

The Grand Canyon Adventure – Part Two

Paul Garner

Wednesday 5th May

Third day on river begins with more sample collecting – Bright Angel Shale this time. Soon we leave Marble Canyon and enter the Grand Canyon proper. The canyon just opens out around us into some incredible vistas.

We approach the place where the Little Colorado River joins the main Colorado River. Rafts are 'parked' and we walk down the ledge next to the Little Colorado. It's our first swim stop! Water in Little Colorado is lovely turquoise colour – and it's warmer than the main river. We have enormous fun floating in our lifejackets downstream back towards the rafts.

Our next stop affords us a close look at the Great Unconformity – representing the most noteworthy time break in the Grand Canyon geological sequence. Steve puts his thumb on the Nankoweap Formation (Precambrian) and his little finger on the Tapeats Sandstone (Cambrian). Does his hand really span 500 million years of missing time? If so, why is evidence of chemical weathering so difficult to find? Could this erosion surface have been carved rapidly by catastrophic agents?

By lunchtime we make camp at Carbon Creek – and some of us prepare for an afternoon hike into the back country. We all get thoroughly soaked in the river to cool us down before we set off. We hike into Lava Chuar Canyon. In the hillside above us there is a black cliff of Cardenas Basalt – a thick series of lava flows – sitting on top the rich red Dox Sandstone. We also see lovely exposures of the Kwagunt and Galeros Formations – tilted Precambrian sediments of the Chuar Group – beneath the Great Unconformity.

Our journey back to camp takes us through Carbon Canyon – where the Tapeats Sandstone is dramatically folded into a vertical orientation. The twisted rock layers are a sobering reminder of the tremendous tectonic forces that were active in the earth's past.

Thursday 6th May

Next morning we're on the river again – the canyon is really wide at this point. The north and south rims seem a long way away. Around us we see some grand exposures of the Cardenas Basalt, which has been the focus of much radioisotope dating work by ICR geologists (see inset box 5).

We stop at an Anasazi Indian site near Unkar Creek where we see pottery shards. These people

INSET BOX 5: RADIOISOTOPE DATING OF THE CARDENAS BASALT

Radioisotope dating is actually not one method – it is a set of methods – but they all work on similar principles. They depend on the fact that some elements are radioactive. This means that they are unstable and spontaneously decay into another element by emitting a charged particle. The original radioactive element is called the 'parent' and the new element that is formed is called the 'daughter'. The decay process continues until a stable, non-radioactive element is formed.

This decay process is used to estimate the age of rocks. If we can determine the rate at which 'parent' decays into 'daughter', and measure the amounts of 'parent' and 'daughter' in a rock or mineral sample today, we can work out its age (i.e. the time since it was last melted and set to 'zero'). Radioisotope dating appears to be very powerful and usually gives ages of millions or billions of years for rock and mineral samples.

However, recent work by ICR geologists casts doubt on the standard interpretations of radioisotope dates. Take the Cardenas Basalt, for instance. In 1998, creation geologists Steve Austin and Andrew Snelling published these dates for the Cardenas Basalt:

- 516 ± 30 million years (K-Ar whole-rock isochron)
- 1090 ± 30 million years (Rb-Sr whole-rock isochron)
- 1700 ± 16 million years (Sm-Nd whole-rock isochron)

This example confirms once again that different methods typically give different ages for the same rock or mineral sample. The ICR team strongly suspects that radioisotope decay rates were higher in the earth's past and that, as a consequence, radioisotope dates greatly *overestimate* the true age of rocks. This hypothesis is helping to explain the systematic patterns of discordance observed between radioisotope dates.

were among the first to discover and explore the canyon, and many made settlements within the canyon itself. How did they survive in this harsh environment without all the modern comforts? It must have been a precarious existence.



Tight folding in the Tapeats Sandstone in Carbon Creek.

Next we hike into 75 Mile Canyon to see the Shinumo Quartzite – a Precambrian sandstone formation. It averages 1,200 feet thick and is a dominant cliff-forming unit in this part of the canyon. The thick beds and contorted bedding testify to rapid deposition and catastrophic earthquakes at the time it was laid down. In the shade of the towering cliffs, we are led in a communion service – an emotional experience for some.

