to the right toward the bottom; 3 (Class 5) has a narrow tongue, tightly guarded on the left by an explosion wave. We stay right and make a good passage.

"The Big Drop" is the name applied to the two rapids mapped between Mile 202 and 202 ½. The lower of the two is considered the toughest in the Cataracts. Today the upper rapid forms two rapids. 1 is Class 4 and has lots of big boulders, but only one hole to avoid. Each boat takes a different route then follows the tongue on 2 (Class 2).

The lower part of the big drop is formed by a nearly solid wall of boulders behind which is impounded a wide body of water. It looks like a plan-section of somebody squirting a mouthful of water through his teeth. After plunging over the sharp break the entire center is cluttered with fins, holes, churning foam, etc. Two routes seem possible. A narrow route of difficult entry is on the right side. It has one big hole near the bottom but the hole is partially shielded by a cushion of water pounding off of a boulder to its right.

The other route is on the left side. A two foot slot between two big boulders can be used as a guide over the first break as it leads over a series of short fast plunges.

Looie takes Dick as a passenger and tries the left route. The slot is hard to locate from the boat and Looie shifts right and left trying to find the guide. Looie hits the break about 8 feet too far right, and misses the slot. The bow of the boat drops over the break like a limp rag, pivots on the bow and slides on the starboard side into a hole. It looks like she will turn over in the hole, but up she bobs out of the hole sideways to the current. Dick tries to straighten the boat but the force of the water on one oar lifts him off the seat then rests the oar away and through the tight "V" of the oar pins. The lost oar wedges in some rocks downstream from the sickeningly swaggering boat. The boat dashes against a rock, and for a moment it looks as if it will be impaled on the wedged oar. The oar washed free. The boat snakes to the left, side-swipes a boulder, pitches, then rolls 30 degrees catapulting Dick into the water. Dick is on the far side of the boat, and not visible from our vantage points. Our next view of him: Looie is holding him by the collar of his life jacket with one hand and rowing with one oar. You can almost hear Looie's "What the hell ya' doin' out there man. You better climb in the boat before you get killed on those rocks."

The boat is out of trouble and in slow water. Dick is aboard and the oar is picked up.

After shooting four pictures I had worked my way downstream so as to be able to swim out in case the boat turned over. After a few words with Dick and Looie I leave them to bail, and head back to look over the other route.

Frank and I decide the water cushion will keep us out of the hole on the right side. We line the first 20 feet or so of the rapid to ensure hitting the correct course.

Hank snubs the Jeff Davis to shore while Frank and I crawl aboard. The water is moving very fast, and our sudden start prevents Hank from throwing all of the mooring line aboard, and it snags.

Russ is shouting from the bank barely five feet away, but the water is roaring so loud that

I can hardly hear him. Frank cuts us free with his pocket knife and we streak into the cushion, spin around the outside of the hole, into a wave below and to the left, and ease into quite water.

Russ duplicates our route in the Dixie Belle, and also catches on the same rock as the Jeff Davis with the bow line. Russ cuts the Dixie Belle free, hits the cushion, spins around the hole, into the wave below, and all are through the Big Drop.

In spite of its short length I call this section Class 6 ½.

Terminology for the Rapids now known as Big Drops I, II, and III has changed. Prior to my first trip through Cataract Canyon, I consulted with Don (Laphene) Harris, the veteran of many Cataract Boat trips. Don pointed out the positions of Big Drops II and III on my maps and noted that **big drops** occurred there. When Dave Arnold and I traversed Cataract Canyon in October 1952 we called these places Big Drop I and Big Drop II, and the same nomenclature was used by our U. S. Geological Survey Expedition in 1956. Thus, we considered today's Big Drop I and Big Drop II as distinct parts of our Big Drop I, and today's Big Drop III was our Big Drop II.

In 1921 the U.S.G.S. lost a boat in Mile 202 Rapid. We look it over closely so as not to make the U.S.G.S. a two time loser here. In 1952 the rapid was an easy one. Now it is called Class 4. All boats take the break on the left side, then pull towards center for the fast water.