We make camp at Red Canyon near Hance Rapids – opposite a fantastic exposure of an igneous intrusion (a dolerite dyke) cutting through the Hakatai Shale. We relax in camp and I cool my feet off in the river. Tonight is barbeque night! We have a great spread prepared for us – it's no wonder that the ICR staff refer to the raft trips as 'float and bloat'! We even have guests when some hikers from another party are invited to join us for the meal.

Friday 7th May

Our last full day on the river – can our journey almost

be over? We gather for a group photo – but it takes a while because everyone wants that snap!

Almost immediately upon leaving camp, we negotiate Hance Rapids. We've become used to getting soaked in the rapids by now! We don't stay wet for long though – it only takes a few minutes to dry out under that baking sun.

We make our way down river and soon the dark walls of the Inner Gorge – metamorphosed schists and granites – press in around us. It's no wonder that John Wesley Powell referred to the Inner Gorge as "these grand gloomy depths".

At Clear Creek we pull up by an outcrop of amphibolites – 'pressure-cooked' basalt lavas. We leave the rafts and hike through a narrow side canyon until we reach a small waterfall. We have lots of fun messing about in the water before heading back to the rafts and floating on to Cremation Creek. Here we set up camp.

Cremation Creek is only a mile or so from Phantom Ranch – a little oasis of civilization in the wilderness at the bottom of the canyon! While some elect to stay at camp, most of us take the opportunity of an afternoon raft trip to the ranch. Phantom Ranch offers dormitories and cabins for hikers, though reservations must be made well in advance. However, the attractions for our group were the ice-chilled drinks in the restaurant and the first proper toilet



Dolerite dyke at Hance Rapids.



The south rim looks deceptively near.

facilities in five days! We also had the opportunity to make telephone calls and to mail postcards – delivered to the rim by mule.

Looking up at the far-away south rim as we headed back to the rafts, the next day's hike out began to seem a daunting prospect.

Saturday 8th May

We make an early start – we want to be some way up the trail before the sun gets too high overhead. We board the rafts and set out for Pipe Creek where we will be able to join the Bright Angel Trail.

At Pipe Creek we say our goodbyes to Andrew Snelling and two of our fellow rafters – who are staying on for the second leg of the trip. Another set of rafters will be hiking down the Bright Angel Trail today to begin *their* adventure! We also bid farewell to Tom Vail and the raft crew. Then we hit the trail.

The first part of our hike is mainly in the shade, as the trail zigzags away from the river. We ascend through the Vishnu Schist in a series of switchbacks called the Devil's Corkscrew. A mule train passes us on its way down to Phantom Ranch – are these the mules that will carry my postcards out of the canyon?

Each of us travels at our own pace – but most of us have some companions as we journey on. By the time we reach Indian Gardens we're hungry and ready for something to eat. We've brought sandwiches with us and piped water is available here. We refill our water bottles. Refreshed, we are soon on our way again.

Beyond Indian Gardens, the trail levels out somewhat – we're walking across the Bright Angel Shale which forms a wide bench called the Tonto Platform, about one-third of the way up the trail.

Soon we come across some harder layers – the Muav and Redwall Limestone. The trail steepens and there are seemingly endless zigzags in the trail to

negotiate. When we reach Three-Mile Resthouse we are glad to have another break! The squirrels come begging for food – but the visitor signs urge us not to feed them. We rest briefly, and look back along the trail into the inner canyon. We've come a long way from the river – but the rim is still a long way above us...

Every now and then we stop for a rest along the trail and enjoy the beautiful views. As we near the base of the Coconino Sandstone we come across a rescue helicopter lifting off from a ledge with an injured person. Apparently this person has broken their collar bone in a fall. It reminds us that even hiking the trails can be hazardous without great care.

Alongside the trail we see spectacular exposures of the boundary between the cream-coloured Coconino Sandstone and the red Hermit Shale beneath. In conventional terms, more than 10 million years must have passed between the laying down of these two formations – but the boundary is an extraordinarily flat surface. It seems difficult to make a case for such a huge amount of missing time.

Looking at the Coconino Sandstone also reminds us of how extensive these sedimentary layers are. The Coconino Sandstone covers large parts of Arizona, New Mexico, Texas, Oklahoma, Kansas, and Colorado – an area of about 200,000 square miles!

The sand grains seem to have come from a distant source to the north. This seems unlike the kind of erosion, transport, and sedimentation we see today. We are left wondering whether the principle of uniformity – ‘the present is the key to the past’ – is really valid.

The final section of the trail is the hardest of all. We are already tired and stepping over the logs that have been placed across the trail to stabilize it takes considerable effort! There are also lots of long zigzags and, at times, it seems that the rim will stay forever out of reach. As we near the rim we can see the tiny figures of people on the observation platforms – how easy it is to misjudge distances in the canyon!

Soon, we are in sight of the rim and, summoning up our remaining reserves of energy, we make it to Bright Angel Lodge. There we relax, buy drinks and ice-creams, and make telephone calls home to say that we’ve made it!

We leave the canyon later than expected – and we wonder whether we’ll reach the hotel at Flagstaff in time for the Victory Dinner. In fact, we reach the hotel with just enough time to get showered and changed! As I step off the bus, I get a surprise when I’m greeted by Andy and Juliet McIntosh! Andy has been working in the USA and he and Juliet are able to join us for tonight’s dinner.

We all have a good time at the dinner – followed by an after-dinner talk by Steve Austin entitled ‘How to talk to anyone about creation’. There are also skits and songs by the various tour groups. But we are all so exhausted that it is nice to finally climb into bed!

Sunday 9th May

We have breakfast at Northern Arizona University followed by a worship service. Frank Sherwin gives the message in his own inimitable style! Then it’s back on board the tour buses as we journey through Oak Creek Canyon to Sedona.

We have a lunch break in Sedona but it’s soon time for the final leg of the trip back to Phoenix. There are many hugs, handshakes, and exchanges of contact details as folk are dropped off at the airport and hotel. I’m well looked after by Jim and Joyce Sivley – who live in Phoenix – until it’s time for me to catch my plane. Kindly they take me out for a meal before my flight.

And then it’s the long haul home – via Chicago, Washington, and Heathrow. I’m tired, exhausted in fact, but very privileged to have had this Grand Canyon



Paul Garner – back on the south rim at Bright Angel Lodge.

INSET BOX 6: RECOMMENDED RESOURCES

WEB SITES

Institute for Creation Research
<http://www.icr.org>

Arizona River Runners
<http://www.arizonariverrunners.com>

Canyon Ministries
<http://www.canyonministries.com>

BOOKS

Austin, S.A., editor. (1994). *Grand Canyon: Monument to Catastrophe*. Institute for Creation Research, Santee CA. ISBN 0-932766-33-1.

Vail, T., editor. (2003). *Grand Canyon: A Different View*. Master Books, Green Forest AR. ISBN 0-89051-373-2.

Vardiman, L. (1999). *Over the Edge*. Master Books, Green Forest AR. ISBN 0-89051-323-6.

Vardiman, L., Snelling, A.A., Chaffin, E.F., editors. (2000). *Radioisotopes and the Age of the Earth: A Young-Earth Creationist Research Initiative*. Institute for Creation Research and Creation Research Society, El Cajon CA and St Joseph MO. ISBN 0-932766-62-5.

VIDEOS

Grand Canyon: Monument to Catastrophe. Institute for Creation Research.

Grand Canyon Catastrophe. Keziah Films.

experience. I take the time to reflect on the trip. It’s been thoroughly enjoyable – from the warm fellowship to the magnificence of the canyon itself. And Steve Austin and Andrew Snelling worked so hard – willingly making themselves available to answer questions and share their knowledge, and also giving us some memorable devotions and insights from the Scriptures. And seeing the canyon first-hand undoubtedly beats any amount of reading about it! The ICR folk were right – it *has* been a real adventure!