Mile 201 1/2 Rapids is small (Class 2). We follow the tongue.

Camp is pitched on the island at Mile 201. In spite of the busy day we whoop it up with a beach party (till 9:30), telling stories, jokes, recounting the day's adventures, and even reading some Robert Service poetry.

The rapid by the island at Mile 201.0 is now called Ten Cent Rapid. It is at the theoretical head of the Powell Reservoir, the place where the lake would begin when it was at full pool. A few rapids are usually present for 2 miles down stream to the vicinity of Waterhole Canyon. The island is submerged when the the river is high.

A few yards downstream from the island on river-left is the site for the fly camp of the Canyonlands River Patrol. This station is occupied by Park Rangers with rescue boats and equipment when the flow of the river approaches and exceeds 50,000 cubic feet per second.

Today has been more fun than any I can recall for some months.

Thursday, July 26, 1956

The party really looks like a bunch of veteran "rats" now: whiskered faces, Looie says mine looks like an armpit, at least it doesn't smell that way—I hope—(ulp); reddish brown hides; rotting tennis shoes; wrinkled clothes; etc., but better still the party acts like a good boating group. In the mornings everybody knows what is to be done and does it. There is little talking and we shrink our tiny beach head into the boats, only an occasional question as to the location of a piece of gear. We could probably strike camp in 10 minutes if we wanted to do so.

The rapids by Mile 201 island are well sealed by rocks on the left side so we go down the tongue on the right side ( Class 3).

The Monitor was picked up yesterday below Mile 202 and tags along with us today.

We ride the riffle to Mile 200 3/4, and pull out above Mile 200 Rapids. The canyon is very narrow here. The rapid consists of three closely spaced parts covering more than 1/2 mile . We run the tongues at the first two parts then pull to the right side of the third (Class 4).

The canyon continues narrow and the water fast. We come to a 1/4 mile long rapid between Mile 198 3/4 and the canyon continues narrow and the water fast. We come to a 1/4 mile long rapid between Mile 198 3/4 and Mile 199. We look it over, then run the center, (Class 3 1/2).

There is another fast 1/4 mile rapid at Mile 198 1/4, Class 3 with lots of zip. We run the center.

The next three rapids are not much: a Class 2 at Mile 197 3/4, a Class 2 at Mile 197 1/2 and a Class 1 at Mile 196 3/4.

We beach the boats on a sparkling white sand beach above Gypsum Rapids. Good swimming hole—in we go—lunch—a short nap.

Looie and I hike up Gypsum Canyon to look at the Paradox fm. which is well exposed here.

We try to catch a yellow racer to spook Russ with, but it escapes. Coming down the canyon we meet Dick on a fossil hunt. It is a noble hunt for him as this is his first field work this year, and the alternate soaking and drying of his feet has cracked them up a bit.

Dick and Looie climb a slope, peering together. Around the bend comes Russ taking notes on the Paradox. Back at camp I am alone as Frank and Hank are mapping downstream.

Nobody is late for supper in spite of the dreary aspect the rations are beginning to have.

Prior to this trio I was not well acquainted with the other members of the party.

Conversation thus far has uncovered that Hank's home is 10 miles from Baraboo, Wisconsin, home of an old Navy buddy of mine; Dick and I were both stationed at NAACTU, Charleston, Rhode Island at the same time during World War 2; Frank is from New Jersey and is familiar with the Cape May-Wildwood area where I spent some four months one winter; Looie was born about 10 miles from Pullman, Washington where I attended school for two years.

Friday July 27, 1955

I take leave of camp before breakfast and climb into a side canyon which I hoped would be the site of one of the drawings in Powell's Report, but I coned it wrong. However, the early morning light is good for a picture of the cliffs on the opposite side of the river.

By the time I get back to camp the others have departed for their mapping chores. After breakfast I clean up camp, then look over the boats.

From our camp I can see across the river, past Gypsum Rapid to the beach where Dave Arnold and I camped, 10/29/52, after the dowsing resulting from the capsizing in Gypsum Rapid. A walk down to the rapid shows that all of the roaring we've heard for the past day is more than just a barking dog. The best route seems to be slightly left of center. This is to the left of the center route attempted in 1952. The right side should be avoided by all means possible.

Most of the rapids in canyons of the Colorado Plateau are the result of detritus carried into river through side canyons following rain storms. However, some rapids in Cataract Canyon are the consequence of collapse along the canyon's walls, and the ferocity of Gypsum Rapids was attributed to this source. The Paradox Member of the Hermosa Formation is well exposed at river-right, opposite the mouth of Gypsum Canyon. The solution of salt in this unit of evaporite minerals resulted in a lessened support for overlying rocks, gravity faults developed, and blocks of the overlying rocks were fractured and tumbled into the river. Actually, Gypsum Rapid has a dual lineage as some boulders were deposited from Gypsum Creek. However, the more severe part of the rapid was at river-right where the slumped blocks occurred. The boulders, cobbles, and pebbles deposited by water could be distinguished from the collapse blocks by their greater roundness, whereas the collapse blocks were more angular.

The boys return in the afternoon, tired, hot, and dry. I have been saving some "Kool Aid" for such an occasion. The stuff is unbearable at home when the wife brews up a batch for the kids, but it always tastes good on a hot river trip. We guzzle two gallons in about 15 minutes. Looie followed Gypsum Canyon up for four miles, in Paradox all of the way, to a high falls. From his description it sounds like the place I had hoped to find this morning.

We decide to spend another night at the mouth of Gypsum Canyon.

Saturday, July 28, 1956

Gypsum Rapids (Class 5 ½), we all go down for a look. Frank and I run the Jeff Davis left of center—lots of kick, and a good ride—an old foe is vanquished. We keep running ahead of the others making good time: through center of Class 1 rapid at Mile 196 1/4 center of Class 1 rapid at Mile 195 3/4, Palmer Rapids (Mile 195 ½) has two channels divided by an island. We run the right side, Class 3.

Mile 195 Rapid also has an island at its upper end, but at this stage there is very little water in the left channel. It is Class 4, and has a concealed boulder at its end, in the center.

The canyon becomes very narrow at Mile 195, and would afford excellent picture opportunities were the day not so overcast.

On we go through the center of Class 2 rapids at Mile 194 ½, Mile 194, and a Class 1 at Mile 193 ½. The others are catching up, and we all dock above Clearwater Rapids at about the same time.

The scenery is magnificent though it will have to go some to beat the sunset on Gypsum Canyon cliffs last night.

Dick makes a fossil collection, and Looie's ignites a big log pile.

The burning of piles of logs on the river banks in 1956 was not the crime it is considered in 1997. In fact, the Bureau of Reclamation encouraged such pyrotechnics as every piece of wood burned in the canyons would be one less which could clog the mouth of Grand Canyon or the weirs at Hoover (Boulder Dam) on Lake Mead.

Clearwater is Class 4, but is rougher in lower water when the undercut left bank is exposed. We shoot the center.

Clearwater Rapid presented an unusual hazard. The alluvial fan at the mouth of Clearwater Creek forced the main current of the river against the opposite (left) wall of the canyon where undercut ledges were present. It was possible for boats to pass under these protrusions and for boatmen and passengers to bang the tops of their heads while riding the waves. In high water the rapid is a piece of cake.

Bowdie Rapid (Mile 190 ½), we stop to see what's making all the noise. A good Class 5 with trouble on the right side. All come through in fine shape and keep going: a Class 2 at Mile 190, a Class 1 at Mile 189 ¼.

Dick and Looie go ahead in the Robert E. Lee. We lash the other two boats together for lunch—even light the Coleman burner for hot tea.

We drift through a Class 1 rapid at Mile 188 ½, and Class 2 rapids at 187 ½ and 186 ¾. We catch the other boat and unlash the lunch barge.

The rapid mapped at Mile 185 ½ ain't.

A good Class 5 rapid booms away at Mile 184. Lots of rocks on the right side so we run down the left. The boats gather in an eddy below the rapid, then run the Class 2 rapid at Mile 183 ¾ together.

We spot a big landslide scar on the cliff up Dark Canyon and try some photos from the boats.

This is an incorrect observation. The landslide was in what is now called Rockfall Canyon, and in the excitement of subsequently running Dark Canyon Rapids the mistake was overlooked. Lewis and Campbell reported that the slide was not present during their mapping in its vicinity during 1955. Thus the occurrence of the rock fall is dated between August 1955 and July 1956.

We decide to run Dark Canyon rapid and camp below. Dark Canyon Rapid (Class 6) will be the last big one to run, and I think all are a bit disappointed to see the trip drawing to a close as am I. The rapid has a cluster of boulders in the middle and routes exist on both sides, but the left side looks easier. Looie's unloads the Robert E. Lee and comes through. Frank and I follow in the Jeff Davis, and I do a sloppy, drunken waltz from rock to rock. Russ and Hank do best of all in the Dixie Belle.

Second to Big Drop III, we considered Dark Canyon Rapid the most formidable in Cataract Canyon. From a personal point of view, it was my worst run of the trip.

Dark Canyon Rapid was also unusual in that all of the detritus causing it was up stream from the mouth of Dark Canyon. We believed this was because of a bend in the canyon which caused the current of the river to drive into and erode a former alluvial fan at the mouth of Dark Canyon.

We set up camp which means we unload the boats and put the needed eating materials in a good spot. After taking a few pictures I inspect the inscriptions left by previous expeditions: Kolb's, Nevills, Burg, Pathe-Bray, Holmstrom, Hatch, Harris-Brennan etc.

Looie and I caught some catfish last night. Some three, and I cut up the small one for bait, but have no luck.

It has been cloudy all day, and finally after supper it rains. Lightening bolts seem to strike the upper rim, and the thunder reverberates in the canyon. After an hour we come out from our cover and try for pictures of the canyon, lit by lightening.

Sunday, July 29, 1956

Last night's rain has loaded the river with red silt and clay. It looks like Spring on the Red River in Louisiana. Dark Canyon is exuding a red gumbo.

It is 22? miles to Hite, and we have two days yet to meet our pick-up schedule there. So, we plan for a slow start this morning.

The Monitor became unwieldy yesterday and will be abandoned today. We have no adapter to which its inflation valve can be fitted to our pumps.

Hank paints a notation on the canyon wall. Dick looks for fossils in Dark Canyon—also for a spring as our river supply is fouled up.

The wall on the south side of Dark Canyon at its junction with the Colorado River had become a tabloid for canyoneers, and inscriptions of some previous expeditions were there written. Hank Dyer painted ours. This panel is now under about 100 feet of water.

We leave Dark Canyon at 9 AM. We run a Class 3 rapid at Mile 182 ½ a Class I at Mile 182 ¼, and a Class 4 at Mile 181 ½. The latter is formed by the river being confined to a very narrow gap, and it has some nice big waves. Frank and I pull ashore to get some pictures of Russ and Hank who are lagging in the Dixie Belle. We got some good ones.

On we go. A Class 3 at Mile 181, a Class 1 at Mile 180 ½, and a Class 1 at Mile 180. The river slows down.

There are lots of springs between Mile 178 and 179, and the canteens are filled.

We ease into Mille Crag Bend and run three Class 1 rapids at Mile 177 ½, 177 ¼, and 176 ½.

We eat lunch in the bend. Looie lights a pile of logs as we shove off.

We run an unexpected Class 4 rapid at Mile 176 and with it the life jackets are removed and we are through Cataract Canyon. A vote was taken at lunch time, and it was decided to cut the trip short one day by continuing to Hite. I think this will be more rowing, than they realize, but I'm anxious to get off of flight rations, and am for the move.

We enter Narrow Canyon and get a nice view of the Henry Mountains

Frank and I stop so Frank can sample some springs bubbling CO<sub>2</sub>? and H<sub>2</sub>S between Mile 173 and 174.

A strong up canyon wind catches us at Mile 174 and I am reminded of the 6 hours Dave and I spent bucking a Narrow Canyon head wind on Halloween Day 1952. We pitch out the sea anchor and catch up with the others who had moored at Mile 173. We stop for a last toddy on the river. The wind abets, and finally we reach the Fremont ( Dirty Devil ) River and the end of Narrow Canyon.

The river widens considerably and the gradient picks up slightly. Looie leans into the oars and pulls away. Frank and I swap at the oars every 15 minutes until we reach White Canyon. Our last maneuver before docking is an inglorious tow over a bar.

The end of our journey was quite mucky, but I am unable to imagine what the end of a trip would be like if the proponents of "Drain Lake Powell" had their way.

Sam Pyeatt and Alvy Newman have been waiting for us for three days in event of an early arrival or some kind of trouble.

They rustle up a good supper for us and the six flight ration survivors give a good account of themselves.

Monday, July 30, 1956

We decide to load the boats at the Hite Ferry, so work the boats down to the crossing.

A grand gang splits up. Looie and Russ head to Denver via Kigalia and Grand Junction, the rest of us head straight for Grand Junction where Dick will catch a plane to Denver.

All is well at home.

Another wonderful adventure ends and all is over except for the memories, which though already fading will never fail completely.



## Classification of Rapids

No.	Rapid	Class
1	Mile 212 1/4	3
2	" 212	4
3	" 211	2
4	" 211 1/2	2
5	" 210 1/2	5
6	" 209 1/2	3
7	" 209	2
8	" 208 1/2	1
9	" 208 1/4	2
10	" 207	1
11	" 205 1/4 (Not on Map)	1
12	Mile Long	
	1	1
	2	4
	3	2
	4	6
	5	2
	6	6
	7	2
	8	6
13	Mile 203 1/2	3 1/2
14	" 203	2 1/2
15	" 202 3/4	
	1	1
	2	3
	3	5
16	Upper Big Drop	
	1	4
	2	2
17	Lower Big Drop	6 1/2
18	Mile 202	4
19	" 201 1/2	2
20	" 201	3
21	" 200 3/4	1
22	Mile 200	
	1	2
	2	3
	3	4
23	Mile 198 3/4	3 1/2
24	" 198 1/4	3
25	" 197 3/4	2

26	"	197 ½	2
27	"	196 ¾	1
28		Gypsum	5 ½
29	Mile	196 ¼	1
30	"	195 ¾	1
31		Palmer	3
32	Mile	195	4
33	"	194 ½	2
34	Mile	194	2
35	"	193 ½	1
36		Clearwater	4
37		Bowdie	5
38	Mile	190	2
39	"	189 ¼	1
40	"	188 ½	1
41	"	187 ½	2
42	"	186 ¾	2
43	"	185 ¼	On map but not present
44	"	184	5
45	"	183 ¾	2
46	Dark Canyon		6
47	Mile	182 ½	3
48	"	182 ¼	4
49	"	181 ½	4
50	"	181	3
51	"	180 ½	1
52	"	180	1
53	"	177 ½	1
54	"	177 ¼	1
56	"	176	4

#### Personal Equipment

- 1 medium brimmed hat
- 1 pair dark ski goggles
- 1 nylon parka
- 1 long sleeved shirt
- 1 T-shirt 1 pair long pants
- 1 pair swimming trunks
- 2 pair wool socks
- 1 pair Keds
- 1 pair climbing boots

#### Climbing Gear:

- 1 120' length 5/8" nylon climbing rope

6 karabiners  
12 pitons  
1 pair gloves  
1 piton hammer  
1 rappel patch

Sleeping gear:  
1 light weight sleeping bag  
1 air mattress  
1 light weight tarp

Misc:  
1 toothbrush  
1 washrag  
1 bar soap  
2 cigars  
4 plugs tobacco  
1 qt. rum  
1 fishing pole  
1 can fish hooks etc.  
2 bottles insect stinkum  
1 candle  
1 jar salt tablets  
1 jar hand cream  
1 bottle sun tan lotion  
4 oz. diesel fuel